Three-Point Shootout:

A Statistics Project

By Mrs. Pitstick

Introduction

The three-point shootout is a three –point contest where individuals have a possible score of 0 to 30 points. Participants shoot from five basketballs from five locations outside the three-point line. Each successful shot is worth a point except for five "money balls" which are worth two points if made. I am comparing the results of the top NBA players with data of a 50% shooter.

Methods

I am comparing the data obtained in a class lab (attachment A) where the probability was 0.5 that the shot was made with the 2015 NBA three-point contest results. The class lab is a convenience sample as the data is readily available to use. The NBA results are a census as I am using all data from the 2015 contest. Both items are an observational study as I did not affect the outcomes in any way.

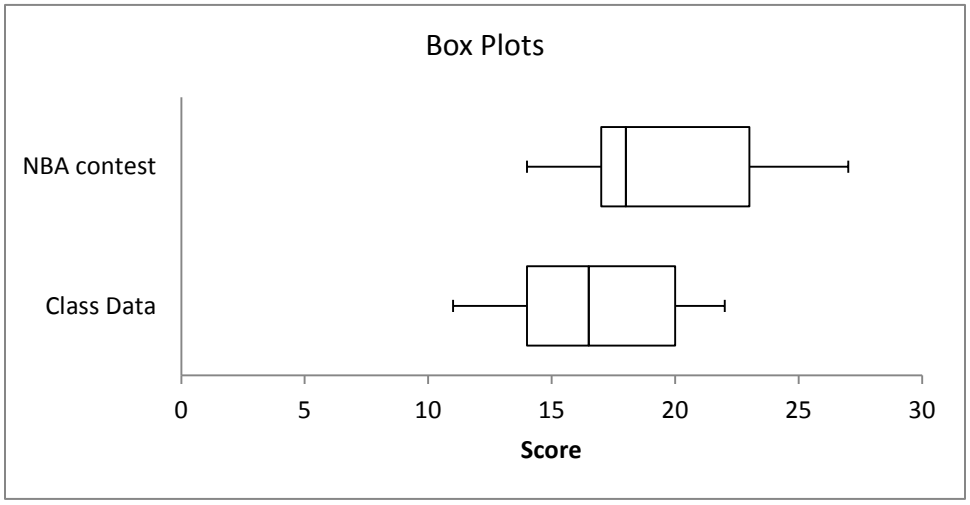
Results

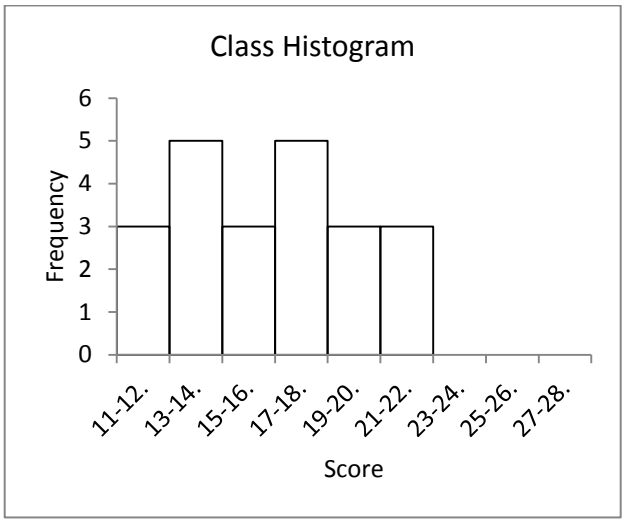
Class Lab Data: 17, 13, 15, 18, 13, 18, 21, 22, 20, 14, 16, 16, 20, 12, 20, 17, 18, 11, 14, 22, 12, 14
(2015 4th Period Data)

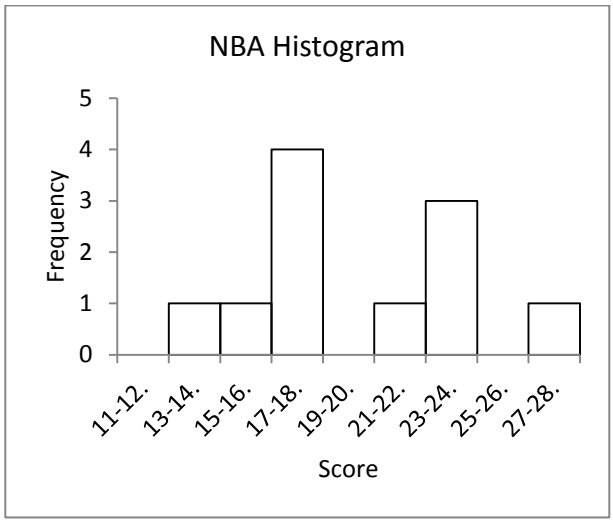
Mean: 16.5	Minimum: 11
Median: 16.5	Q1: 14
Mode: 14, 18, 20	Q3: 20
Standard Deviation: 3.39	Maximum: 22

NBA Data: 24, 23, 23, 22, 18, 18, 18, 15, 27, 17, 14
(obtained from http://bleacherreport.com/articles/2365294-stephen-curry-wins-2015-nba-3-point-contest-scores-highlights-and-reaction)

Mean: 19.9	Minimum: 14
Median: 18	Q1: 17
Mode: 18	Q3: 23
Standard Deviation: 4.1	Maximum: 27







Discussion

The data shows that the NBA three-point shootout contestants performed better than a contestant with only a 0.5 probability of making the shot. Therefore, the top NBA three-point shooters should successfully hit the shot over half the time. The data has bias due to the low number of data points. To be more confident, additional data points should be obtained from the class data and the NBA data could be extended to include additional years other than just 2015. The significant difference however provides relative certainty that this would be true in other years as well. The data cannot be applied to include all NBA players due to the fact that only the top three-point shooters participated in the contest.