

1 Currently, two thirds of US adults have been diagnosed as being overweight
2 (BMI > 25 kg/m²) and 15% of adolescents as obese (BMI > 30 kg/m²). Not only does
3 obesity affect quality of life and overall health but it has been linked to cardiovascular disease,
4 diabetes, and even some forms of cancer (Chu *et al.*, 2012). In the past few decades the
5 greatest increase in obesity was found for young adults specifically in the college students
6 rising from 10.6% to 17.8%. This increase in obesity continued up to around 21% in some
7 college students in recent years and even more recent data shows that somewhere up to
8 35% of college students may be overweight or obese. However previous studies have used
9 alternative methods, such as dietary practices and physical activity levels, to try and predict
10 or estimate obesity rates in college students. These studies showed that over 20% of college
11 students were overweight and approximately 5% of students were obese, using BMI as a
12 measure. In addition, more than two-thirds of students were found to consume less than the
13 recommended fruit and fiber servings per day as well as reporting fewer than 3 days/week
14 with physical activity (Huang *et al.*, 2010). This study shows that a sizeable fraction of
15 college, approximately 25%, were at least overweight and not adhering to healthy living
16 habits in general.

17 For this particular study, I was interested in whether the student body at [REDACTED]
18 [REDACTED] reflected this previous study and its results of obesity for the sample
19 measured. Specifically, I hypothesized that the student body at [REDACTED]
20 [REDACTED] would closely resemble the observed proportions of obesity seen in the previous
21 experiment. To collect our data, a survey was sent out with IRB approval to the entire student
22 body asking them to input their age, height, and weight. There was no penalty for not
23 completing the survey and it was totally anonymous.

24 From the responses, I was able to calculate the body mass index (BMI) for each sample.
25 Using SPSS statistical analysis software program, I input the data and ran analyses to show

1 both descriptive information and distribution for the variables of age and BMI.

2 From a total sample size of 139 students, we were able to gain a somewhat representative
3 view of both age and BMI of the student body. In terms of the variables of age, we found a mean
4 age of 20.15 +/- 1.262 years old for our sample (n=139). The somewhat bimodal distribution of
5 this data shows a slight positive skew along with the distribution being less strong clustered
6 around the mean, or slightly, platykurtic (Fig. 1). In terms of variable of BMI, we found a BMI of
7 24.308 +/- 4.639 for our sample (n=139). The unimodal distribution for this data showed a
8 strong positive skew along with a leptokurtic distribution, or more tightly clustered around the
9 mean (Fig. 2). In addition to these distributions, we found that approximately 31% (43/139) of the
10 students sampled were found to be clinically overweight (BMI > 25 kg/m²) and approximately
11 14% (19/139 students) were found to be clinically obese (BMI >30 kg/m²; Fig. 2).

12 However we did have some significant limitations within our study. Firstly, the variables of
13 age and BMI were found to have strong evidence of non-normality, or more simply were found to
14 most likely to be not normally distributed. While we did not run any statistical tests, distributions
15 that are normally distributed usually provide a better overall picture of the sample measured, and
16 subsequently the population being questioned. Therefore, since our distributions were not
17 normally distributed should be careful the number of inferences we draw from our conclusions
18 seen here. To help solve this problem, one could rerun this study gaining a larger sample size
19 which usually helps to increase the normality seen in distributions. As a result this would give us
20 a more representative picture of the population in question, which is college students as a whole.

21 Overall, we can see that we found some descriptive evidence to support our question of
22 whether the student body at [REDACTED] would resemble previous study's
23 observed overweight and obesity proportions for college students. Specifically, we found that
24 approximately 31% of students were found to be overweight according to their reported BMI as
25 compared to previous studies which showed around 20% overweight prevalence. Also we found
26 that about 14% of student were clinically obese according to their BMI as compared to previous

1 studies showing around 5% of college students being obese. The increased percentages for
 2 [REDACTED] student body may be explained due to small sample size
 3 which is snapshotting a local "hotspot" for obesity possibly with a number of students coming
 4 from the surrounding [REDACTED] area. However, future studies would need to be done to
 5 conclude these assumptions. In conclusion, overweightness and obesity still appear to have a
 6 stronghold in the American way of living, especially in college student lifestyles. In order to
 7 hopefully overcome this obesity problem someday, we must continue to ask the questions that
 8 drive research into understanding the disease itself. Only then we will make progress into
 9 learning how to rid our country, and maybe even the world, of this "excess weight."

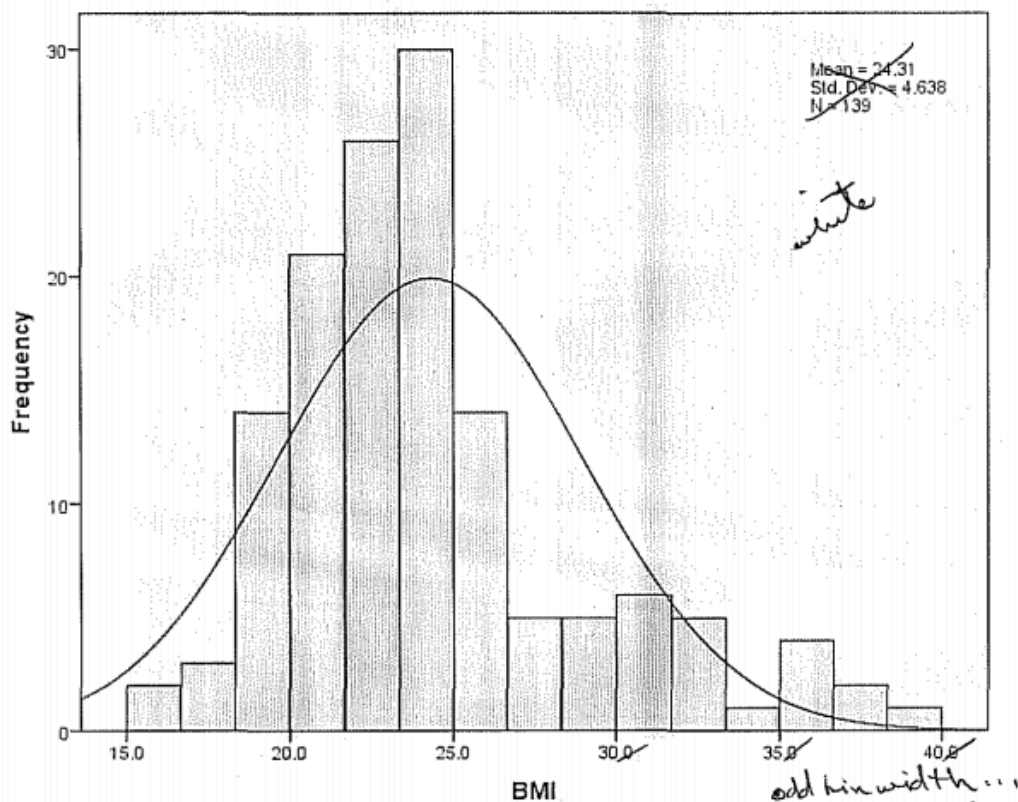


Figure 2. Distribution of BMI in Washington & Jefferson College students. The unimodal distribution seen above is positively skewed (1.063) as well as leptokurtic (0.867). The sample ($n=139$) was found to have strong evidence of non-normality (Shapiro-Wilk, P -value < 0.001). Mean (24.308 ± 4.639 kg/m²). Overweight is signified by a BMI > 25 kg/m², and obese is signified by a BMI > 30 kg/m². *OK idea*

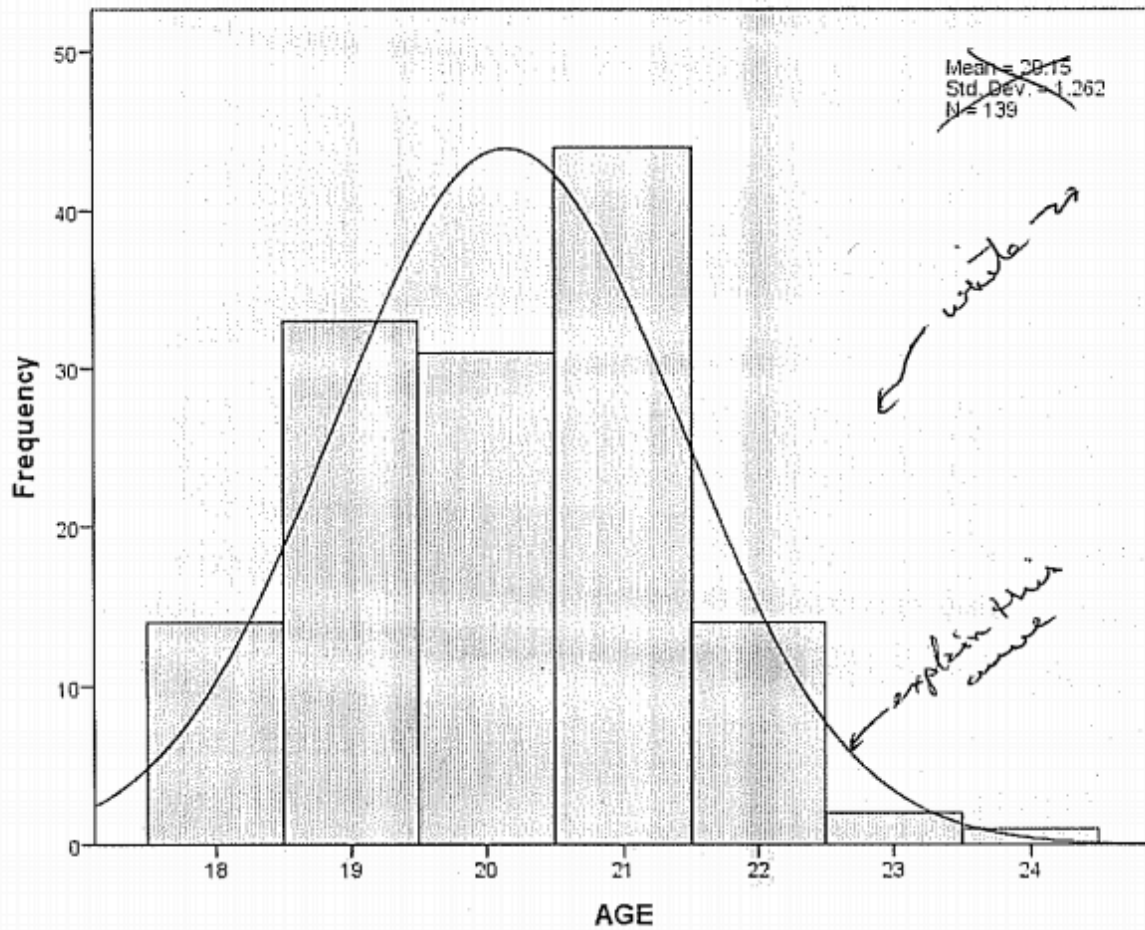


Figure 1. Distribution of age in Washington & Jefferson College students. The bimodal distribution seen above is slightly positively skewed (0.206) as well as slightly platykurtic (-0.396). The sample (n=139) was found to have strong evidence of non-normality (Shapiro-Wilk, P-value <0.001). Mean (20.15 ± 1.262 years).

References

1. Chu C-Y, Chen C-F, Rajendran RS, Shen C-N, Chen T-H, et al. (2012) Overexpression of Akt1 Enhance Adipogenesis and Leads to Lipoma Formation in Zebrafish. *PLoS ONE* 7(5): e36474. doi:10.1371/journal.pone.0036474
2. Huang, Terry T.-K., Kari Jo Harris, Rebecca E. Lee, Niaman Nazir, Wendi Born, and Harsohena Kaur. "Assessing Overweight, Obesity, Diet, and Physical Activity in College Students." *Journal of American College Health* 52.2 (2003): 83-86. *Taylor & Francis Online*. Web. 11 May 2014. <http://www.tandfonline.com/doi/abs/10.1080/07448480309595728#previ>w.

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