

Evolution of the NBA

Since the establishment of the NBA, there have been numerous rule changes. These reforms have ultimately led to a change in the way that the game of basketball has been played professionally. According to many sports analysts and commentators, there has been a lack of physicality in today's NBA as compared to the past, an increased dependency on the 3-point line, and an increased level of skill in power forwards and centers rather than brute strength.

When exploring the supposed decrease in physicality in the NBA, we wanted to analyze the trend in number of free throw attempts per player per year. We reasoned that because fouls are generally called when referees deem play to be too physical, free throw attempts would provide useful insight into exploring the physicality aspect of the NBA. We found that the average number of personal fouls and free throws attempted each game in a season actually decreased as time progressed. This refuted our previous idea that in previous years, more physicality led to less fouls being called, and as a result, referees allowed the players to play with less restrictions.

According to our analysis following the institution of the 3-point line, we saw a clear upward trend in the number of 3-pointers attempted in an NBA game over the years. There appeared to be no signs of the number of 3-point attempts plateauing, suggesting that the number of attempts would likely continue to increase in the future. With regards to the 3-point shooting percentages of players of certain positions, we were especially interested in the Power Forward and Center position. According to our analysis, it is clear that there has been an increase in volume of 3-point attempts taken over the years but also a plateau in 3-point field goal percentage for the past 10-15 years.

In addition, we wanted to explore whether certain colleges produced better NBA players. We did so using player efficiency rating (PER) and win shares (WS) as measures. Our results confirmed our initial hypothesis that schools that traditionally dominate the college basketball scene would produce the best NBA players. We performed the same analysis on WS and produced very similar results.

Ultimately, based on our analysis of player statistics by year using the data frames found, we discovered that some of the existing theories regarding how the game of basketball as it is played in the NBA has changed actually hold some validity. However, there are others that are not as valid.

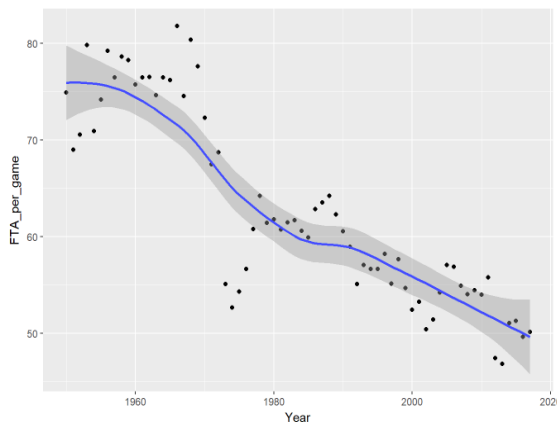


Figure 1. Number of free-throw attempts per game per year

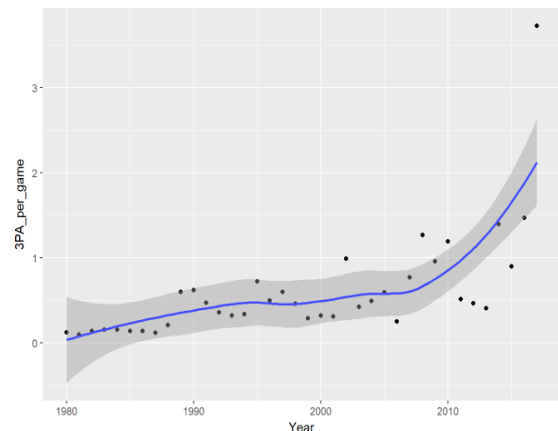


Figure 2. Number of 3-point attempts per game for Centers