

# Stats 100 Project Proposal

## Team Members:

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## Research Question:

How do different factors for players entering the NBA draft affect their career earnings? Is draft position a significant predictor of career earnings in the NBA or do other metrics measured at the combine, demographics, and biographical data have surprising power in predicting player earnings?

For example, we would like to explore questions such as: "How do expected earnings change when a player is drafted just outside the lottery?" "Is there any surprising preferred draft position inside the top 5 draft picks in each year?" These questions can help inform whether or not a player should wait an extra year in college, or perhaps pursue an even different route (playing overseas, G League). Beyond this, it will also be interesting to test if general intuition that higher draft picks correspond with higher career earnings holds. In addition to the draft position, we will also make sure to look at other predictive data such as combine measurements. Data such as a player's vertical leap or height can also be predictors of lifetime salary, so understanding which factors have the largest impact could provide players direction on what controllables to focus on.

## Source of Data:

<https://www.kaggle.com/wyattowalsh/basketball>

The link above is a Kaggle dataset which contains basketball data for all games, drafts, and more that took place in the NBA from 1946-Present. We will use this dataset in order to see at what position each player being analyzed was drafted.

<https://www.kaggle.com/whitefero/nba-player-salary-19902017>

The link above includes the salaries of players every year in the NBA from 1990-2017. We will be able to use this data set to map between when players were drafted and what their career earnings were.

We will look for more data sets to fill in gaps that we have in estimating players' career earnings.

## What methods will we use to answer our research question?

We will need to do work to automate the process of calculating career earnings based on players earnings. After this, we will focus on using different metrics based on draft combine data and demographics to find the most significant predictors in draft position. Based on these metrics, we will try to predict career earnings using different regression models. We will want to be able to predict earning Note that we will adjust player career earnings for inflation, putting all career earnings in terms of 2022 dollars.