

# Sport vs Crime

February 26, 2019

## 1. Introduction

### 1.1. Background

Crime and youth antisocial behavior are complex social issues. There one of the most important risk factors is living in a deprived area. People often fall into criminal companies from adolescence. And 70 % of teenagers believe antisocial behavior occurs because young people are bored, and six in ten say that there isn't enough for young people to do in their area [<https://www.sportandrecreation.org.uk/pages/gol-anti-social>].

Sport can attract people and help them solve a number of problems that push them into crime:

- Developing self-regulating and problem-solving abilities as a result of developing skills needed to sport activity.
- Adventurous sport can satisfy the thirst for risk.
- Sport helps people to socialize, playing sport, a person turns into a group, also can find friends and mentors, who provide positive role models.

### 1.2. Problem

The development of sports in the city requires large investments from business, municipal and federal governments. We need to show that sports organizations, such as sports fields, swimming pools, sports schools, ways to reduce crime in the city. That is, such investments are profitable for everyone.

However, this is still our guess. **We need to check whether there is an obvious relationship between sports venues in the city and the crime rate.**

Our **audience** is businessmen and municipal government interested in reducing crime for the long-term sustainable development of their city.

## 2. Data

The data about sports venues of a certain city can be found in Foursquare. In Foursquare a venue specified by a category. There are the Foursquare Venue Category Hierarchy, but there is not a sports category group, so we need to manually select sports categories: Basketball Courts, Baseball Field, Athletics & Sports, Climbing Gym, etc.

The data about crime rate by cities can be found in Wikipedia, for example, [https://en.wikipedia.org/wiki/List\\_of\\_United\\_States\\_cities\\_by\\_crime\\_rate](https://en.wikipedia.org/wiki/List_of_United_States_cities_by_crime_rate). Also, this page gets the population of cities.

**2.1. Features (X)** Count of sports venues (total and split by types), a rating of venues (total and split by types), a population of a city.

**2.2. Target (Y)** Crime rate of a city.

### 2.3. Struct of an instance

Filed	Type	Used to create a model	Feature / Target
City	String	No	-
Population	Integer	Yes	Feature
Total sport venues, number	Integer	Yes	Feature
Basketball courts, number	Integer	Yes	Feature
Basketball courts, summary rating	Integer	Yes	Feature
Baseball fields, number	Integer	Yes	Feature
Baseball fields, summary rating	Integer	Yes	Feature
...	...	...	...
Swimming schools, number	Integer	Yes	Feature
Swimming schools, summary rating	Integer	Yes	Feature
Crime rate	Float	Yes	Target

### 2.4. Example of an instance

'Boise', 225677, 2021, 58, 406, 62, 372, ..., 12, 96, **2741.97**