**Top NBA Team Stats for the 2018-2019 Season**

3 separate datasets were collected in regards to the statistics for the 2018-2019 NBA Season. 2 of these datasets appeared on the wiki page for the 2018-2019 season. These 2 datasets contained statistical information for the performance of the top 15 teams for both the eastern and western conferences of the NBA, respectively. The third dataset contained information regarding the same 30 teams of the NBA for that season, but contained many more variables. In total, there are 30 instances of data, each referencing an NBA team for the season. There are 29 variables in this dataset, each representing a specific point of the teams performance. The 3 tables were cleaned and joined and the resulting dataset was analyzed.

The first question that was asked regarding this dataset was whether or not there is a relationship between the league rank of the team and the number of assists that were performed. As can be seen from figure 1.1, it was determined that there is no discernable relationship between these two datapoints.

Chart, scatter chart

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*Figure 1.1 – A scatterplot that shows the relationship between number of assists and league rank of NBA teams. The color of the dots is organized by the different teams.*

The next exploration that was conducted was exploring whether or not teams that have the lowest number of personal fouls and the highest number of field goal attempts also have a higher number of wins / lower number of losses. First it is necessary to define what a higher number of wins and lower number of losses is. Within this entire dataset, the median number of wins for every team is 41.5, with a range between 17 and 60. Similarly, the median number of losses within the entire dataset is 40.5, with a range between 22 and 65. Figure 1.2 shows that a low number of personal fouls in this dataset would be anything less than 1600 for the season. Figure 1.3 shows that a high number of field goal attempts would be anything greater that 7500 for the season.

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| Chart, histogram  Description automatically generated  *Figure 1.2 – Histogram that details number of personal fouls for the top 30 teams in the 2018-2019 NBA season.* | Chart, histogram  Description automatically generated *Figure 1.3 – Histogram that details number of Field Goal Attempts for the top 30 teams in the 2018-2019 NBA season.* |

Next, a new subset of data was created that only included teams that had personal fouls less than 1600 and field goal attempts greater than 1600. While there were a couple of teams that had a higher number of wins and a lower number of losses, the majority of these teams falls within the normal range of total wins and losses for the pool of data that was being gathered (see figures 1.4 & 1.5 on page 9). Thus, it is reasonable to conclude that, based on the data that was used in this study, there is no discernable relationship between the total number of personal fouls/field goal attempts and the total number of wins/losses.

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| Chart, histogram  Description automatically generated  *Figure 1.4 – Histogram that details number of wins for the subset of data that was created for this study.* | Chart, histogram  Description automatically generated *Figure 1.5 – Histogram that details number of losses for the subset of data that was created for this study.* |