

# STA 199 - Hotdogs Project



# Introduction

# Question

Among NBA players from 1996-2022, what is the relationship between college attended and NBA success?



We will examine the relationship between college player attended and level of success

Success will be measured using various stats which includes the box stats

Hypothesis: the blue-blood schools will have stronger relationship with successful NBA players

# All Seasons

- Data form [kaggle.com](https://www.kaggle.com)
- Author Justinas Cirtautas
- Data derived from the NBA stats API

- Observation have all the NBA players from 1996 season to 2022
- Variables include age, height, draft year, and college
- Also included box score stats: ppg, rebounds, games played

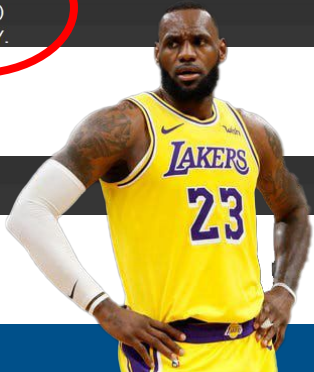
X	player_name	team_abbreviation	age	player_height	player_weight
0	Randy Livingston	HOU	22	193.04	94.80073
1	Gaylon Nickerson	WAS	28	190.50	86.18248
2	George Lynch	VAN	26	203.20	103.41898
3	George McCloud	LAL	30	203.20	102.05820
4	George Zidek	DEN	23	213.36	119.74829
5	Gerald Wilkins	ORL	33	198.12	102.05820
6	Gheorghe Muresan	WAS	26	231.14	137.43838
7	Glen Rice	CHH	30	203.20	99.79024
8	Glenn Robinson	MIL	24	200.66	106.59412
9	Grant Hill	DET	24	203.20	102.05820

419	A.C. Green	DAL	33	205.74	102.05820	Oregon State	USA	1985	1	23	83
667	A.C. Green	DAL	34	205.74	102.05820	Oregon State	USA	1985	1	23	82
1006	A.C. Green	DAL	35	205.74	102.05820	Oregon State	USA	1985	1	23	50
1626	A.C. Green	LAL	36	205.74	102.05820	Oregon State	USA	1985	1	23	82
1971	A.C. Green	MIA	37	205.74	102.05820	Oregon State	USA	1985	1	23	82
1625	A.J. Bramlett	CLE	23	208.28	102.96538	Arizona	USA	1999	2	39	8
1970	A.J. Guyton	CHI	23	185.42	81.64656	Indiana	USA	2000	2	32	33
2613	A.J. Guyton	CHI	24	185.42	81.64656	Indiana	USA	2000	2	32	45
2929	A.J. Guyton	GSW	25	185.42	81.64656	Indiana	USA	2000	2	32	2



	player_name	college	country	draft_year	draft_round	draft_number	total_games	total_seasons	career_pts_avg	career_reb_avg
1	A.C. Green	Oregon State	USA	1985	1	23	379	5	5.858047	6.1881266
2	A.J. Bramlett	Arizona	USA	1999	2	39	8	1	1.000000	2.8000000
3	A.J. Guyton	Indiana	USA	2000	2	32	80	3	5.512500	1.0162500
4	A.J. Lawson	South Carolina	Canada	Undrafted	Undrafted	Undrafted	15	1	3.700000	1.4000000

St. John's	226	3	5.411062
St. John's (NY)	3528	17	8.892262
St. John's, N.Y.	149	3	6.967114



No College	7	2	2.400000
None	100219	361	10.555531



The original dataset contained over 12,000 rows where each row represented a given player's single season stats, split into multiple rows if they played for multiple teams. It covers all NBA players from the 1996 to 2022 seasons.

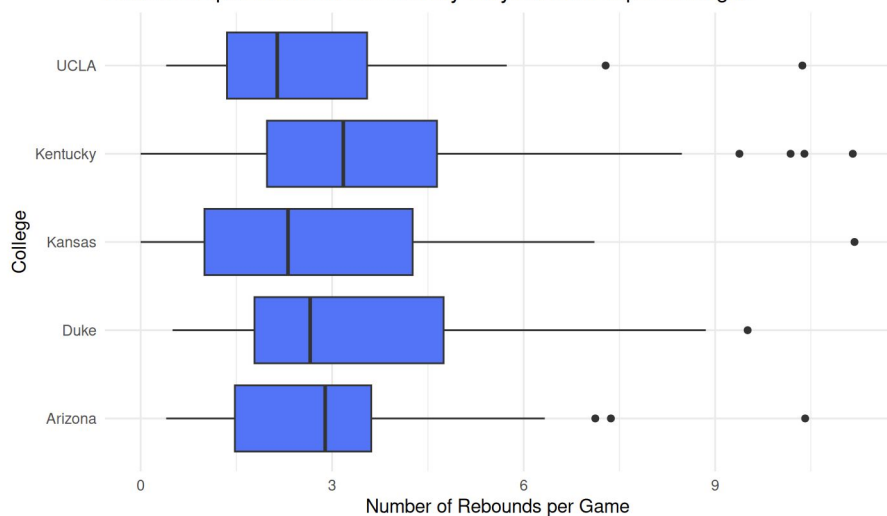
To clean the data, we calculated career averages from the single season averages, grouping by name, college, draft round, and other attributes rather than name alone, since some players share the same name. We also created a college-level dataset where each row represented a college and the stats were averaged across all of that college's NBA players.

Unfortunately the dataset did not come perfectly clean, so we used a fuzzy matching library to resolve duplicate entries with inconsistent formatting.

Before 2005, the NBA allowed players to be drafted straight out of high school. This, along with other circumstances, made "None" the most common college value in the dataset. We excluded these players from our analysis since we were focused on comparing actual colleges.

# Analysis

Rebounds per Game in the NBA by Players from Top 5 Colleges



## Rebounds

Kentucky most successful, UCLA least successful

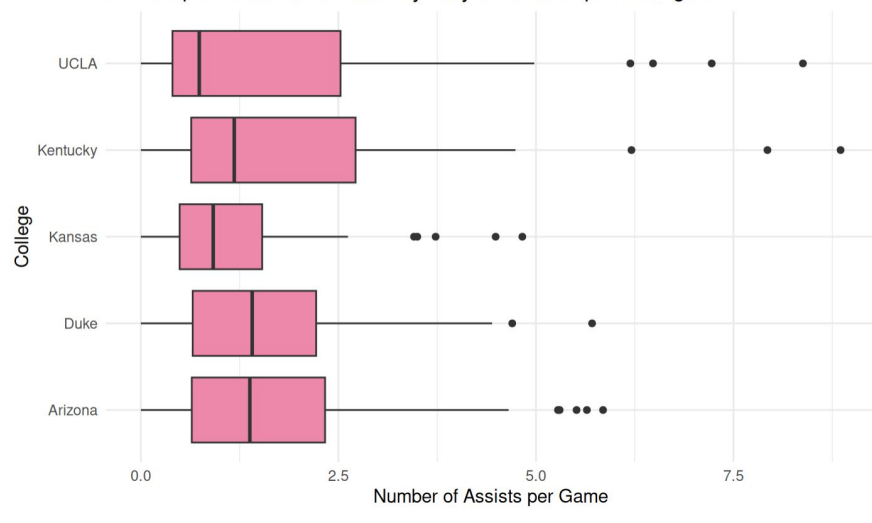
Some outliers, lower STD than for assists data

## Assists

Duke and Arizona most successful, UCLA least successful

Lots of outliers, higher STD than for rebounds data

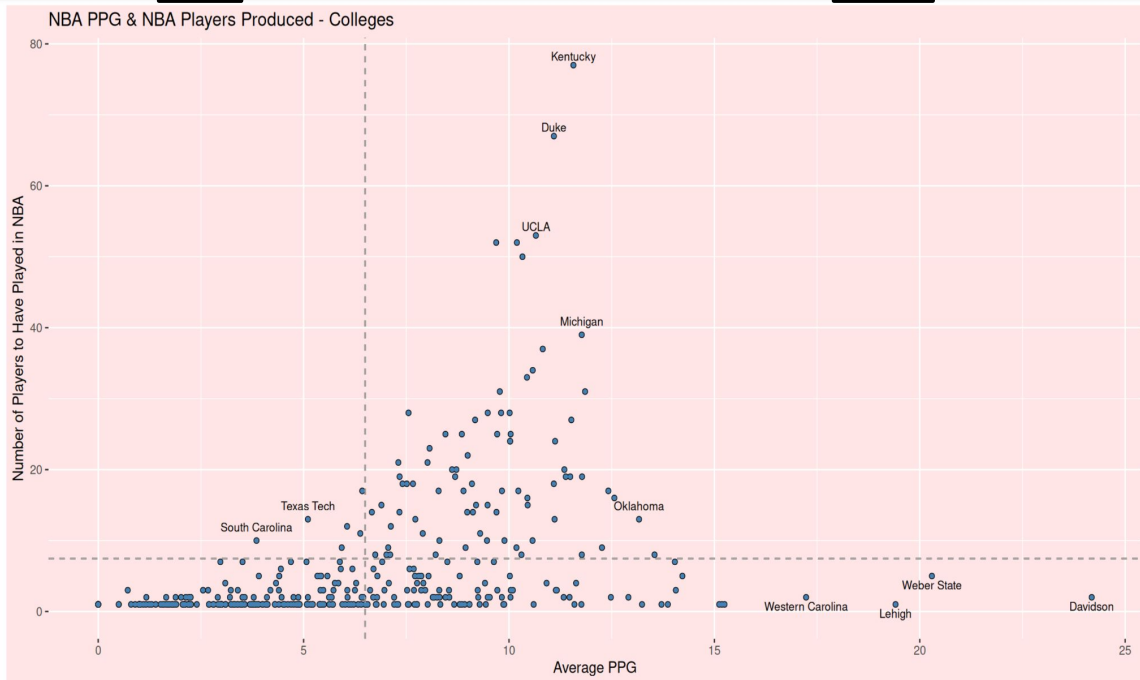
Assists per Game in the NBA by Players from Top 5 Colleges



# Analysis

Q1

Q2



Q3

Q4

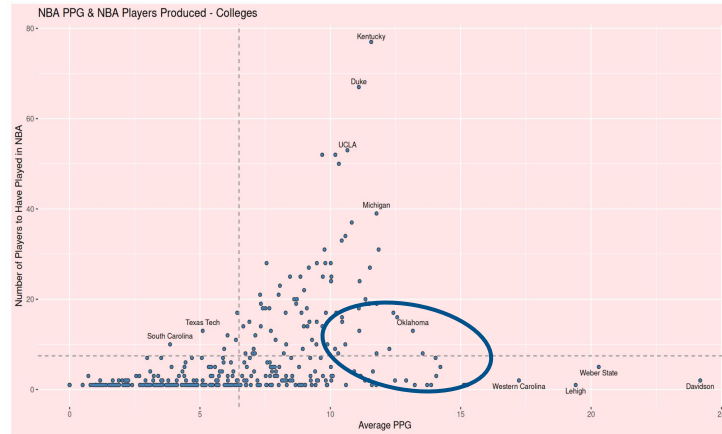
**Q1** - Teams that have produced above average # of NBA Players yet below average PPG

**Q2** - Teams that have produced above average # of NBA Players AND above average PPG

**Q1** - Teams that have produced below average # of NBA Players and below average PPG

**Q4** - Teams that have produced below average # of NBA Players YET above average PPG

# Smaller Successful School



	college	total_players_from_college	average_PPG
1	Cal State-Fullerton	5	12.93927
2	Old Dominion	5	11.02137
3	Saint Joseph's	5	11.71389
4	Louisiana Tech	5	13.40147
5	Tennessee State	4	11.73537

# Conclusion

Number of NBA Players

356	Kentucky	77
355	Duke	67
354	UCLA	53
352	Arizona	52
353	Kansas	52
351	North Carolina	50

- Colleges with the most players in the data
- Charlie - looking at this data can help HS players project how they may succeed in nba

There's a strong correlation between NBA success with attending a blue blood school

Bigger basketball schools shows a higher success rate in the NBA