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Term Project: Write-Up

DSC 530-T301

As data science becomes increasingly prevalent in modern industries, there are few with as easily applicable methods as professional sports. Though offering a smaller sample size than many other industries’ datasets, the National Basketball Association (NBA) is ripe for data exploration and analysis. As the goal of any NBA team is to win a championship, and as wining is done so by scoring more points than the opponent, I wanted to examine how greatly an error in gameplay by turning the ball over affects an NBA championship caliber team’s scoring.

My analysis shows that there is indeed a statistically significant link between a team’s turnover rate and their amount of points scored. As turnover rates rise my analysis shows that teams score fewer points, a not unexpected result as a team is unable to score if they do not possess the ball. A more surprising result is that as turnover rates decrease, there is not a statistically significant link to an increase in scoring.

Explaining the lack of increase in points as turnover rates drop is something I believe was missed in my analysis. As the dataset contains only NBA champions, one explanation may be that the most talented teams are able to overcome a higher turnover rate through strong defense and efficient shooting, whereas a team with a low turnover rate may control the speed and flow of the game and not require more points to win. However, this is nothing but conjecture on my part and will require further analysis to determine the reason behind this peculiarity.

Including defensive statistics may have been an excellent tool in my analysis to determine if there is a statistically significant link between high/low turnover rates and defensive statistics on NBA championship teams. The most significant challenge I faced was with the availability of data itself. As there is only one champion per year, the sample size is naturally smaller than desired. Expanding my analysis to include the losing team’s statistics in each NBA Championship series will double the sample size, and could perhaps provide greater insight into actual outliers and statistical significance.