Does Police Presence Reduce Violent Crime?

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Does increased police presence deter criminal activity or lead to increased crime?

Proposed IV

Number of police stops made in each precinct of Minneapolis

Proposed DV

Number of violent crimes in Minneapolis

Hypothesis

Precincts with a higher number of police stops will also have higher levels of crime

Overview of the datasets used

Dataset 1: Police stop data

Contains incident data on police stops in Minneapolis, by precinct

Includes variables such as: precinct, stop type, and demographic data

Dataset 2: Reported crime

Contains individual crime reports across Minneapolis

Includes variables such as: Precinct and offense description

Representation of Data

- T-value: 0.866

Very low, weak relationship

- P-value: 0.450

Very high, shows the data isn't very significant

- R^2: 0.20

This model only explains 20% of the variation in crime

- Residual Std. Error: 1163

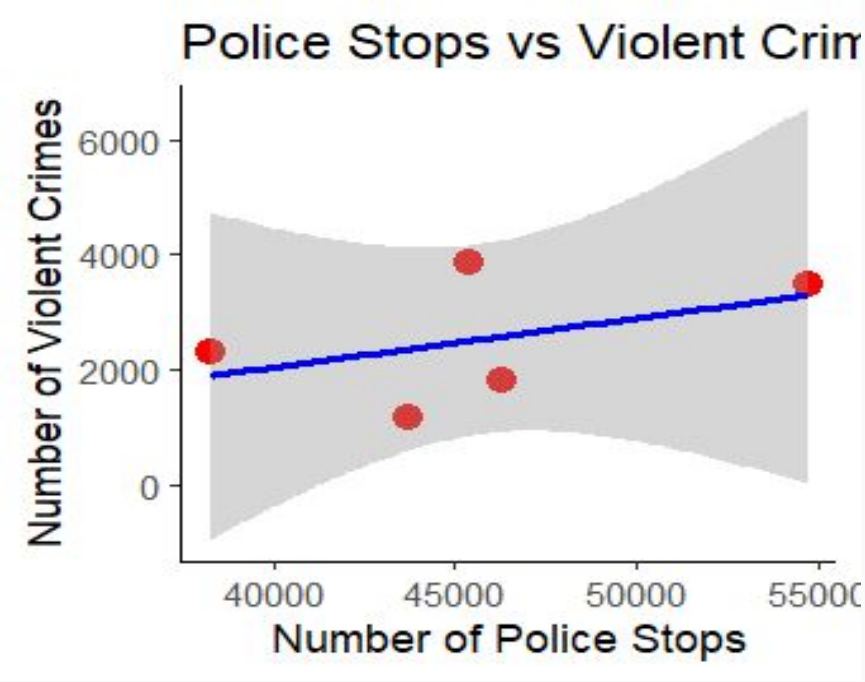
The model's prediction are off by about 1163 crimes

- Mean:

Number of stops: 45,670.80
Number of violent crimes: 5,909.31

- SD:

Number of stops: 2,524.80
Number of violent crimes: 1,126.10



Foreseeable Issues and Challenges With This Data

1. Reporting bias
2. No control for crime severity
3. Lack of population normalization
4. Small sample size

1. Many crimes likely went unreported, or the opposite, both likely because of police distrust in some communities.
2. A precinct with a lot of small crimes appears to be on the same level as an area with a lot of severe crime.
3. All raw numbers on crime, none of them are per capita numbers. A precinct with much larger numbers will naturally have more crime.
4. Only 5 precincts were examined across the datasets

Proposed Control Variables

Education Level:

- Education is usually inversely correlated with crime and could explain a lot of the variations.
- Education level likely affects both crime rates and the number of stops, making it a confounder.

Racial Makeup:

- Racial makeup can affect police targeting and bias as well as crime reporting from residents.
- Racial makeup may also influence police behavior and reporting, making it a confounder.

Limitations, Interpretations, and Improvements

- Possible reverse causality, It is possible that higher levels of crime trigger increased police presence, rather than the hypothesized inverse.
- Our regression model assumes linearity and no bias among variables so estimates are likely bias based off numbers.
- If we had data on policy changes, for example, a difference-in-differences design could isolate causal variables easier.
- Ex. Effect = (PostPolicy - PrePolicy) - (PostControl - PreControl)

Other Ideas to Consider

Overall Conclusion

Likely unreported/underreported crime and classification, lower validity of DV

The result is not very significant

Likely a lot of random noise due to many variables that are not taken into account

Model fit is weak, R^2 of 0.2 tells that 80% of the variance in crime is unexplained

n=5 is way too small of a sample size to make large conclusions