An Analysis of Washington D.C.'s Stop-and-Frisk Policing Practices

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ABSTRACT:

Terry stops, or stop-and-frisk policing, is a controversial method of used by police officers that has been extensively research. This project seeks to supplement research that strongly establishes the disportionate effects of the practice on minority demographics, specifically Black communities. Ultimately, our research comes to replicate these findings within Washington D.C.. However, after introducing ShotSpotter data provided by the MPD, this study finds that D.C. MPD patrols areas that have a high frequency of potentially violent crime. Under the assumption that the frequency of gunshots has a relationship to violent crime, our study concludes that, overall, MPD methods of policing are not discriminatory but that the way in which MPD practices stop-and-frisk is individually discriminatory to Black residents.

KEY WORDS: Police Stops; Racial Bias; Criminology; Terry Stops; Stop-and-Frisk.

Introduction

In the 1990s, criminal justice became a prominent national issue as rising crime rates concerned politicians and lawmakers. Fearing being labeled as "soft on crime,"[1] policymakers endeavored to craft laws that would reflect tough legal stances that enforced the rule of law. A definitive and controversial policing method of this time, Terry stops (commonly known as "stop-and-frisk" policing) emerged as a practice that attempted to curtail the rising national crime rates. The practice adopted temporary detention and investigation of suspects based on reasonable suspicion rather than the perpetration of a crime or a warrant.

The legality of stop-and-frisk was affirmed in the Supreme Court case *Terry v. Ohio* (1968),[2] which established the authority of police officers to stop a suspect and search for weapons and contraband including narcotics, drug paraphernalia, and other objects deemed reasonably suspicious. Though suspects may be stopped for one reason, any incriminating contraband found otherwise can be used to against the suspect.

Stop-and-frisk programs are widely understood as controversial. Despite the practice being constitutional since 1968, stop-and-frisk programs recently gained prominence under New York City Mayor Giuliani's administration. The New York City Police Department (NYPD) used stop-and-frisk practices under the validation of the broken windows theory, a criminological theory that suggests cleaning up visible signs of petty crime like loitering, vandalism, and prostitution will ultimately prevent serious crimes.[3] Police officers in New York City focused primarily on crime-prone areas, particularly neighborhoods like the Bronx and

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[1] American Bar Association, "Tough on Crime/Soft on Crime: Redefining the Labels," *Human Rights Magazine*, vol. 29 (Spring 2002).
[2] "Terry v. Ohio," Oyez, Accessed November 28, 2018. https://www.oyez.org/cases/1967/67.
[3] George Kelling, "Don't Blame My 'Broken Windows' Theory For Poor Policing," *POLITICO*, August 11, 2015.

Harlem. NYPD received aggressive responses from organized civil liberty groups like the New York Civil Liberties Union (NYCLU), LatinoJustice PRLDEF, and The Bronx Defenders regarding their aggressive policing techniques. These groups alleged that the NYPD's stop-and-frisk program was inherently discriminatory and filed a class action suit in federal court, *Floyd v. City of New York* (2013).

Floyd v. City of New York ruled that the NYPD's use of stop-and-frisk was unconstitutional due to its discriminatory practices.[4] However, this ruling did not overrule the constitutionality of Terry stops. In fact, Mayor Giuliani's successor Michael Bloomberg defended the legality of the practice, citing its effectiveness and ultimately decided appeal *Floyd*. [5] This appeal was subsequently dropped by Mayor Bill de Blasio in 2014 who has disavowed and mostly eliminated the use of stop-and-frisk.

Despite the controversy over New York City's stop-and frisk-program, Washington D.C.'s Metropolitan Police Department (MPD) implements its own policing program with its own stop-and-frisk practices. The MPD's methods, however, have not been extensively studied as the NYPD's, only recently releasing data in early 2018.[6]

Prior Studies Conducted on Stop-and-Frisk

Given the controversial nature of stop-and-frisk practices, there have been several studies that measure its effect on communities and crime rates. The general consensus among these studies find that stop-and-frisk practices disproportionately affects minority residents as opposed

[4] "Floyd v. City of New York, No. 13-3088 (2d Cir. 2014)", Justia US Law, Accessed November 28, 2018.
[5] Michael R. Bloomberg. "Michael Bloomberg: 'Stop and frisk' keeps New York safe," Washington Post, August 18, 2013.
[6] August Warren, Mahkah Wu, and Mika Weinstein, "Investigating Racial Inequity in D.C. Stop & Frisk," *Github*, September 6, 2018.

to White residents.[7] Arguments have been made that defend the effectiveness of stop-and-frisk as a practice that is employed proportionately to racial composition.[8] These assumptions were taken into account in a 2007 study published in the *Journal for American Statistical Association* published by Gelman, Fagan, and Kiss. This study analyzes the practices of the NYPD's pedestrian stops (as opposed to traffic stops) through disaggregating police stops by precinct to measure stop rates by racial and ethnic groups, controlling for race-specific crimes. The study, moreover, used a hierarchical model to illustrate precinct variability, ultimately finding after controlling for these variables, Black and Hispanic individuals were stopped more frequently than Whites. Essentially, this study took raw data provided by the NYPD on their policing methods that broadly described Black and Hispanic residents as being more frequently stopped than White residents. After controlling for demographic proportions, Gelman et al. were able to confirm this observation, finding that Black and Hispanic individuals were stopped twice as often as White individuals; alternatively, the study also found that White and Hispanic individuals were stopped more frequently than Blacks for nonviolent issues relating to property or drugs.

Our report will be on Washington D.C.'s MPD stop-and-frisk practices, which will compliment the research completed by August Warren, Mahkah Wu, and Mika Weinstein. These researchers recently published a statistical study that measures the racial inequity of D.C.'s stop-and-frisk practices. Warren, Wu, and Weinstein come to find D.C. police practices reflect similar findings to the ASA study. According to this study, Black individual were the target of

[7] Andrew Gelman, Jeffrey Fagan, and Alex Kiss, "An Analysis of the New York City Police Department's "Stop-and-Frisk" Policy in the Context of Claims of Racial Bias," *Journal for the American Statistical Association*, (September 2007): 813.
[8] Ibid.

80% of police stops from 2010 to 2017.[9] Further, it finds a strong linear relationship between a neighborhoods average crime rate and the measured stop-and-frisk incidents.[10] Rather than examining the specific reasons that certain individuals were stopped (which our own research accommodates for), this study examines the breakdown by D.C. wards, neighborhoods, Police Service Areas. These results are also complemented by D.C. Census tract data.

Warren, Wu, and Weinstein contributed to the extensive research on the NYPD's stop-and-frisk program in applying their models to Washington D.C.. There has not, however, been extensive studies that have analyzed MPD's stop-and-frisk practices beyond this study. More research on the MPD's methods is necessary as they show no sign in limiting its use of the practice. The data needed to complete this has recently been provided under the D.C. council's Neighborhood Engagement Achieves Results Amendment Act of 2016, or the NEAR Act.[11]

Research Question

Our research will explore the following questions: (1) is Washington D.C.'s MPD stop-and-frisk practices inherently discriminatory against Black residents and (2) is D.C.'s MPD patrolling areas based off of racial composition or off of criminal activity?

Though it has been overwhelmingly established that stop-and-frisk practices are somewhat discriminatory towards minority demographics,[12] our research seeks to add another dimension with these findings. Further, this study uses different data than what has been used in the study conducted by Warren, Wu, and Weinstein. The specifics of this data set will be

[9] Warren, Wu, and Weinstein, "Investigating Racial Inequity" *Github*, September 6, 2018.
[10] Ibid.
[11] Brent J. Cohen, "Implementing the NEAR Act to Reduce Violence in D.C.," *D.C. Policy Center*, May 25, 2017.
[12] Gelman, Fagan, and Kiss, "An Analysis of the New York City Police Department's "Stop-and-Frisk," 813.

explored in the "Data" section of this report. What is unique about our study is our inclusion of "ShotSpotter" data from MPD's database which allows us to more accurately illustrate the relationship between racial demographics and police activity via recorded gunshots by D.C. MPD.

Stop-and-Frisk and MPD Data

Our study focuses on three main data sets and one SHP file containing geographic information. Each of these raw data files can be found on D.C.'s Open Data database on the city's government website. The three data files we used were Stop_and_Frisk_Contact, Stop_and_Frisk_Incident, and Shot_Spotter_Gun_Shots, respectively assigned as "contact," "incident," and "shot." Further, we used Police_Service_Areas.shp for our geographical analysis and some demographic data. This allowed our findings to be contextualized by not only MPD district, but also more accurately Police Service Area.

The data set labeled "contact" contains the information of individuals who were approached for a stopped-and-frisk in Washington D.C. The data set holds 13 variables and spans from 2013 to 2016. Our study focused primarily on the race of individual reports and the "reason for stop" for each stop-and-frisk interaction recorded. The reasons are listed as follows: Call for Service, Community Policing, Equipment Violation, Juvenile Contact, Moving Violation, Pre-existing Knowledge, Prostitution-free Zone, Registration Violations, Special Detail Checkpoint, Special Investigation, Suspicious activity, Suspicious persons, Suspicious vehicles, Truancy/Curfew, or Other. Further, we added a variable called "Black" to the data frame in order to compare the proportion of people stopped who were Black within each

"reason-for-stop" level. In total, there were 7,837 reported stop-and-frisks in this data set, with 83% of the observations being Black individuals.

The data set labeled "incident" contains reports from 2010 to 2016. It contains 13 variables, but describes specific details regarding reported stop-and-frisk incidents specifically race: American Indian or Alaskan Native, Asian, Black, Native Hawaiian Or Other Pacific Islander, White, or Unknown. This data set contained 23,325 reported stop-and-frisk incidents with 82% of the observations being Black individuals. What is unique about this data set is that it also included the Police Service Areas in which these stop-and-frisk incidents had taken place. We used the frequency of stop-and-frisk incidents within each of the Police Service Areas in conjunction with a manipulation of the "shot" data to draw conclusions about how MPD was choosing to patrol areas.

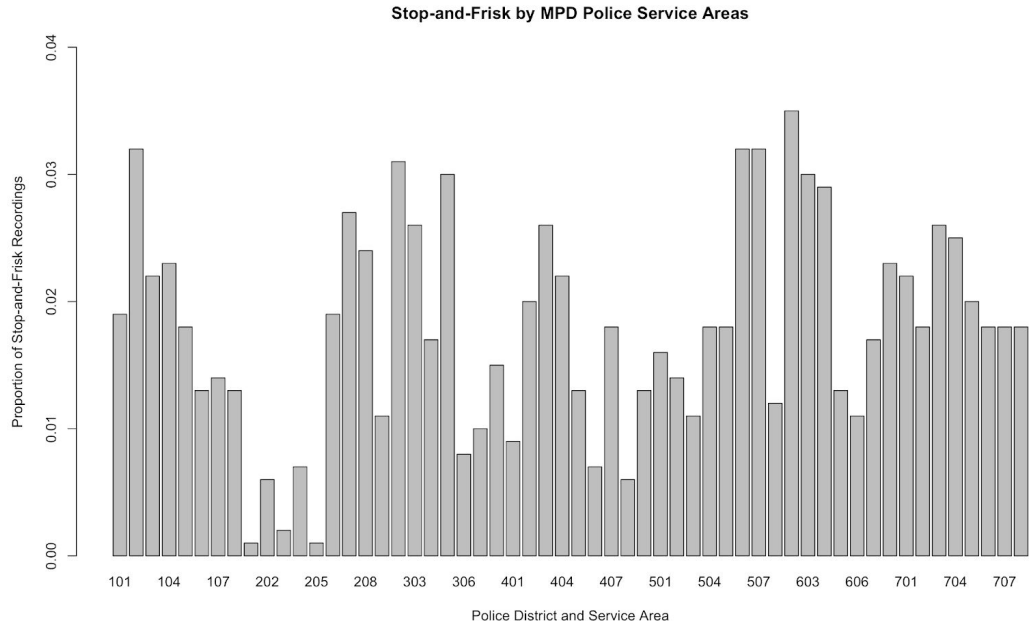

Figure 1: This bar graph illustrates the proportion of stop-and-frisk reports per Police District (100-700) and by Police Service (1-9 per every 100). Police Service Area 2 (200-209) reports the least amount of stop-and-frisks (with the exception of the National Mall) and includes most of Northwest D.C., notably Georgetown, Glover Park, Tenleytown, and Kalorama. Alternatively, Police Service Area 6 (600-609) reports the highest stop-and-frisk rates in

Washington D.C.. It includes the Southeast region east of the Anacostia river, namely Fort DuPont, Lincoln Heights, Marshall Heights, and Deanwood. Police Service Areas 1, 3, and 7 similarly yield high frequency of stop-and-frisks of Black residents, spanning from regions on along the Southeast water edge of the Anacostia and Potomac Rivers as well as neighborhoods around U Street, Shaw, and Mount Vernon.

The data provided by the MPD that reports detected gunshots contains the latitudinal and longitudinal location of where a potential gunshot was reported, as well as the time it was recorded, and whether it was a single gunshot, multiple gunshots, or a noise accredited to either a single gunshot or the explosion of a firecracker. Overall, there are 28,343 reports. This data is used in this study to complement the stop-and-frisk reports in an attempt to show a relationship between stop-and-frisk frequency, race/ethnicity of the individual stopped, as well as the potential for a Police Service Area to be perceived as crime-prone.

Methods and Models

The first statistical analysis we did was looking at the proportion of Black people in each reason-for-stop group. We executed this by finding the proportion of Black individuals in each reason-for-stop group, calculating the standard error, and from there the 95% confidence interval. Using a looping function, we printed the upper and lower limits for each reason-for-stop. Our null hypothesis was that the proportion of Black individuals in each reason-for-stop group would be .471, the proportion of Blacks in the District as a whole. This null hypothesis asserted that people would be stopped at the same proportion that each racial group existed in D.C. If this were to be true there would be no discrimination among the reasons-for-stop, basically a random sample of D.C. for each reason.

To complete our second analysis we looked at the proportions of shots recorded and stop-and-frisk incidents recorded in each district. We ran two linear regressions. First, of the

difference between the proportion of shots recorded in a PSA and the proportion of stop-and-frisk incidents in that PSA on the proportion of population who was Black. Our null hypothesis was that the difference between the proportions of shots recorded and incidents recorded would not be correlated by proportion of Black residents, meaning stop-and-frisk targeting was not influenced by the proportion of Black residents. Second, the frequency of stop-and-frisk incidents on the proportion of population who was Black. Our null hypothesis was that the there would be no correlation between proportion of Black residents and the proportion of stop-and-frisk incidents that occured in that PSA.

Results

The true population of Black residents in Washington D.C. is about 47.1% (2017). When looking at the confidence intervals for each of the reasons-for-stop we find that only one contains that 47.1% true proportion. With the exception of "Special Detail Checkpoint," Figure 2 (below) displays that individual MPD stop-and-frisks disproportionately affect Black individuals as 15 of the 16 of the reasons provided do not, with a 95% confidence, include the true proportion of Black residents. We reject the null hypothesis and assert that the reason-for-stop shows discriminatory targeting of individuals for Terry stops. This findings support the general findings the ASA report and local results from the GitHub blog post that minorities are disportionately targeted by stop-and-frisk practices.

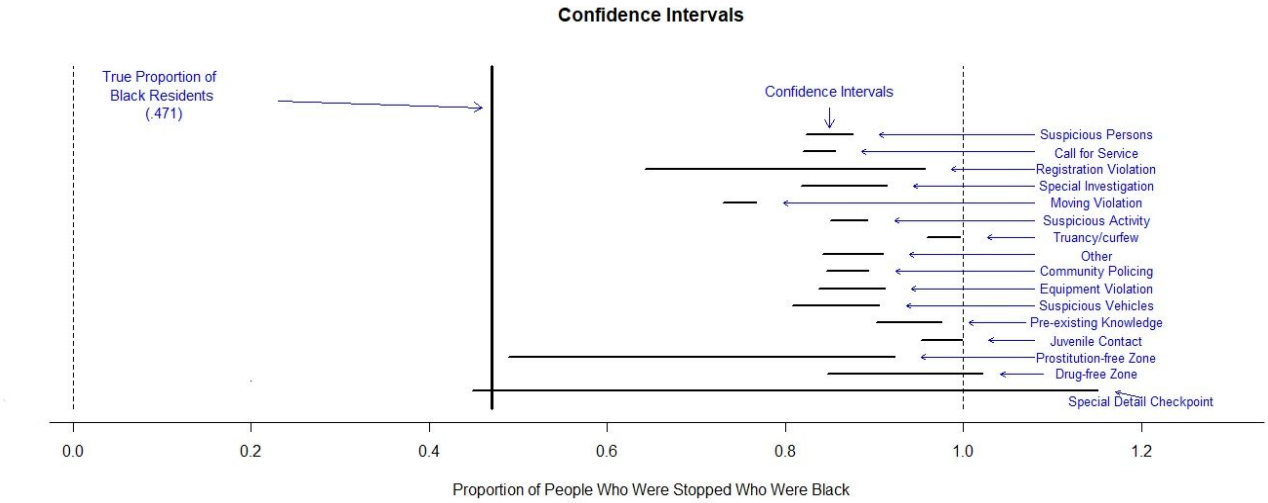

Figure 2: Illustrated above are confidence intervals detailing the reason for a reported MPD stop-and-frisk of a Black individual.

Examining our first linear regression, the difference between shots and incidents on proportion of Black population which is Black, we find a confidence interval that does not contain zero (0.028, 0.053) and a that the shots increases per population by a rate of about .04. We reject the null hypothesis in favor of the alternative: there is a correlation between the proportion of Black residents and the difference in stop-and-frisks. However the direction of that correlation surprised us. Because we calculated our difference using [shots - incidents], the positive correlation implies that as the proportion of Black residents increased, there were was a higher proportion of shots than the proportion of incident.

Examining our second linear regression, the frequency of stop-and-frisk incidents on the proportion of population who was Black, we find that we fail to reject a null hypothesis and conclude that there is be no correlation between proportion of Black residents and the proportion

of stop-and-frisk incidents that occured in that PSA. Our confidence interval (-44.77, 301.22) contains zero.

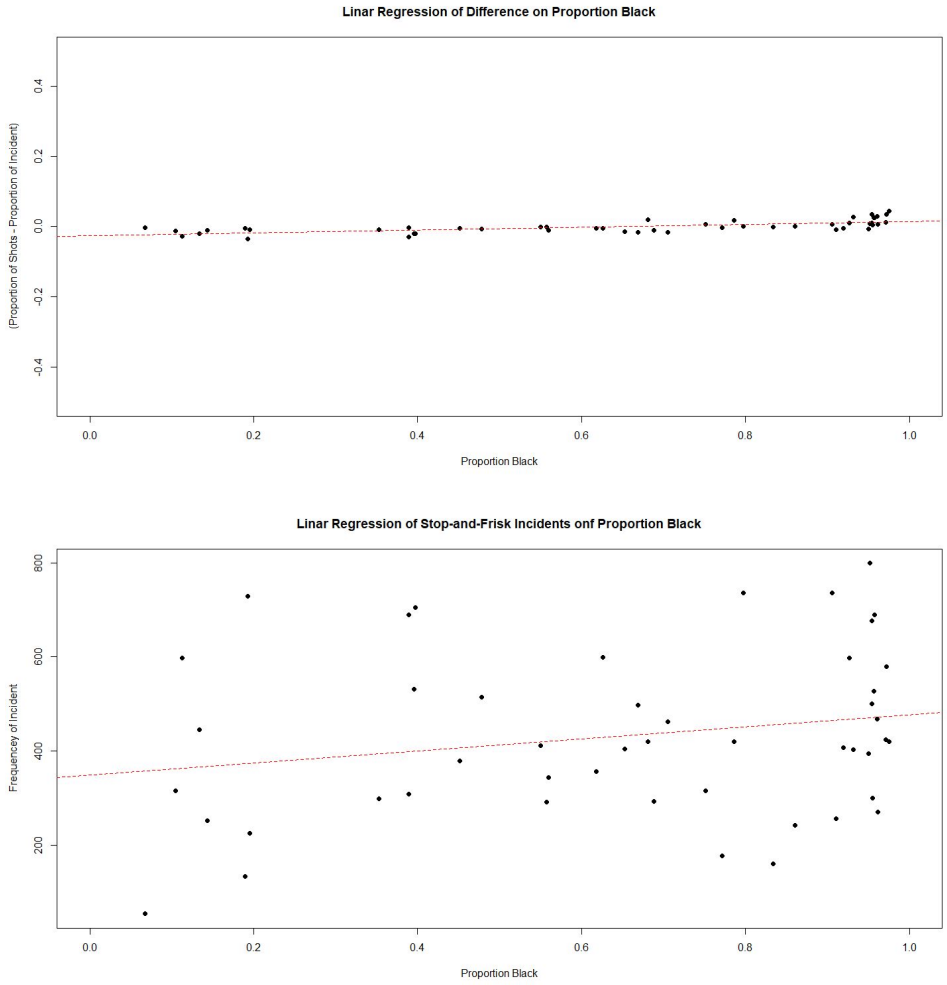

Figure 3 and 4: Illustrated above are linear regression tests. Figure 3 describes the relationship between the difference between gunshots reporting and stop-and-frisk incident that targeted Black individuals and the proportion of Black individuals per PSA. Figure 4 describes the frequency of stop-and-frisk incidents involving Black individuals and the proportion of Black residents per PSA.

Limitations of Data and Assumptions

The three largest limitations of our data are differences in time frames among our data sets, the uncertainty of possibile of firecrackers being mistaken for gunshots in our ShotSpotter data, and the discretionary nature of reporting.

First, our three main data frames - contact, incidents, and shots - all spanned different time ranges. As already noted in the previous section, the incident data reports from January 1st of 2010 to December 31st of 2016 while the contact data reports stop-and-frisks from January 1st of 2013 to November 9th of 2016. Moreover, the ShotSpotter data reports from January 1st of 2014 to December 31st of 2017. This study also assumes that MPD automatically recording a gunshot and does not influence the frequency and distribution of those gunshots. The proportions used to compare the two statistics, therefore, is limited only by the size of the smaller sample, which has 22,952 observations. Further, our report also assumes that the frequency of gunshots has a relationship to the crime rate of a given Police Service Area. This being said, critiques concerning changes in policing practices and changes in the demographic makeup of areas between 2010 and 2014 are legitimate.

Second, the ShotSpotter data frame has three levels: "Multiple_Gunshots", "Single_Gunshot", and "Gunshot_or_Firecracker". There is a chance that some of the observations were not actual gunshots; however, this study is comfortable interpreting an ambiguous report within the ShotSpotter data as a gunshot because it makes up only 8% of the data and would be reasonably interpreted by a police officer as a possible gunshot and worthy of investigation.

Lastly, our analysis assumes that all police reporting procedures were properly followed. There is always the possibility of bias in self reported data. Given that this reporting is legally mandated, we assume that is is far less biased than typical self-reported data but we acknowledge that an individual officer could neglect to report an incident/contact or report the reason-for-stop untruthfully.

Conclusion and Recommendations to Policymakers

Our findings do not entirely reflect the conclusions drawn in the ASA and Github reports. The raw MPD data shows that stop-and-frisk practices in Washington D.C. disproportionately affecting Black individuals, specifically in neighborhoods described in the Census tract as having a high projection of Black residents. Yet our findings suggest that there is discrimination in the reasoning for conducting a Terry stop, but MPD is targeting PSAs because they have higher proportions gunshots recorded rather than higher proportions of Black residents. We draw that conclusion that individual officers are choosing to conduct Terry stops in a discriminatory manner, but the Department as a whole does not target communities with higher proportion of Black residents.

Ultimately, these figures should be used by D.C. lawmakers as an evaluative reference to address bias within the Department. This study serves not to measure the effectiveness of stop-and-frisk practices, but to contribute to the analytical discussion over the ethical methods of policing. Stop-and-frisk will conceivably remain a controversial practice due to its very nature of endorsing police officer discretion. However, studies that continue to replicate and supplement the information that has already been research will contribute more information to policy makers. This, in turn, will create equally effective and increasingly just methods of policing - not only in Washington D.C. but any city in the United States.

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