

Importance of the Correlation between Points and Defensive Rebound*

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In the realm of American sports, the NBA (National Basketball Association) stands out as one of the most popular leagues. This study delves into the linear relationship between the average points scored and average defensive rebounds per game among NBA teams over the past four seasons. By analyzing regular season data from the NBA's recent four seasons, this research aims to explore the correlation between team scoring and defensive rebounding. Additionally, a linear regression model will be constructed to predict this relationship. Results show that the playing defence is crucial as the average points per game increases when the defensive rebound increases. The findings will contribute to a deeper understanding of the interplay between team offense and defense in the NBA.

1 Introduction

Among the major sports leagues in the United States, the NBA has secured a prominent position, drawing substantial attention from fans worldwide. In recent years, there has been increasing interest in understanding the dynamics between team scoring and defensive performance within the league. As such, this study focuses on examining the linear relationship between two crucial metrics: average points scored and average defensive rebounds per game by NBA teams over the past four seasons. By investigating these variables, we aim to uncover insights into how offensive productivity relates to defensive resilience in the NBA context. This research is pivotal to uncover the interactions between scoring and defensive strategies employed by NBA teams, ultimately enhancing our comprehension of the league's gameplay dynamics.

I use R(R Core Team 2023) and to further enable the analysis, I employed the use of the following packages: dataverse(Kuriwaki, Beasley, and Leeper 2023), ggplot(Wickham 2016),

*Code and data are available at: <https://github.com/iloveyz12/NBAdefenceplay>.

tidyverse(Wickham et al. 2019), arrow(Richardson et al. 2024), rstanarm(Goodrich et al. 2022), modelsummary(Arel-Bundock 2022) and here(Müller 2020).

2 Data

3 Model

3.1 Model set-up

We run the model in R (R Core Team 2023) using the `rstanarm` package of Goodrich et al. (2022), `modelsummary` package of Arel-Bundock (2022) and `here` package of Müller (2020). We use the default priors from `rstanarm`.

3.1.1 Model justification

4 Results

Our results are summarized in

5 Discussion

References

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