

### **1. Predicting the outcome of a basketball game**

This project would attempt to discover what are the most important underlying factors in determining whether a team will win a basketball game or not. With the rise of legalized sports betting across different states, there is an increased focus by professional sports leagues, including the National Basketball Association, to institute policies to ensure gambling is practiced in manners that are not disruptive to the game and enhance the overall product they are offering. That being said, as more states continue to pass bills legalizing sports betting, more people will be legally gambling than ever and looking for an edge to make profit. Because there is such public demand in this market, there will continue to be more companies looking to take your bets (and money), sell you information on sports and betting trends, and ones that do both. There is a tremendous amount of data in this field that the public is unaware of, and thus not always making informed decisions when risking their money. That is why this project will take an exploratory approach into gaining insight on what is valuable to know and what information may be overvalued for NBA bettors. I would be looking at data from ESPN.com that documents previous NBA seasons to analyze what are and are not the most significant influences are in predicting if a team will win a game. Some possible variables that I could plan to examine are a team's overall record, their recent performance, their history against the team they are facing, the average statistics of a team, whether they are playing at home or on the road, and many more.

### **2. Consumer Eating Habits and Health**

Here I would be examining data centered around the availability of healthy and unhealthy foods for consumers and the effects it may have on health. With the United States consistently being ranked as one of the world's most obese countries, with an ever-expanding selection of fast-food restaurants, it is important to know just how our eating habits are affecting our livelihood. I would be examining data that illustrates the prices of healthy and unhealthy food options in certain areas across the country, the availability of healthy food such as the amount of grocery stores vs unhealthy food such as McDonald's and other fast-food locations in the area and analyzing the relationship between that with data concerning the health of people in those areas. Data on health could include obesity rates by state, diabetes rates, and mortality rates. The data would be collected from sources such as The World Health Organization, Datafiniti and databases showing the locations of fast food restaurants across the country.

### **3. Poverty and Drug Usage vs Crime by Region**

This potential case study would examine the relationship between poverty rates, drug usage, and other predictors of low income living on crime and incarceration rates for various parts of the country. It is no secret that poverty and crime are two of the largest problems facing the United States, and I am curious in just how closely they are related to one another. I am also interested in how the consumption and distribution of illegal drugs throughout the country is connected to incarceration rates. Where are certain types of drugs most prevalent and how does that affect arrest data? How have the rates of non-violent drug offenses changed throughout the past twenty years and has that impacted whether or not people, and which types of people, are being locked up? I would like to find out how correlated various aspects of these situations truly are with one another. Data on these topics can be collected from The National Institute on Drug Abuse, Bureau of Justice Statistics, as well as many other sources necessary to find the proper information.