

# Exploring the Association Between New York Counties and Adult Arrests

Ayo Akintayo, Joshleen Cruzado, Selena Ortiz, and Ernesto Pena

Fordham University Science Technology Entry Program

## Abstract

The purpose of this research project is to analyze the correlation of adult arrests with the different counties in which the adults live. Therefore, we propose that as population increases so should the adult arrests in the county. Data was gathered to study how location has an impact on adult arrests. The analysis platforms Spotfire and Tableau were used to transform public data sets from New York State into graphs. From the data gathered, a positive correlation between population and adult crime was observed. The results showed that violent crimes and felony charges are more prevalent in New York's more populous counties, such as Brooklyn and the Bronx. Future research can expand on analyzing why highly populated counties have higher crime and arrest rates, and how these rates can be combated and lowered.

## Background

- There is an association between the number of Adult Arrests and counties (Petersilia, 1981).
- As counties grow in size, there will most likely become an increase in criminal activities. (NAP, 2001)
- Therefore, we propose that as population increases so should the adult arrests in the county.

## Hypotheses:

1. There are just as many drug misdemeanors as there are drug felonies across all five boroughs.
2. There is a positive correlation between amount of adults arrested and the continuous years from 1970--2016.
3. There is a positive correlation between the county and the total violent felony arrests.
4. There is a positive correlation between county population and the total amount of felony arrests.



Figure 1: Map showing arrest rates for New York State counties. Dark areas show highest arrest rates; light areas show lowest arrest rates

## Methods

- **Data Size:** 1,650,480
- **Data Scale:** Nominal
- **Data Type:** Numerical DataSet
- **Number Of Years:** 46 years
- **Period:** 1970-2016
- **Site:** The Official Website of New York State

**Analytics type:** Prescriptive, Diagnostic, and Predictive.

**Analytic platform:** Tableau and Spotfire

**Analytic chart type:** Filled Maps, Bar Charts, Side By Side Circles, Scatter Plots and Line Graphs.



Figure 2: Logo for Analytic platform Tableau

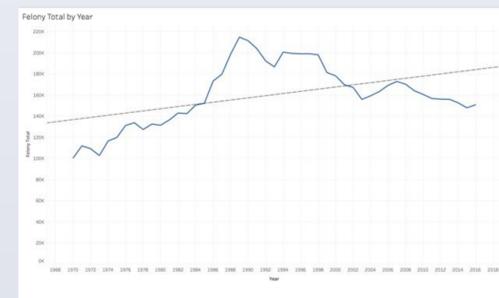


Figure 3: Logo for Analytic Platform Spotfire

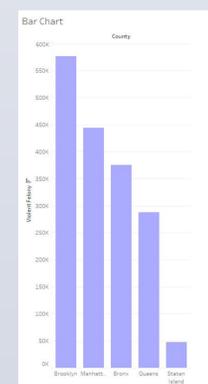
## Results



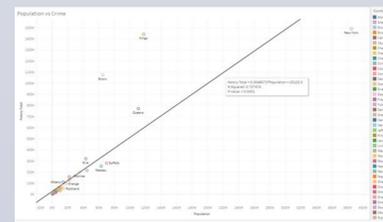
Graph 1: The graph shows Drug Misdemeanors and Drug Felony arrests across all boroughs.



Graph 2: This graph is depicting the fluctuation of total felonies arrests by year. Trendline shows increase in felony arrest as time increases.



Graph 3: Depicts five boroughs comparing the amount of violent crime within each county



Graph 4: Depicts the correlation between county population and amount of felony arrests

## Conclusions

- Our results show that more cities or well known counties of New York have higher arrests, more violent crimes and felony charges.
- We propose that more positively community-invested police officers could positively impact the crime rate, such that total arrests decreases.
- This could result in more job opportunities, educational programs and government recognition.
- Potential influencers for this data could be low socioeconomics, which may lead to a cycle of unemployment and perhaps future crimes

## Proposals:

- Our Dataset explains that counties with higher rates of crime have higher chances of adult arrests.
- Our further research would include understanding why these counties have higher crime and arrests rates and expanding upon ways we can begin to fix this problem.
- It can also find the ratio between population and crime in certain areas and compare the correlation as well.

## References

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