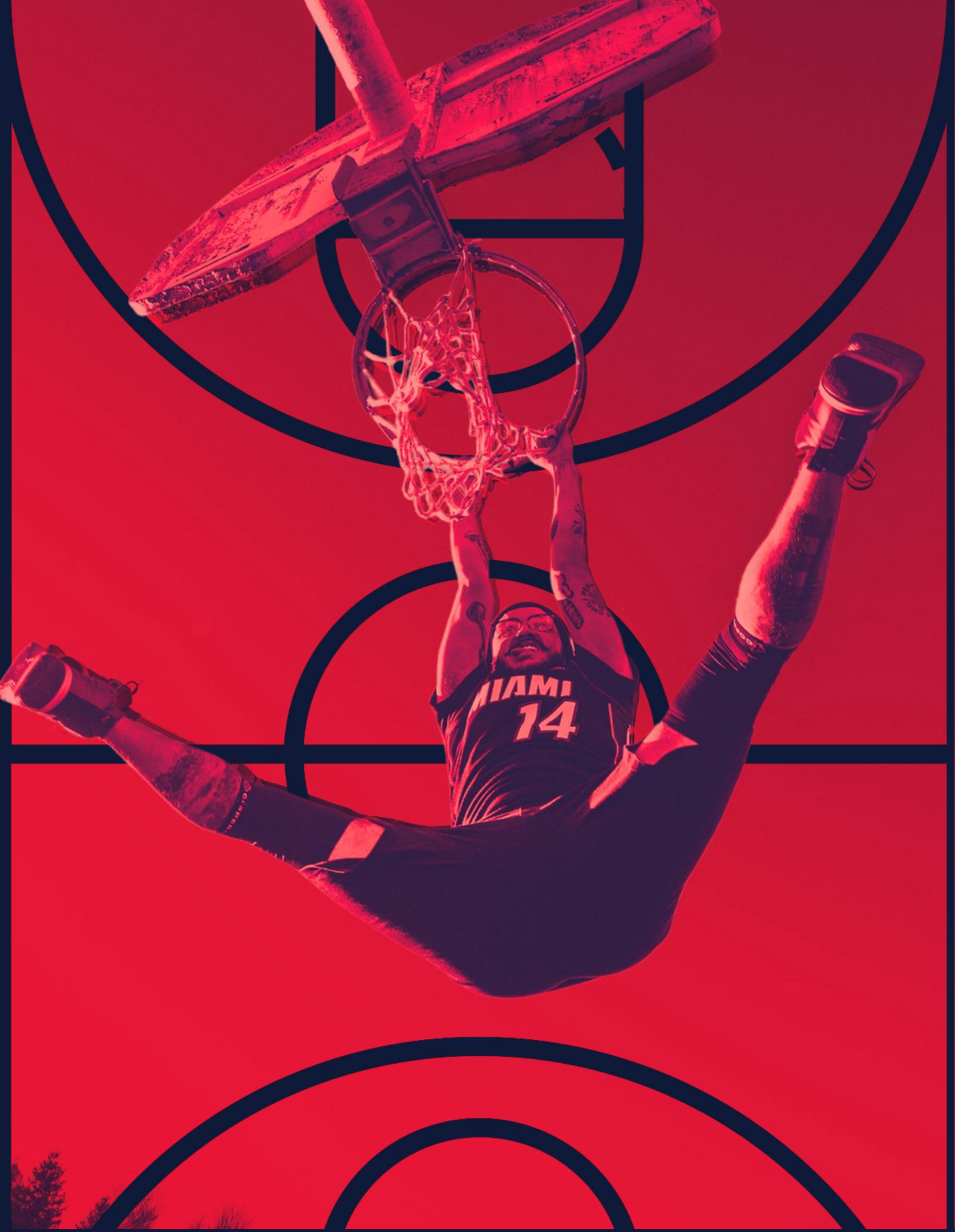


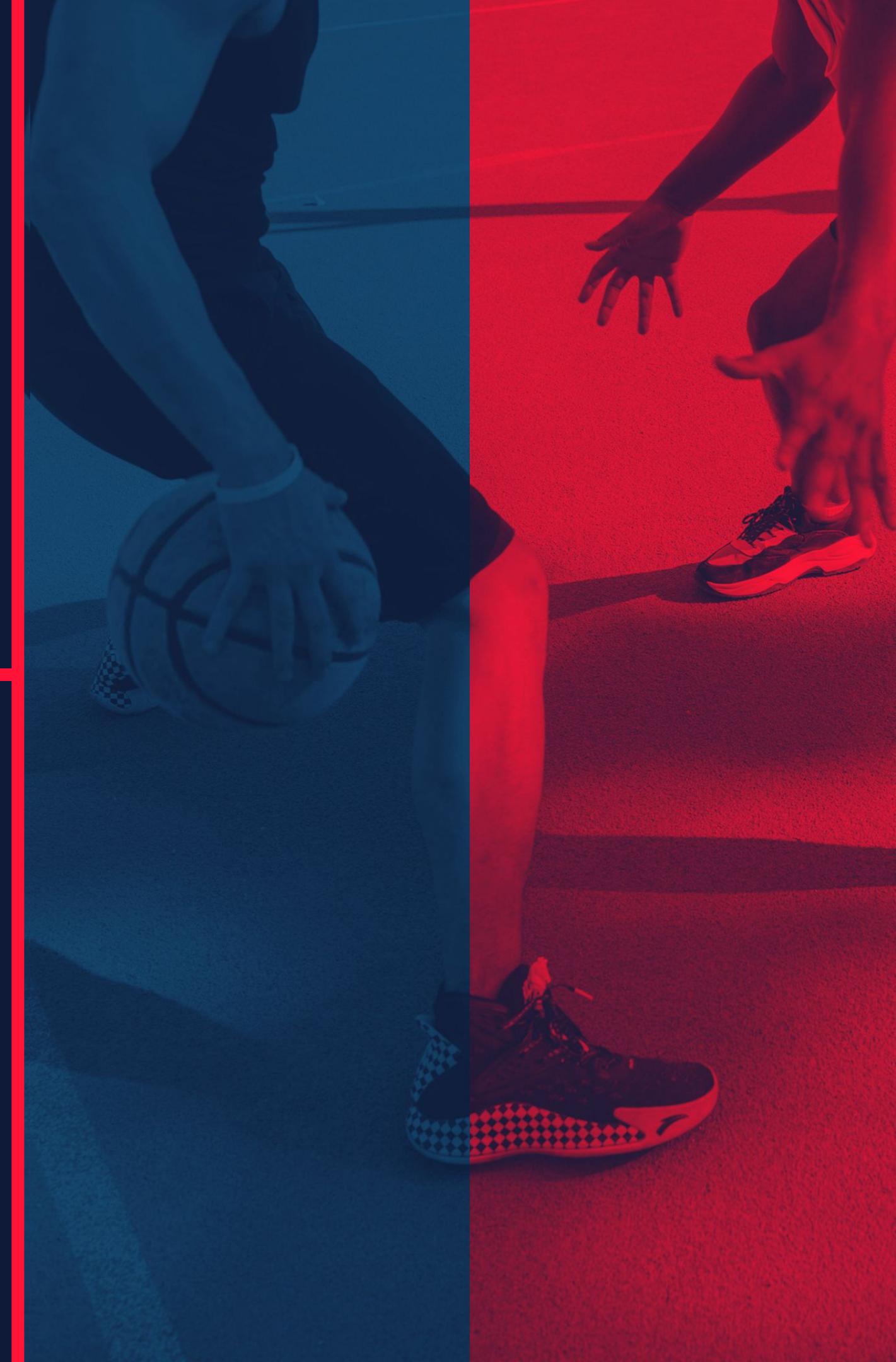
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**NBA Draft Outcome:
Pick # vs Career Success**



AGENDA

- 01 Background Info and Goal**
- 02 Data Collection and Methodology**
- 03 Results and Findings**
- 04 Limitations and Potential Extensions**



Background Info and Goal

Goal of Our Project

Our goal is to examine how a player's draft position predicts their long-term NBA performance. Specifically, how player production changes as the pick number increases. We aim to understand how being selected early, or later in the draft affects key performance metrics such as total points, points per game, minutes played, and career length, etc, revealing how effectively draft order forecasts future success.

The NBA

The National Basketball Association (NBA) is the premier professional basketball league in North America, featuring 30 teams and many of the world's best athletes.

The NBA Draft

The NBA Draft is an annual event where teams select eligible players to join the league, aiming to secure young talent that can shape their future success. Typically held every June, the current draft format consists of two rounds with 60 total picks. Teams with poorer records receive higher picks to promote competitive balance, but while top selections are expected to become stars, history shows that success is far from guaranteed.

The NBA Draft



Data Collection and Methodology

Key Procedures

Data Collection

Scraped historical NBA Draft data (1980–2010) from Basketball Reference. Collected player names, draft positions, and key career statistics such as total points, minutes, and years played.

Data Cleaning

Merged yearly draft tables into one dataset, removed duplicates and header rows, fixed formatting errors, and standardized column names. Added a “Year” column to link each player to their draft class and ensured all numeric values were valid.

Analysis

Using the cleaned dataset, created scatterplots with fitted lines, and summary tables, to explore how draft position predicts player performance. Examined trends across total points, points per game, minutes played, and other important measures of players’ career success to assess how it varies by draft order.



Results and Findings

“Are players selected at higher draft positions more successful?”



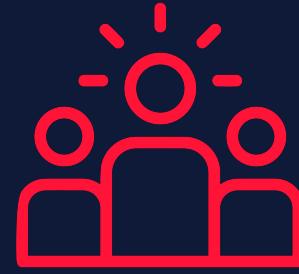
Draft Pick Summary

Investigating specific draft selections (1, 2, 3, 10, 20, 30, 40, 50, 60) through the averaged statistics of total points scored, point per game average, years played in the NBA, total minutes played, and advanced VORP.



Key Metrics and Trends

Investigating trends of the average of each draft pick as it pertains to years played, minutes played, total points, and points per game average. While also encompassing all the picks individually through points per game, VORP, Box Plus/Minus, and Win Shares.



Draft Pick Ranges

Players were grouped into draft ranges (pick ranges in increments of 5 and 10) to compare key performance metrics across different tiers. This approach allows us to see how outcomes vary between top lottery picks and later selections, highlighting the performance gap across the draft order.

GOALS

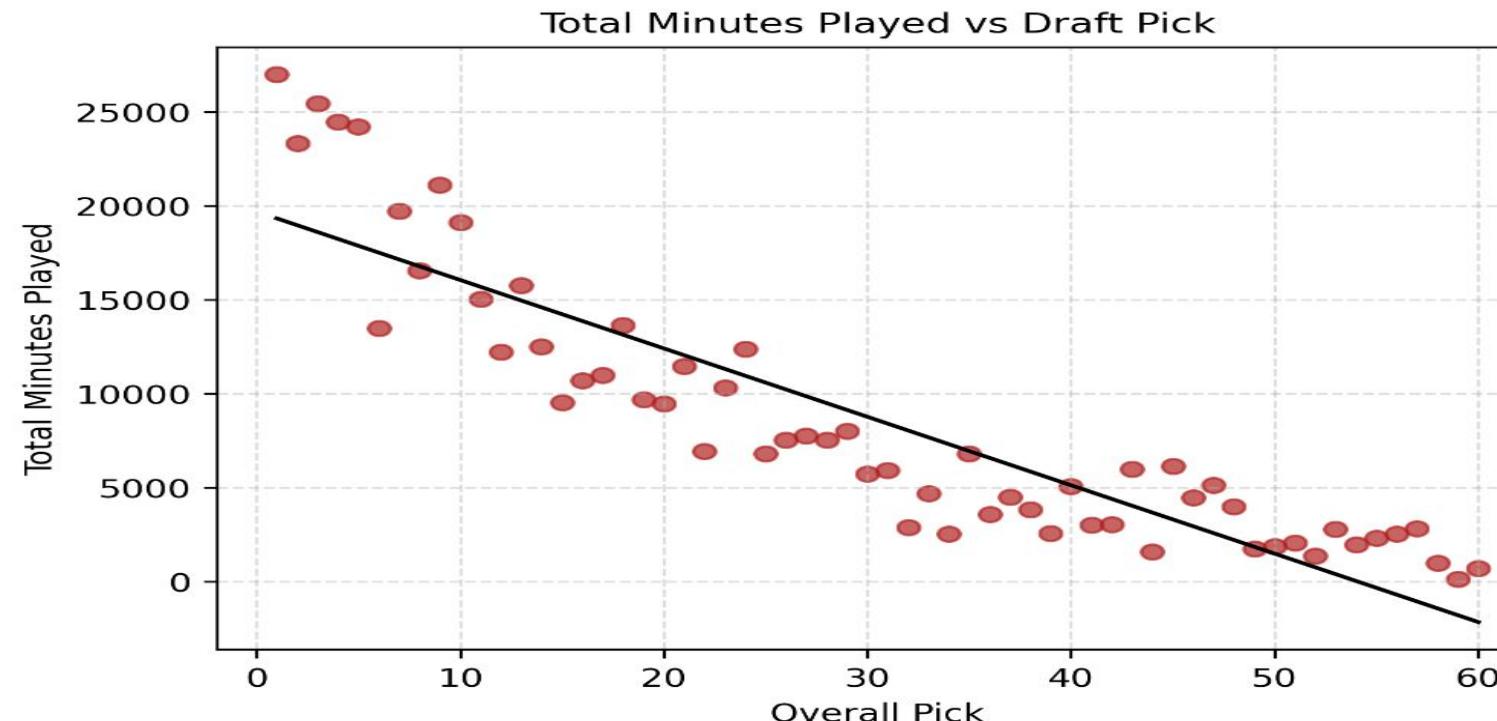
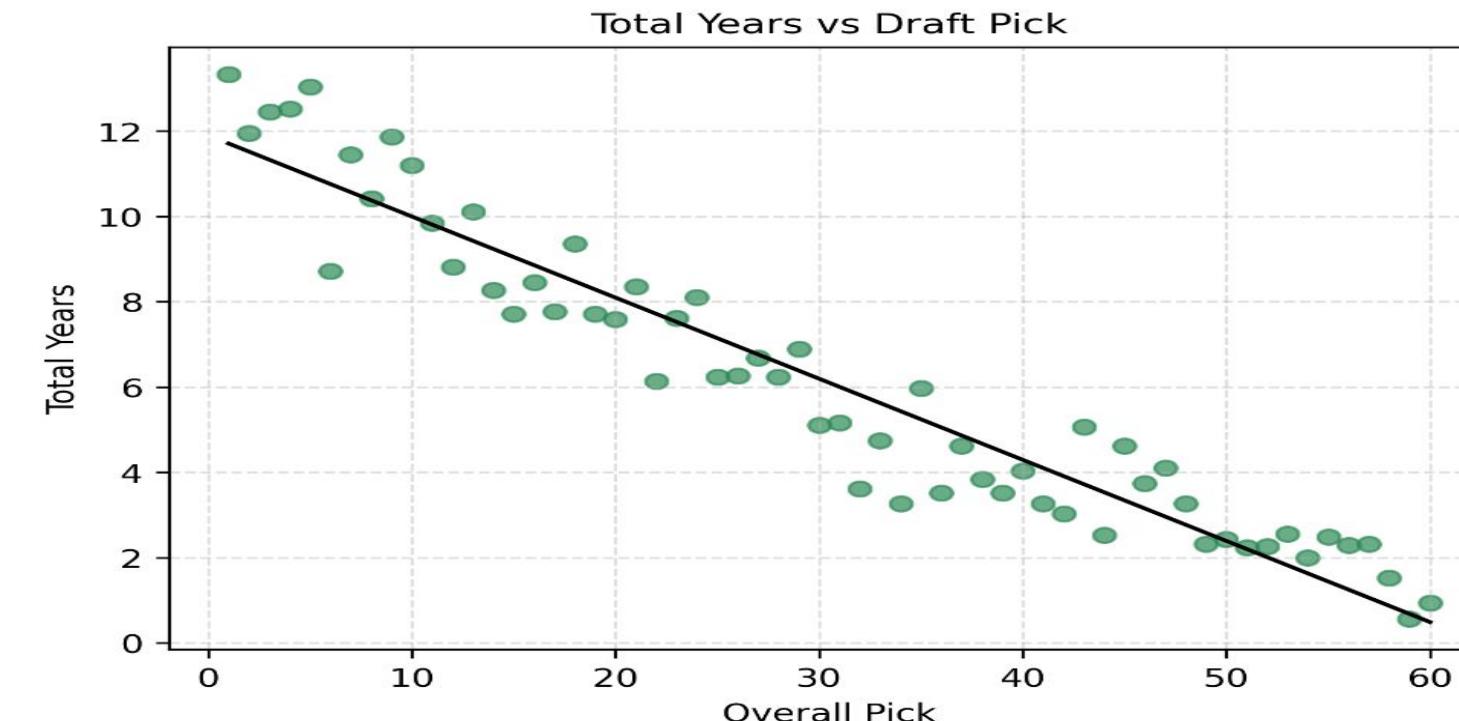
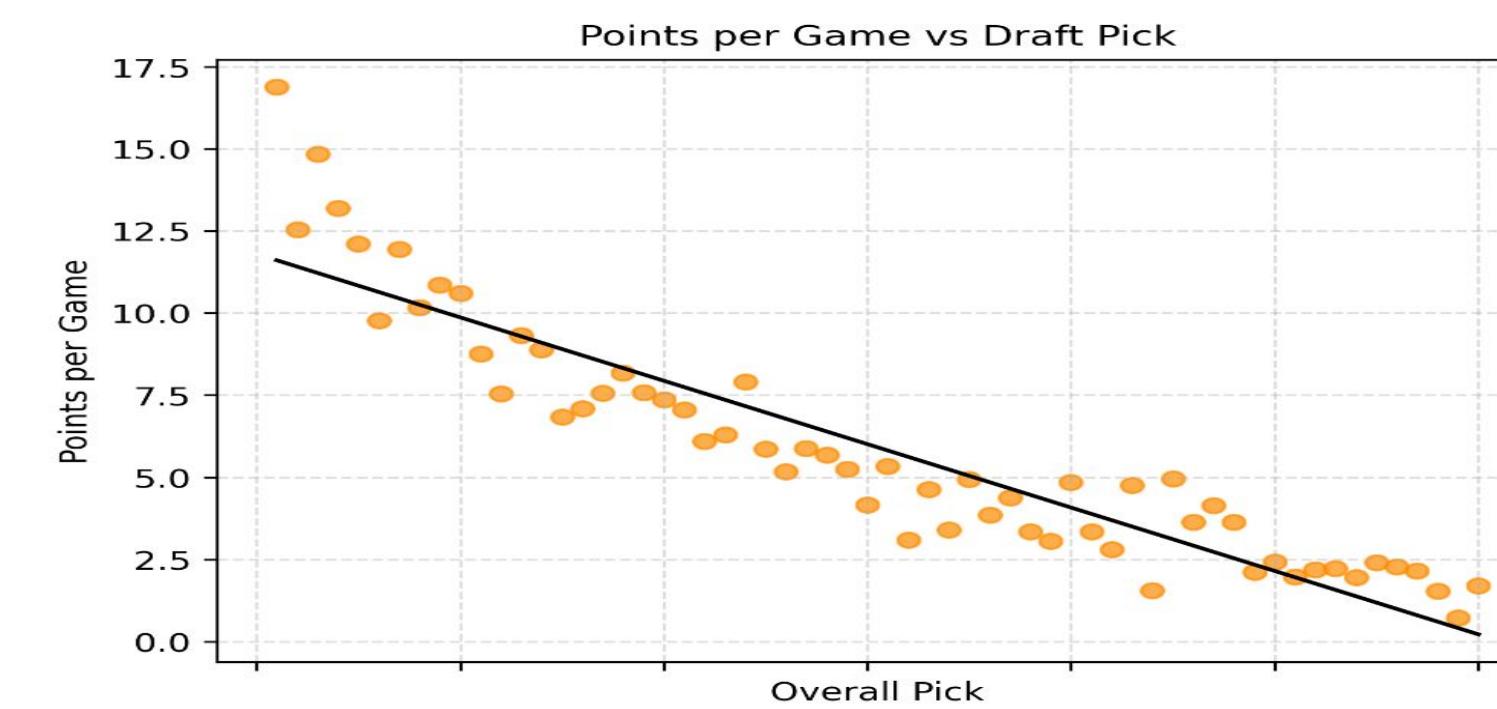
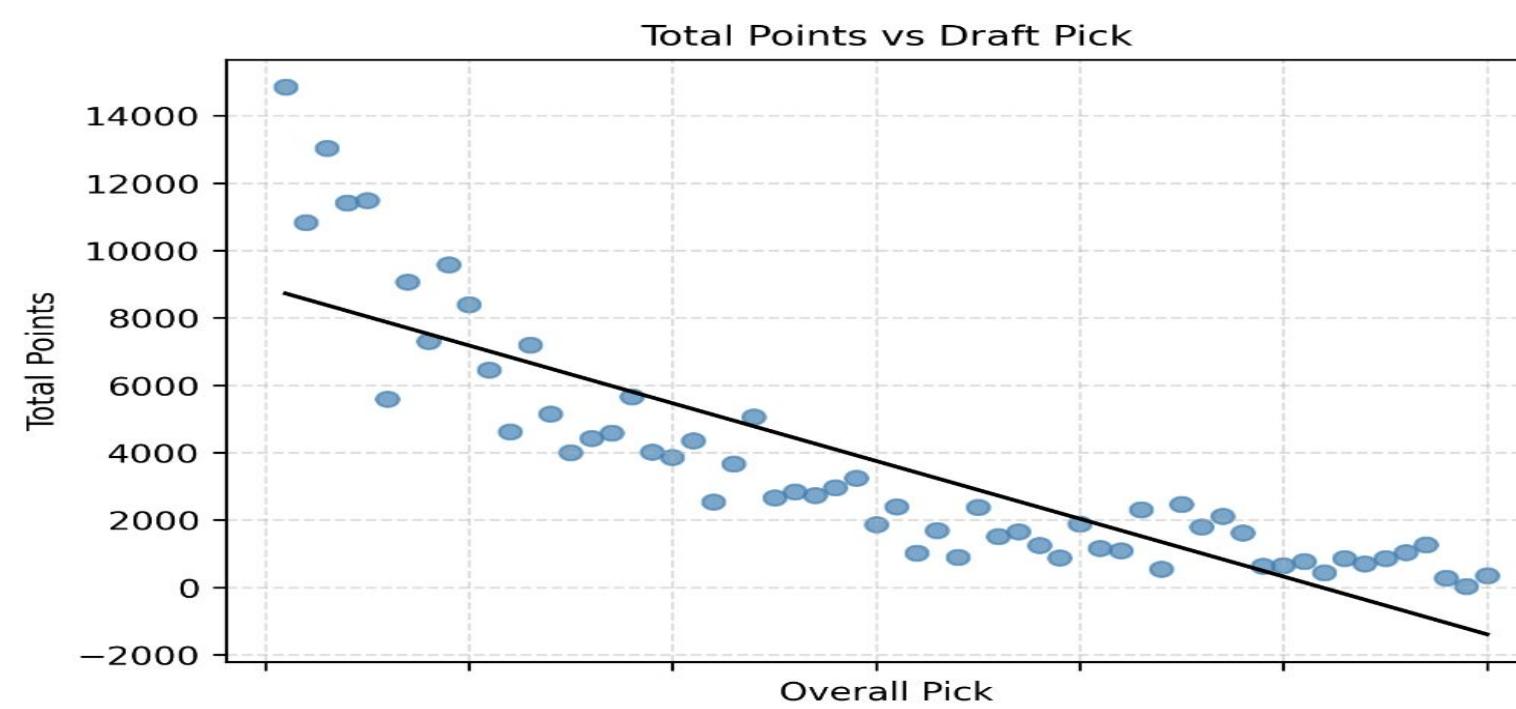
- To understand how a players draft position influences the success of their career
- To determine if teams should target higher draft positions to improve their team individually
- Discover trends among draft positions as it pertains to key NBA performance statistics

Draft Pick Summary

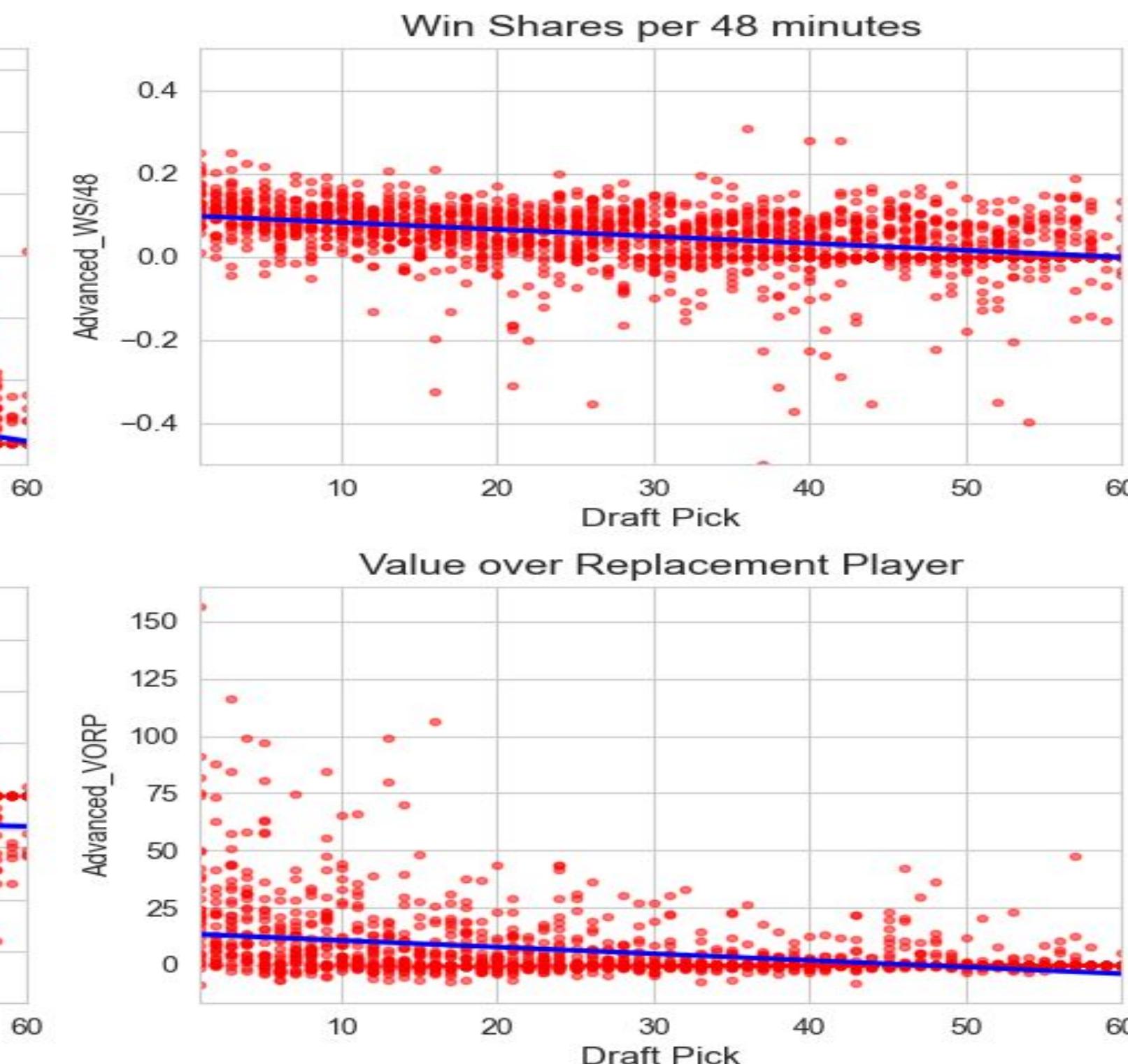
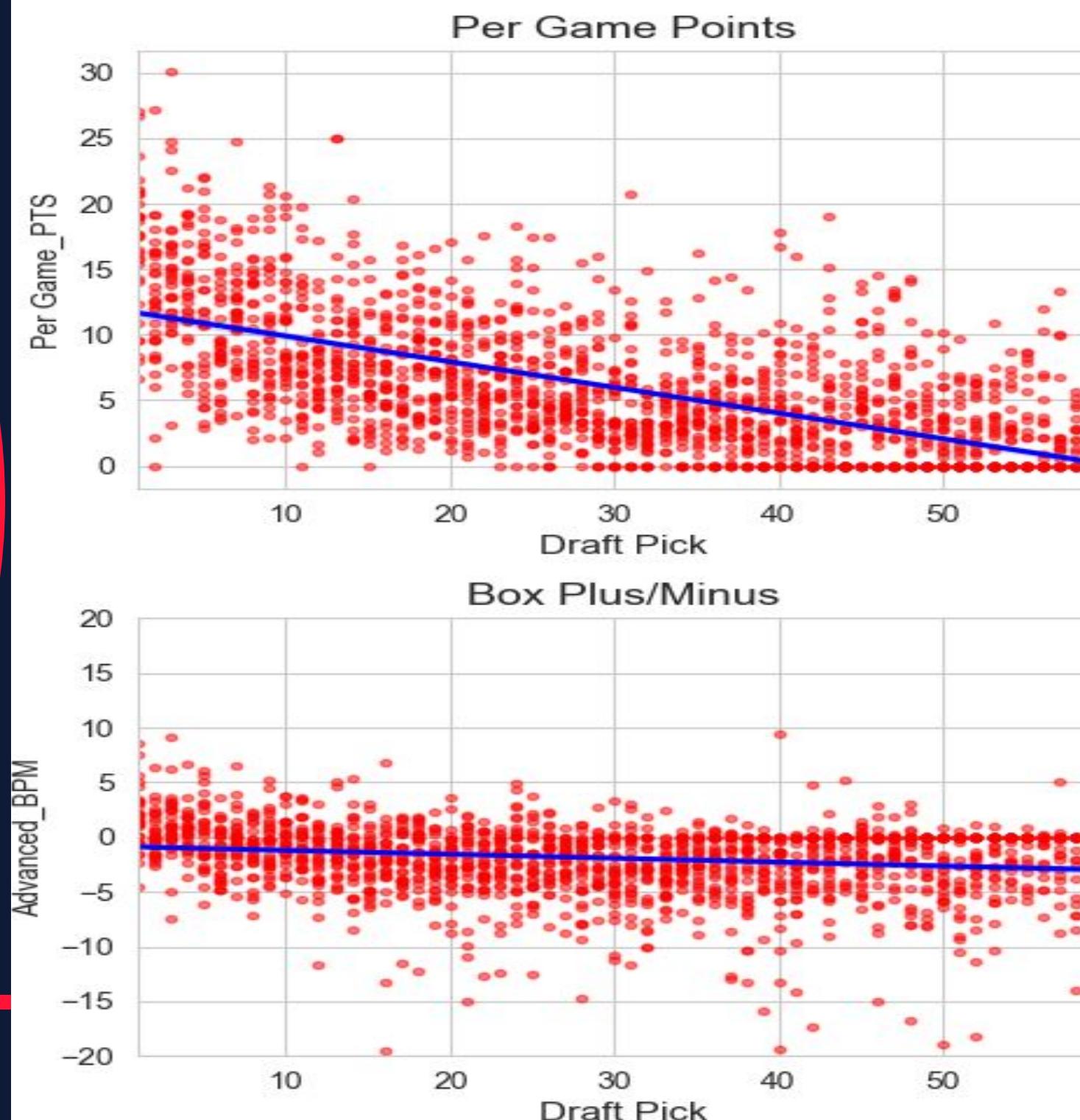
Pk	Totals_PTS	Per Game PTS	Yrs	Totals_MP	Advanced_VORP
1.0	14852.39	16.88	13.32	26978.84	31.79
2.0	10820.58	12.54	11.94	23323.29	18.11
3.0	13027.9	14.83	12.45	25432.74	25.5
10.0	8388.68	10.61	11.19	19114.26	12.13
20.0	3863.16	7.36	7.58	9473.87	3.32
30.0	1864.45	4.16	5.1	5710.35	1.37
40.0	1878.87	4.85	4.03	5062.35	0.47
50.0	640.58	2.43	2.42	1850.42	0.21
60.0	344.8	1.7	0.93	693.47	0.21

Draft Pick Summary

Draft Outcomes vs Overall Pick (Averages by Pick)

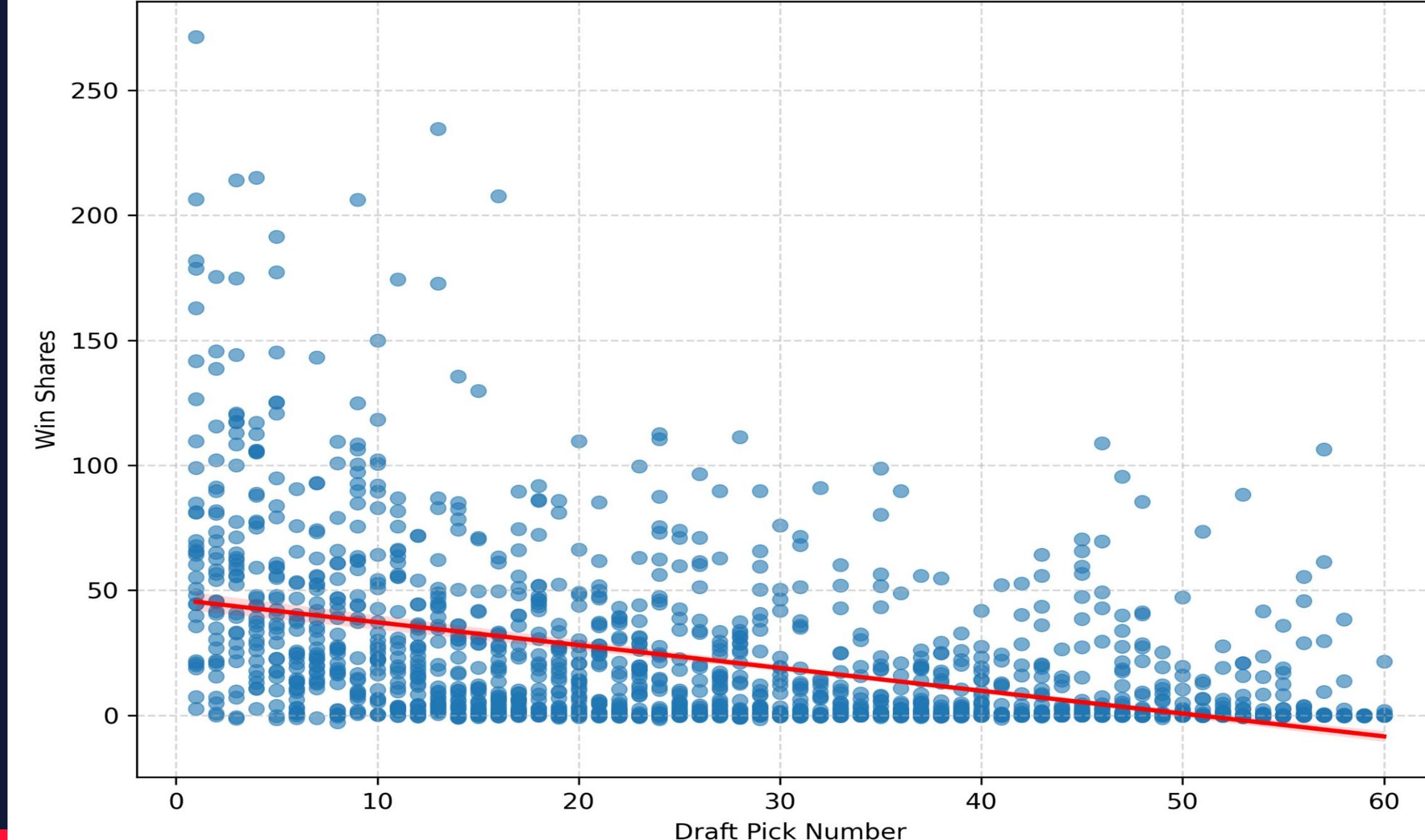


Key Metrics and Trends

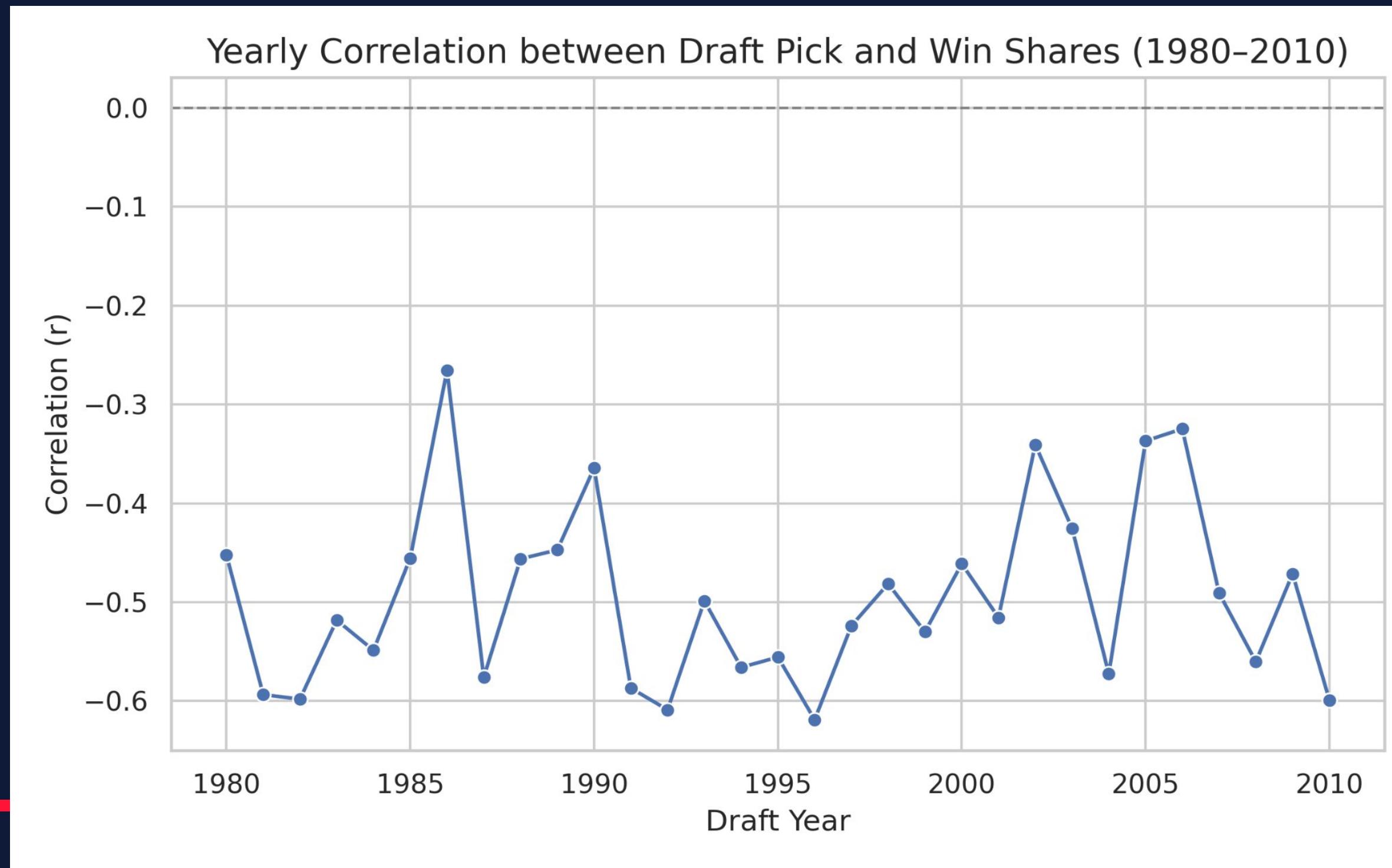


Key Metrics and Trends

Win Shares vs Draft Pick (1980-2010)



Key Metrics and Trends



Metrics by Draft Pick Ranges

	Per Game PTS	Advanced WS/48	Advanced BPM	Advanced VORP
1	12.29	0.1	-0.05	16.64
2	7.91	0.07	-1.88	5.94
3	5.94	0.05	-2.58	3.13
4	4.09	0.04	-2.79	1.1
5	3.34	0.03	-2.02	1.36
6	1.98	0.01	-2.24	0.54

Group 1: Picks 1-10

Group 2: Picks 11-20

Group 3: Picks 21-30

Group 4: Picks 31-40

Group 5: Picks 41-50

Group 6: Picks 51-60

Metrics by Draft Pick Ranges

group5	Player	Avg	Median	std
1	155	65.9316	55.7	51.8079
6	155	39.0845	26.9	35.8207
11	155	28.3374	16.6	35.9763
16	155	21.7419	10.5	28.2094
21	155	18.6194	7.9	24.2841
26	152	14.5454	3.1	22.2454
31	155	9.0452	0.6	18.4275
36	155	6.3219	0.4	12.6374
41	155	7.1723	0.1	15.4026
46	155	6.8987	0.0	17.2253
51	149	3.602	0.0	11.3011
56	106	4.0208	0.0	14.6309

Key Findings

Conclusion

Overall, the analysis reveals a strong and consistent negative relationship between draft position and career success. Early picks deliver substantially higher value and longer careers, while later selections contribute less on average, though outliers still prove that talent can emerge from any part of the draft.

Statistical Insights

- Player performance consistently declines as draft position increases across every major metric — total points, points per game, minutes, and career length, etc.
- The largest drop occurs within the first round, where production and longevity fall sharply between early-lottery and late-first-round picks.
- Beyond the 30th pick, performance differences become smaller but remain clearly below early-round levels.
- Advanced metrics such as VORP and Win Shares per 48 minutes show the same pattern, confirming that higher selections tend to contribute more efficiently throughout their careers.

Limitations and Potential Extensions

Limitations

- The analysis only includes the first 60 picks of each draft, excluding undrafted players and later selections (For 80s).
- The dataset covers 1980–2010, so more recent changes in player development and league dynamics aren't captured.
- Performance metrics don't fully account for injuries, team context, or changing roles over a player's career.
- Era differences (game pace, scoring norms, minutes played) can influence comparability across decades.
- Differing team priorities, valuing potential vs current skill set.
- Biased towards more recent years as players have gradually extended careers which can skew the data specifically with total point and total minutes played.

Potential Extensions



Eras

The NBA is often cited as a "copy-cat" league where other teams look to replicate the top performers. As a result teams have prioritized different skill sets across eras.

New Variables

Including new measurable variables such as height that can contribute to how high a player is selected in the draft.

Incorporating different statistics based on the era.

Increased Player Pool

Incorporating undrafted players and those drafted in the later rounds of previous eras. Is it more wise to retain your later draft picks or trade them away for greater value?

THANK YOU!

LET'S GET IN TOUCH



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