What Determines Selective Enforcement? An Analysis of Race and Police Stops

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Introduction

This research investigates racial disparities in police stops in Washington, D.C., with a focus on identifying and understanding potential patterns of selective enforcement against racial minorities. By analyzing law enforcement practices, the study aims to contribute to evidence-based policy discussions and promote more equitable approaches to policing in the nation's capital.

Dataset

We analyze publicly available Metropolitan Police Department (MPD) police stop data from Jan 2019 to Jun 2024, focusing on proactive and investigative stops, and stops that led to drug-related arrests, specifically those involving marijuana. Our analysis examines enforcement outcomes, including warnings, citations, searches, arrests, and contraband recovery rates across racial groups.

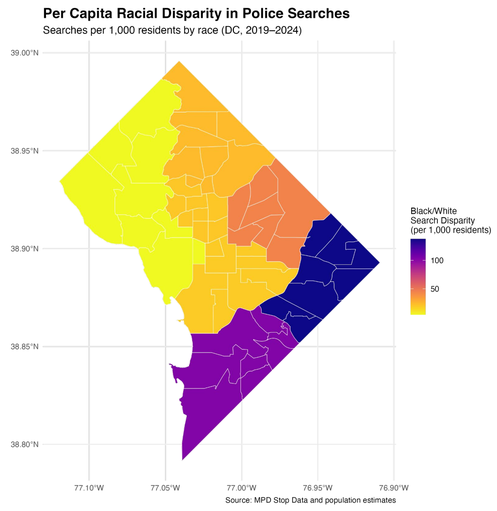

Figure 1: Per Capita Racial Disparity in Police Searches

This map displays the rate at which Black individuals were searched per 1,000 residents across D.C. neighborhoods (2019–2024), accounting for population size. Higher values indicate areas where Black residents were subject to more frequent police searches relative to their share of the local population.

Acknowledgements

I am very grateful to Professor Andrea Headley for her invaluable guidance throughout this research. I also sincerely thank individuals at Georgetown's Criminal Justice Clinic for their insightful feedback.

Methodology

We use both descriptive and inferential statistics to examine racial disparities in police stops. Descriptive analyses include cross-tabulations of stop reasons, enforcement outcomes, and contraband recovery by race, age, and gender, as well as observed hit rates and search disparities across police districts. To assess disparities more rigorously, we estimate logistic regressions for binary outcomes (e.g., arrest, search, warning, citation) and OLS regressions for continuous outcomes (e.g., hit and search rates). Models adjust for individual characteristics (e.g., age, gender) and district-level arrest rates, and include fixed effects for stop year, month, and district. To better understand the role of enforcement discretion, we stratify results by stop type - proactive versus investigative - and conduct a focused analysis on marijuana-related stops, especially those involving public consumption.

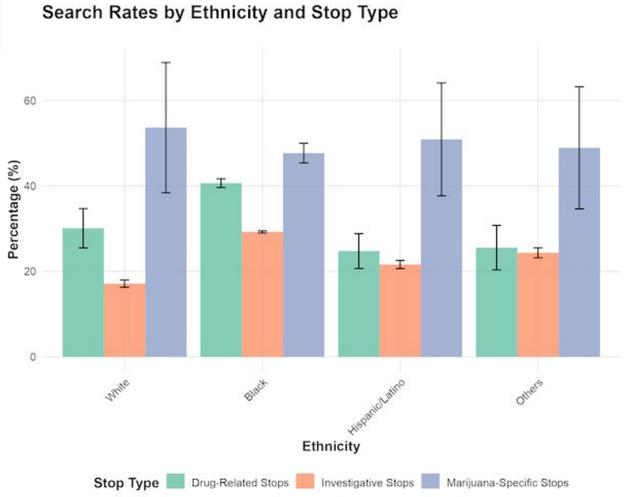

Figure 2: Search Rates by Ethnicity and Stop Type

Ethnicity	Total Stops	Searched/Pat Down	Search Rate (%)	Contraband Found	Hit Rate (%)
Black	64,928	24,972	38.46	6,064	24.28
Hispanic/Latino	3,419	857	25.07	182	21.24
White	3,215	696	21.65	172	24.71
Others	2,587	855	33.05	101	11.81
Total	**74,149**	**27,380**	**36.93**	**6,519**	**23.81**

Table 1: Search/Pat Down and Hit Rate by Race

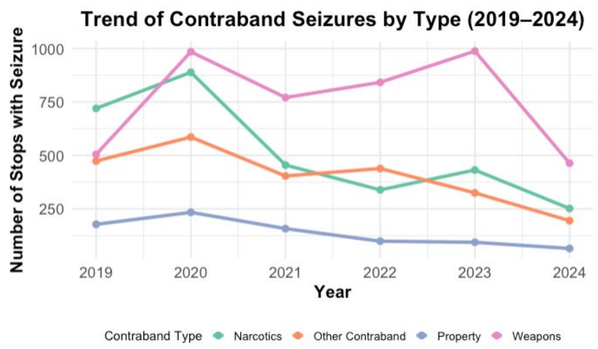

Figure 3: Trends in Contraband Seizures by Type (Proactive Stops)

Results

- Black individuals are searched disproportionately compared to White individuals - even after adjusting for population size for each stop district (figure 1).
- Black individuals face the highest search rates in both investigative and drug-related stops, but not in marijuana-specific stops, with relatively narrow margin of error bars, indicating consistent racial disparities in policing practices (figure 2).
- Black individuals face statistically significant higher search and arrest rates than White individuals in both investigative and proactive stops (figure 4&5).
- Search rates are highest for Black individuals, yet hit rates remain similar across groups, suggesting disproportionate searches without added public safety benefit (Table 1).

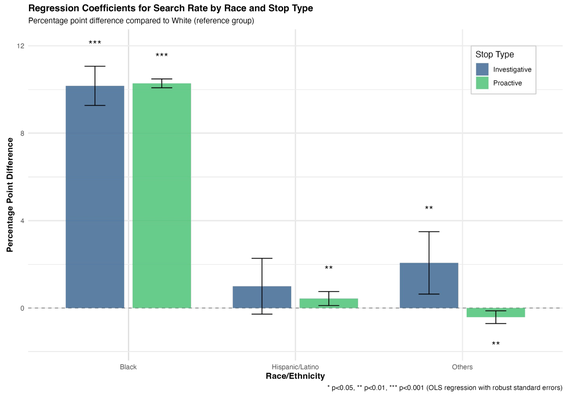

Figure 4: Regression Coefficient for Search Rate by Race and Stop Type

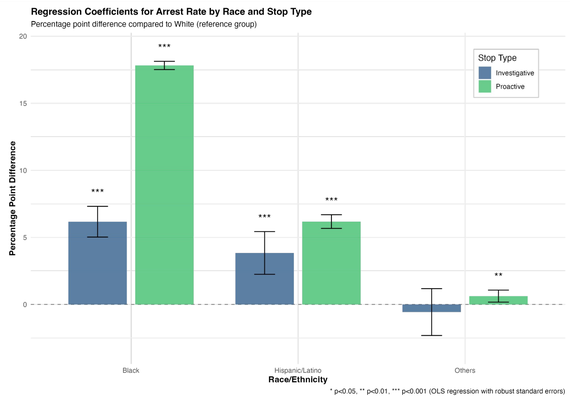

Figure 5: Regression Coefficient for Arrest Rate by Race and Stop Type

Limitations

- Small sample size for stops related to marijuana charges, specifically for public consumption, which limits statistical power
- Lack of geographic detail from the public dataset prevents neighborhood-level analysis
- Limited ability to determine officer intent or situational factors influencing decisions

Ethical Considerations

This research navigates complex ethical terrain. While identifying potential biases in policing, we recognize the limitations of statistical analyses in establishing intent. Our findings aim to inform policy discussions rather than making definitive claims about discriminatory practices.

Future Directions

- Incorporate spatial lag and error models to identify geographic clustering of racial disparities and assess spatial dependence across districts.
- Apply difference-in-differences and event study designs to examine how disparities shift following major policy changes or external shocks.
- Use predictive modeling to detect unexplained racial gaps, enabling real-time disparity audits and bias detection.