

Data analysis

[Science](#), [Statistics](#)



DATA ANALYSIS Introduction Weight is very important information when it comes to games. Some games require heavy weights while others require normal weight. Therefore, this paper utilizes the most appropriate data analysis tools to analyze the weights of the Tiffin University football team. From the box and whisker plot, the sample data is positively skewed. The interquartile range is given as $Q1 = 161$ and $Q3 = 227.5$. It is worth noting that there are no outliers within the data hence range remains 110. The non-existence of outliers in the box and whisker plot represents a normal distribution of data.

Mean and standard deviation

The mean and standard deviation of the five sample data are 192.4 and 39.9554 respectively. From the sample data, the highest weight is 250 while the least weight is 140 hence resulting to a range of 110. The data is positively skewed with the figure standing at 0.311.

Normal curve

Unlike in the box and whisker plot above, the graph above does not show a normal curve. There exists some outliers in the data hence the no normal distribution. The curve starts in a normal shape, deeps a bit then resumes to normal distribution. The whisker plot and the curve are different hence the data does not follow the Empirical Rule.

In statistics the accuracy of the results is positively correlated to the number of the data variables. This explains the difference in mean and SD for the population and the sample variables. The population mean for the entire team is 214.3 pounds and population standard deviation for the entire team is 44.6 pounds. On the other hand, the sample mean and standard deviation

are 192.4 and 39.9554 respectively. There is a big difference in terms of the statistics because of the difference in the number of data. In a nutshell; using the sample data the average weight of a football player is 192.4, while using the population data the average weight is 214.3. This gives 21.9 differences in mean. This is a very significant figure that cannot be assumed hence the sample statistics do not fairly represent the population parameters.

The whisker plot and the normal curve both shows similar results in terms of mean and standard deviation. However, in terms of normal distribution these two analysis tools differ with whisker plots showing a normal distribution while the curve shows the opposite. In conclusion; the sample statistics does not give a good representation of the total population hence to ensure accurate measurement of the team's weight then the number of data should be increased or the whole population data should be used.

References

Brase, C. H. (2004). Understanding basic statistics. Boston, Mass: Houghton Mifflin.