Blue Blood Basketball

By: Gian Castillero, Matthew O'Donell, Kevin Kavilaveettil, Eric Zhang

Mentor: Prof. Maria Tackett

Duke University

Topic and Motivation

- Historically, college baskteball has been dominated by a selected group of universities, often refered as Blue Blood Schools.
- Ever since the “one and done” era of modern college and professional basketball, Blue Blood schools have become NBA pipelines.
- Blue Blood schools are the top 5 most drafted from universities, contributing 13% of all players drafted between 2000-2016.
- Are players from these schools really the best?

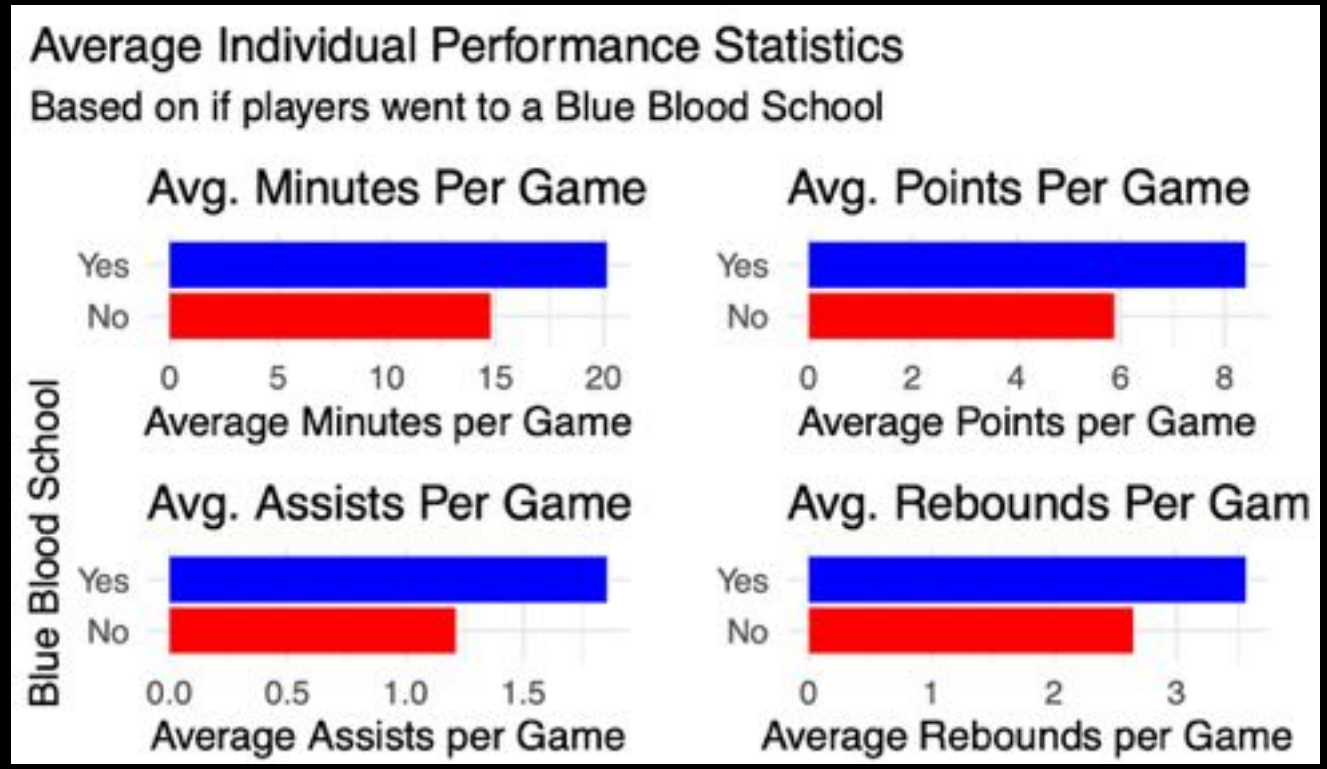
Research Question and Hypothesis

- Research question: Do NBA players drafted from Blue Blood schools between 2000 and 2016 perform better at the professional level than other players drafted alongside?
- Hypothesis: Players from Blue Blood schools have performed better in the NBA than other players who came into the league during the same time-frame.

DATA

- All players drafted into the NBA between 2000-2016.
- All players have at least 5 years playing at a professional level.
- Collected by Basketball Reference year by year as new players were drafted and has been updated as they have played.
- Undrafted players are not included.

Box Score Analysis



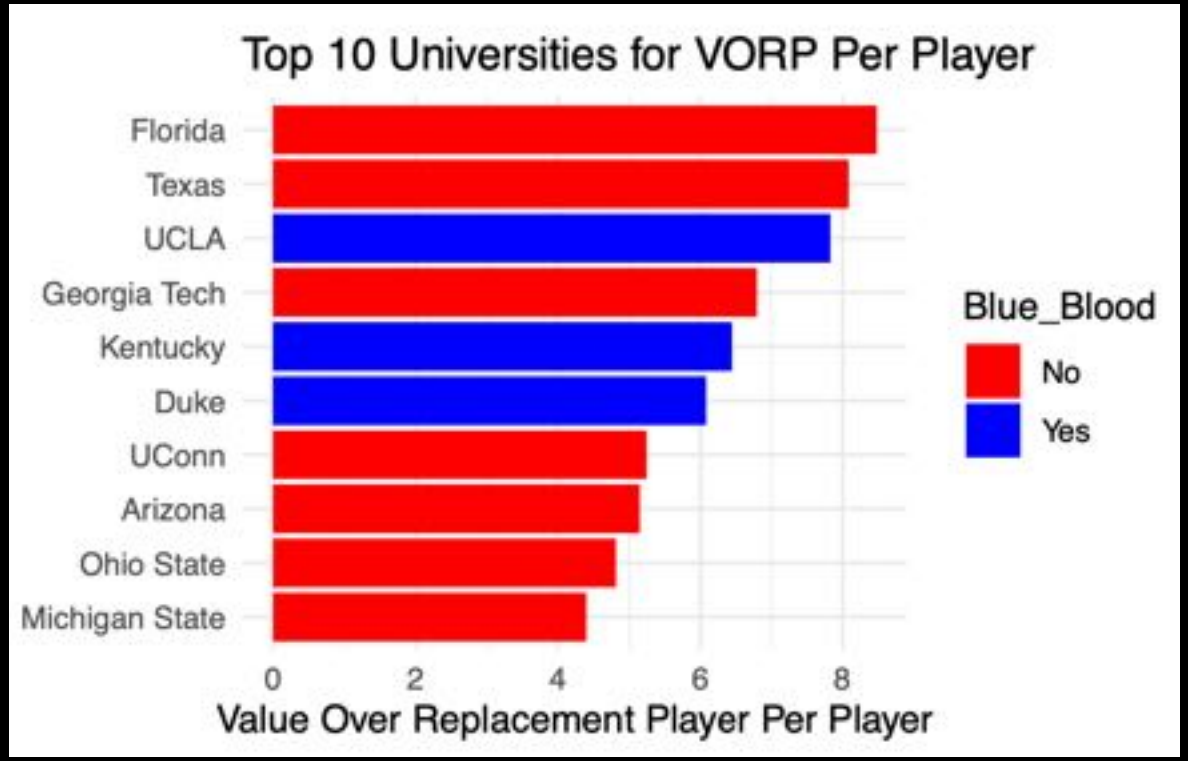
Blue Blood players:

- Score 43% more
- Assist 65% more
- Rebound 34% more
- Play 42% of total playing time

However, per game volume does not account for defensive impact, efficiency, or longevity.

Value over replacement

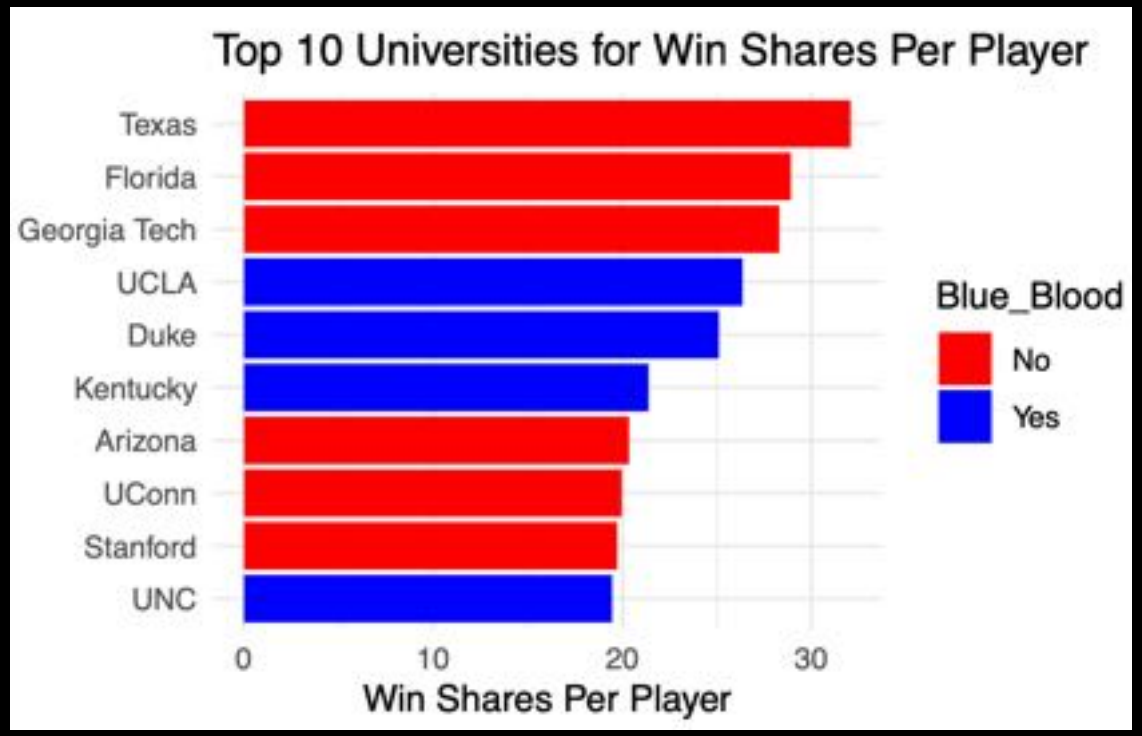
- Measures the value that a player provides to a team over a hypothetical replacement “average” player.
- The average bench player has a VORP of 0.
- UCLA, Kentucky, and producing players that have starting or even star caliber impact.
- UNC’s VORP = 3.5 and Kansas VORP = 2



Contribution to team's success: Win Shares per Player

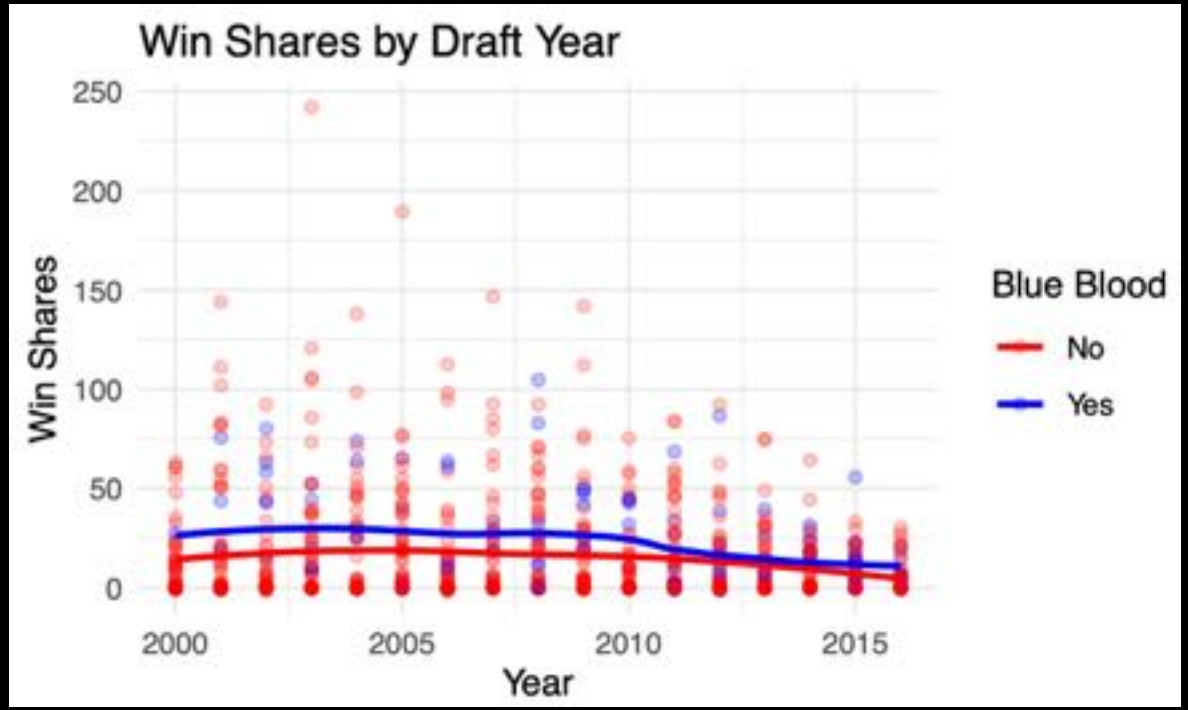
- Best metric to determine a player's career success.
- Cummulative over a player's carrer.
- Takes into account longevity, efficiency, and production.
- Average win shares: 15.69
- Note: many players have not finished their carrer yet.

Blue Blood	Mean Win Shares
No	14.84
Yes	21.51



Contribution to team's success: Win Shares per Player

- Historically, Blue Blood players maintains a relatively stable lead in average win shares.
- Blue Blood draftees in recent years have had less chance to distance themselves from their peers and accumulate more win shares.



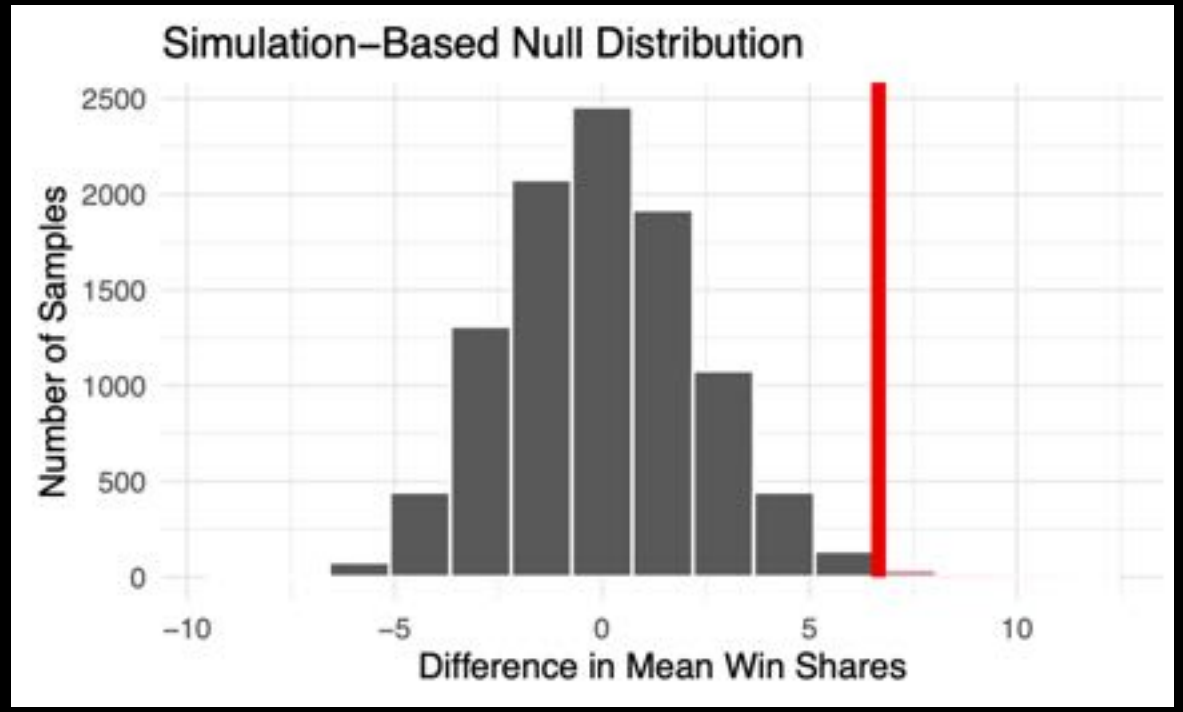
Regression Analysis

$$Win\ Shares\ per\ player = 1509\ - 0.744 \times year + 7.80\ Blue\_Bloodyes$$

	Draft year model	Draft year + Blue Blood model
R-squared	0.01785982	0.0284944
Adjusted R-squared	0.01688451	0.02656298

- The model that includes Blue Blood status has a value of predicts almost 3% of the variability in the data. Significant variance considering all the factors that predict NBA success.
- A player's expected win shares decreases by 0.74 for every year since 2000 that they are drafted.
- Being drafted from a Blue Blood school increases expected win shares by 7.80.

Hypothesis Testing



- Null Hypothesis: Mean win shares are independent of Blue Blood status.
- Alternative Hypothesis: Blue Blood Players have a higher mean win shares than other players.
- P-value: 0.0045
- Conclusion: Based on a significance level of 0.05, we reject the the null hypothesis since there is sufficient evidence that players from Blue Blood schools have a higher mean win share total.

Conclusions

- Box score analysis: Blue Blood players individually perform better in any game.
- Value Over Replacement:
- Win shares: Blue blood players have found more success in their careers.
- Regression Analysis: being drafted from a Blue Blood school significantly increases expected win shares.
- Hypothesis testing: career win shares and Blue Blood status are not independent.
- Overall, we found that NBA players drafted between 2000-2016 who went to Blue Blood Schools performed better than players who went to other schools or did not play for Division 1 Colleges in terms of career success in the NBA.