Suspect Citizens

What 20 Million Traffic Stops Tells Us about Policing and Race

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Black Political Power and Disparities in Policing

When it comes to driving in North Carolina, the difference between being black and white is stark. As we have shown, black drivers are much more likely to be searched and arrested, but less likely to be found with contraband. Having documented these disparities, we consider their cause. How has driving to work, a simple and mundane act for white Americans, become a more fraught and risky endeavor for black Americans? One reason that investigatory stops have become so widespread may be that they are targeted toward minority groups who lack the political power to be heard. Thus, regardless of the degree to which the war on crime is motivated by explicit racial animus, its political feasibility is borne of the fact that those citizens paying the highest costs are underrepresented among government policymakers. That is, the whole approach is made possible because of political inequalities. This, at least, is our hypothesis, and in this chapter we offer various tests to see if it rings true. We find that in municipalities and counties where the black community makes up a larger share of city council seats or if the sheriff is black, racial disparities in traffic stops are less acute, controlling for potentially confounding factors.

Our idea is not necessarily that the police explicitly target the black community and other minority communities within their jurisdiction for any reason in particular. Rather, the idea is that if such disparities were strong, and the affected community had the political power to complain, the disparities would be pushed downwards through political pressure and demands on government. On the other hand, in communities where minorities represent just a small share of the population, a small share of the voting public, and hold little in the way of political resources, disparities against them may not lead to visible and politically relevant complaints. Without

power, disparities can continue with impunity and with little relative attention. With power, disparities are lower, because if they were to grow this would lead to attention, complaints, concern, and action to reduce them. At least that is the set of ideas we test here.

Political Power

For a group to have political power, it must be able to exercise some influence over the political process. We see three ways through which power is manifested: presence, voice, and representation. We expect that all three of these variables, separately but especially in combination, will be associated with the degree of disparity in policing. The lower the degree of power of a subset of the community, the greater the disparities we may expect to see.

First, a group has some power merely due to its presence in the community. Numbers matter, and small minorities are easier to target for harsh treatment than larger groups. Elected officials aim to represent the interests of their communities. Bureaucratic agencies are attuned to the publics they serve. No local political leader would normally be expected to support policies that alienate a majority of the population. For smaller minorities, it may be easier to justify or ignore some issues. (Note that this could be because of overt or subconscious hostility but it need not be; the group might simply be ignored, and since it is ignored, actions that affect it adversely may not even come to the attention of government leaders.) As a group's presence grows, they are harder to ignore, and their political power grows. Because law enforcement is part of local government, the presence and relative size of different groups in the population should influence its policies and practices. We would expect the same in schools or other local bureaucracies.

Presence without voice may not lead to the desired political response. To be heard, a group must have voice, and in our system voice may be represented as the share of voters. Voters express their voice and determine who is elected or reelected. Citizens or other residents who are

present, but who do not vote or engage with government, can expect their interests to be less well represented. Thus, we define voice as the share of the voters who come from each racial group. Therefore, while the two are highly related, we look separately at the population share of white and black citizens as well as their respective shares in the electorate.

Finally, descriptive representation matters. Scholars have previously found a link between the share of seats in a legislature controlled by women and attention to issues of particular concern to women (Branton 2005, Branton and Ray 2002, Cammisa and Reingold 2004). The same has been found with regards to blue-collar workers (Carnes 2013, Carnes 2012), racial minorities, (Cannon 1999, Grose 2011), and LGBT representatives (Hansen and Treul 2015). Cities with no black or minority representation on the city council, within the mayor's office, or in other elected bodies may see less attention to issues of racial equity.

Closely associated with our own interest in policing, but not focused on traffic stops, Salzstein (1989) and Stucky (2011) both investigated the linkage between having black elected officials and the relative rates at which black men are arrested, across a number of cities. On average, these studies suggest that the presence of a black mayor or a majority-black city council decreases the black arrest rate. Our idea is similar: if there is substantial black political representation, it will be more difficult for racial disparities to go un-noticed, un-addressed, and un-remedied.

Taken together, community presence, political presence (voice), and presence in government (representation) make up the political power of a given group. As presence, voice, and representation increase, a group's influence over policy grows. Policing strategies that would cause considerable outrage if directed toward powerful groups can be carried out with less scrutiny when targeted toward the powerless.

Controlling for Alternative Possibilities

We believe that the link between political power and policing outcomes is relatively straightforward. As minority groups gain political power they can put pressure on police departments to deemphasize policing strategies that result in highly disparate patterns of search and arrest. But the politics of race can be complicated and alternative theories suggest more convoluted dynamics than we have postulated.

For instance, a number of social scientists have proposed that majority groups will implement social controls directed at minority groups to maintain dominance, which is known as racial threat theory. To maintain dominance in the face of increasing competition for power, elected officials and those organizations tasked with maintaining order will implement policies that advantage the majority while disadvantaging or even demonizing the minority (Blalock 1967; Blauner 1972; Horowitz 1985; D'Alessio and Stolzenberg 2003; Stucky 2012). Clearly, one group charged with social control is the local police department. So, under the racial threat hypothesis, police departments adopt policies and institute norms that maintain the current balance of power (Stucky 2005, 2012). Racial threat theory suggests that these efforts at social control should intensify as minority groups become more visible in the community, both socially and politically. When minorities are very small in numbers, there is no threat at all. The theory suggests that majority response (or hostility) should be at its greatest as the minority group grows to a substantial share of the population. Different scholars have used different definitions of exactly what is the maximum threat level. After all, once the minority share is above 50, they are no longer a minority at all and the theory should suggest that its effects should be reversed.

Minority-threat theories typically have been tested in locations where the majority population is white, and provide little guidance on how measures and tests of the racial threat hypothesis should apply in majority-minority environments. In North Carolina, many local

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communities are majority non-white. As a result, we propose that rather than racial threat being the cause of discrepant outcomes, it is the extent to which a community incorporates its minority members.[1]

Another frequent explanation for discrepant patterns in policing is that police officers simply look for people who are out of place; at the institutional level, this might look like an order to investigate "fish out of water." We saw some evidence of a one-way application of the fish-out-of-water idea in Figure 6.5; officers encountering small numbers of blacks compared to whites were more likely to search the black drivers. Officers encountering few whites, however, were more likely to search those whites only when encountering whites was extremely rare. However, our analysis in this chapter does not look at municipalities with extremely low numbers of white or black drivers because of concerns about the reliability of any calculations based on low numbers of drivers being stopped, especially since we are interested in what proportion of them are searched, an event that is relatively rare, statistically speaking. More generally, the "fish out of water" explanation can blend into the "powerless minority" explanation that we explore here. We do not assess the situations where blacks (or whites) are almost invisible in a given town, but we certainly do explore those towns where one group or the other might be only five or ten percent of the population. This is consistent with our main research focus, in fact.

Finally, we control for three important demographic variables in all of our models: the level of crime, poverty rate, and population size. Crime matters because traffic stops have been used as a tool in the wars on crime and drugs: neighborhoods with high rates of crime, may lead to a more aggressive police presence that use all available tools at their disposal. Readers should note, however, that levels of crime are correlated with race in North Carolina as elsewhere,

because both higher levels of crime and greater numbers of black residents are found in some cities. Therefore, by controlling for crime, we estimate the impact of race beyond the impact associated with crime. Poverty matters because it affects policing in many ways. People in poverty may drive cars with equipment or registration problems that generate more traffic stops. As these factors are not about race, we want to control for them in our analysis. Levels of poverty are of course correlated with race in North Carolina as elsewhere. Similarly, we control for the population size in each municipality. Large municipalities feature many differences from small towns, including in the structure of their police departments (e.g., their institutionalization and bureaucratic structure), the ability of political leaders to respond to local neighborhood concerns, and sheer physical scope, making policing considerably more complex, and potentially more geographically distinct, in larger cities as compared to small towns. Our findings below, therefore, should be interpreted not with caution, but with an awareness that any race effect we find is over and above whatever part of that effect that might be due to poverty, crime, or population size.[2]

Hypotheses

We formulate two observable implications to test in this chapter. Understanding that our conception of political power relates individually (but especially in combination) to its three components, our expectations are very simple.

> H1: Higher levels of political power drive racial disparities in traffic stops outcomes towards equal treatment of groups.

Additionally, following from our discussion of investigatory versus safety-related stops in much of this book up to this point, we expect the disparate use of investigatory stops to play a role. We expect that investigatory stops are the primary mechanism by which black drivers are

targeted, compared to whites. Specifically, in those towns where the ratio of black drivers pulled over for investigatory stops as compared to white drivers is higher, we take this as an indicator of targeting. As a result, we expect it to be related to higher disparities. This leads to our second hypothesis, which is:

> H2: The ratio of black drivers to white drivers pulled over for investigatory traffic stops is positively related to racially disparate outcomes in traffic stops.

We test each hypothesis with regards to a) searches, b) "light outcomes," c) citation rates, and d) arrest. This progression moves from the start to the end of the traffic stop. For each, we will conduct two tests: first, we examine whether they hold true when studying municipalities; second, we examine whether they hold true for sheriff's offices.

Hypothesis Testing using North Carolina Municipalities

In our first test of these hypotheses, we focus on how political power of a city or town and on how the use of investigatory stops influences the behavior of the associated police department. To test our hypothesis that the political power of the black community conditions levels of disparity in traffic stops, we build an index capturing the wholistic definition of political power. We review each aspect of our political power index—presence, voice, and representation—as they relate to the rates at which white and black drivers experience various traffic stop outcomes. Additionally, when predicting the racial disparity in outcome, we include the black-white investigatory stops ratio. In each model, the logged population of a city, the proportion of the city living in poverty, and the level of crime are included.

We focus on traffic stops between 2008 and 2016, and we include only cities and years where at least 100 black drivers and 100 white drivers were stopped. This simply drops out agencies and years where too few traffic stops occurred in order to support robust conclusions.

Our restriction to the period since 2008 is because voting turnout and crime statistics were not systematically available before 2008. Finally, in this section, we limit our attention to municipal police departments, omitting state agencies and specialized agencies such as hospitals and universities. In the following section, we examine county sheriff's departments; this is a parallel analysis, because the dynamics of city government and directly elected county sheriffs differ. In the end, we have 86 North Carolina municipalities, and 497 agency-year observations that meet these criteria. The analysis for sheriff's departments includes 66 offices meeting our numeric thresholds and 334 agency-year observations.

We use the black-white investigatory stops ratio to measure the relative focus in each department on investigatory versus safety traffic stops. Recall that traffic stops are deemed investigatory stops if the declared stop purpose is due to equipment violations, regulatory, seat belt, investigation, and other. Traffic stops are deemed safety-related if the declared stop purpose is speeding, stop sign or light, driving under the influence, or unsafe movement. This distinction matters, because police departments can allocate only a finite amount of time to investigatory and safety stops. To focus greater attention on investigatory stops and to the War on Crime, an agency must divert attention from ensuring safety on the streets.

For each outcome we calculate a black-white ratio.[3] As a reminder, if the calculated value is 1, then black and white drivers see equitable treatment. Values below 1 indicate that white drivers see that outcome more than black drivers, while values above 1 indicate that black drivers see that outcome more than white drivers.[4,5,6] Table 8.1 presents summary statistics for these variables. Similar statistics have been presented in earlier chapters; the statistics in Table 8.1 relate only to the 497 agency-year observations that met out threshold for inclusion in forthcoming regression models.

Looking at the means, searches are 93 percent more common for black drivers than whites, light outcomes and citations are almost equally likely, and arrests are 72 percent more likely among black drivers, on average. The investigatory stops ratio, defined as the number of investigatory stops divided by the number of safety stops, ranges from 0.83 to 1.96 with a mean of 1.18. Black drivers are 18 percent more likely to experience investigatory stops rather than safety stops, compared to whites. The minima, 25th percentile value, median, 75th percentile value, and the maxima show the full range of each variable across all the agency-years. Searches have a minimum of more than five times more likely among white drivers, to 10 times more likely among black drivers. Arrests range from four times more likely among whites than blacks to almost six times more likely among blacks. With a good range of variability for each variable, we test if our theory about political representation can explain this variance.

Building and Evaluating a Measure of Political Power

We build a measure of black political power based on the three aspects of political empowerment that we discussed earlier in the chapter are: 1) presence; 2) voice; and 3) representation. We operationalize each in the following ways: 1) percentage of the population that is black; 2) percentage of the voting population that is black; and 3) percentage of the local elected government that is black. Here we will discuss how each is measured, what each variable looks like, and why in isolation each only captures a portion of the broader concept we want to measure: political power.

Presence is the share of the population. By representing a larger or smaller share of the population, a given group plays a bigger or smaller role in determining the goals of elected officials and city government. As a result, as a group's presence grows, then their political power

grows. To measure presence of the black community in a city or town, we calculate the proportion of the population of a city or town that is black. Population numbers come from the 2010 census. To provide a sense of what this variation looks like, let us turn to four North Carolina cities. In Cary, the population is 8.89 percent black, and 73.05 percent white; Cary is a moderately large urban town adjacent to the state's Research Triangle. In Durham, which is one of the three cities that comprise the Research Triangle, the population is 42.24 percent black and 42.57 percent white. A similar racial composition is found in Fayetteville (45.70 percent white and 44.83 percent black), which is home to one of the large military bases which are common in the state of North Carolina. In contrast to these three cities, Kinston has a minority white population comprising 28.56 percent of the community, and a majority black population comprising 69.01 percent of the community. Across all the communities in our study, the black share of the population ranges from 6.56 percent to 69.08 percent; the mean is 28.56 percent. Cary and Kinston therefore represent something close to the extremes, and Durham and Fayetteville represent situations of close to equal balance, therefore with a higher black share than average across the state.

We measure voice by looking at voter turnout numbers. This is a key factor in translating numbers into power, of course. To measure political participation, we look at voting statistics by race in each city for municipal elections from 2007, 2009, 2011, and 2013.[7] Share of voters from 2007 is used for 2008 and 2009; share of voters from 2009 is used for 2010 and 2011; share of voters from 2011 is used for 2012 and 2013; share of voters from 2013 is used for 2014 and 2015; and finally share of voters from 2015 is used for 2016. This is done to leverage the time element present in the dataset; disparate treatment in a future time period cannot cause voter turnout in a previous time period. For each election, we calculate the proportion of voters who

are black in a given city in a given election. This measure captures the strength of the black voice within the electorate. The minimum black vote share in a community in our sample is 0.16 percent, the maximum is 96.90 percent, the mean is 20.53 percent, and the median is 14.90 percent.

To measure descriptive representation, we gathered information on the race of the mayor and city council members for each city in our analysis between 2013 and 2014. To provide a contextual sense of what the type of variation that exists in North Carolina, we can turn to the four cities in our running example. In Cary, where the black population accounts for less than 10 percent of the community, 0 percent of the council is black. In Durham and Fayetteville, the black proportion of each city council is 29 percent and 50 percent respectively; in each city the black community comprises approximately 44 percent of the population. In Kinston, where the majority of the population is black, only 33 percent of the city council is black.[8]

We use factor analysis to construct a latent dimension of black political power in a given community based on the three variables described. One factor was estimated; this factor explains 73 percent of the variance across the three variables.[9] The result is a variable measuring black political power that ranges from -1.06 to 2.74 with mean 0.06 and median -0.15.

To put this constructed measure in context, we can turn once again to the four cities that have been our ongoing examples. On average during this time span, Cary has a black political power index score of -0.77; as a reminder Cary has small black population that makes up a negligible proportion of voters and has no black local elected officials. In nearby Durham, which has a large black population that makes up a greater share of the voting population but holds only 29 percent of the local elected seats, the black political power index, on average, is 0.96. In Fayetteville, which has a similar demographic make-up but where a greater share of the local

elected officials are black, the political power index, on average, is slightly higher than that of Durham at 1.15. Finally, in majority black community of Kinston, the Black Power Index is near its maximum at 1.91.

Figure 8.1 shows the distribution of the black political power variable. The x-axis presents the calculated value. The y-axis presents the number of agencies in a given range of values.

[[Insert Figure 8.1 About Here]]

By definition the index ranges from low to high political power with a mean of approximately zero and a standard deviation of one. There is a skewed distribution toward low levels of power and low levels of incorporation, with a few instances of high power and high incorporation. In most cities, the black community has little power. In a few cities, it has a lot.

Measures of Context

To operationalize the context within which agencies operate, we account for the size of a city, the level of poverty, and the level of crime. Population size and the percent of the population in a city living below the poverty line come from the 2010 census. The log of the population is used in the analysis. The level of crime comes from the annual FBI report on crime in the United States.[10] Only those crimes classified as a felony one crime are included. These are violent crime, murder and non-negligent manslaughter, rape, robbery, aggravated assault, property crime, burglary, larceny-theft, motor vehicle theft, and arson. The crime level is estimated per 100 people.

Analysis

We fit four hierarchical linear models[11] with varying intercepts by city. Our variables are used to predict one of the four traffic stop outcome variables: search ratios, light outcome ratios, citation

ratios, or arrest ratios.[12] Additionally, as explained in the expectations section above, we control

for the log of the population, the percent of the population below poverty, and the crime rate.

Table 8.2 shows the results of the regressions predicting the black-white outcome ratios.

Following from our hypotheses, we expect that the coefficients for our political power should

push the predicted outcome to equality. For search rate ratios, light outcomes rate ratios, and

arrest rate ratios, this should be a negative coefficient; while for citation rate ratios, this should

be positive. And indeed this is exactly what we find: For each one unit increase in the political

power index, the search rate ratio goes down by -0.225; the light outcomes ratio declines by

-0.039; and the citation ratio increases by 0.033 (each of which is statistically significant at the

.05 level). Further, we confirm our expectations relating to the black-white ratio of investigatory

stops. Where such stops are focused more on black drivers, the light outcomes, searches, and

citations ratios are more disparate, in line with our expectations.

[[Insert Table 8.2 About Here]]

Political power is strongly and significantly related to three of the four outcomes

reviewed, though its effect on arrest ratios does not reach statistical significance. The

investigatory stops ratio predicts each outcome in the expected direction. We can explore the

impact of political power as well as the relative focus on investigatory stops among black and

white drivers by looking at simple plots. Figure 8.2 shows how the outcome rate ratio is expected

to change across the range of potential values that political power variable may adopt. Four lines

are also presented: the equality (or baseline) ratio of 1.0 indicating no racial differences as a

dashed grey line; the regression line, which is the predicted value from the regression in Table

8.2, as a solid black line; and the 95 percent confidence interval around the regression line as

dashed black lines. Four figures are presented in identical format. These are the search ratio, light

outcomes ratio, citation ratio, and arrest ratio. On the x-axis is the black political power index and on the y-axis the relevant ratio.

[[Insert Figure 8.2 About Here]]

In each part of Figure 8.2, we see the expected relationship. For searches, light outcomes, and arrests, the regression line declines; there is a negative relationship between power and the relevant ratio. The regression lines slope downward as political power increases. In Figure 8.2a, focusing on searches, the regression line never crosses the equality line, but the confidence interval does include 0 at the highest levels of political power. The regression line declines from a value over 2 to very close to 1. The expected search rate for blacks declines from over twice that of whites to virtually the same. In Figure 8.2b, light outcomes, the regression line crosses the equality line, and is statistically distinct from 1 at the lowest and highest levels of political power. Regarding the relative rates at which black and white drivers are given a citation, in Figure 8.2c, equality comes more quickly as political power moves up. It may seem strange to suggest that a measure of black political power is that blacks get tickets just as often as whites. But if officers are pulling over cars for speeding, a ticket may be just what the driver deserves. Figure 8.2d shows that the arrest ratio is consistently above 1 (equality), and does not change much as political power changes.

Figure 8.3 presents four identically formatted comparisons of the same outcomes with the other independent variable of interest: the percent of investigatory stops. The four parts of Figure 8.3 again show each individual policy agency–year, with the regression line showing how the three variables of interest (the light outcome ratio, search ratio, citation ratio, and arrest ratio) vary as the percent of investigatory stops moves from low to high. Here, our theoretical

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expectations are that as the percent of investigatory stops increases, racial disparity in outcomes should also increase. And the figures confirm these expectations.

[[Insert Figure 8.3 About Here]]

Light outcomes and searches increase in their relative focus on black drivers as we move from low to high on the investigatory stop ratio, and the citation ratio declines. For light outcomes and citations, there is only statistical evidence of racial difference in outcomes on average with all other values held at their means when the investigatory stop ratio is near its extreme values. For searches, the relationship is substantively stronger. Low levels of the investigatory search ratio are associated with less disparity in searches, but still a positive one. As investigatory stops increasingly focus on black drivers as compared to whites, however, the search rate disparity goes up substantially.

Across the controls from Table 8.3, only those for population size reach statistical significance at the 0.05 level, and this in two of the models only (light outcome ratios and citation ratio). As the population increases, other things held constant, the light outcome ratio decreases and the citation ratio increases. Additionally, the percent living below poverty appears to not be associated with the search ratios or citations ratios. However, it is weakly statistically significant at the 0.10 level as it relates to light outcome ratios and arrest ratios. Crime per 100 in the population does not appear statistically significant for these ratios.

A Second Test Using North Carolina County Sheriffs

In addition to testing these hypotheses using municipal police departments, we can test whether political power of the black community and discretion influence disparities in county sheriff's departments. County sheriff's departments differ from municipal police departments in two significant ways that shape the analysis. First, county sheriffs are directly elected every four

years in partisan elections. This means that rather than testing the indirect electoral connection filtered through the elected local government, we can directly test the effect of a potential electoral connection. Second, sheriff's departments have jurisdictions over the unincorporated areas of a county. Sheriffs also run county jails and serve court papers throughout the county, including in metropolitan areas. For routine traffic stops, however, it is fair to think of sheriff's departments operating in the parts of a county not within the jurisdiction of a municipal police department. Practically, this means that county sheriff's departments work in the rural areas of the state, not in the urban centers.

We will keep in mind the rural / urban difference while looking at sheriffs as well as the fact that they are directly elected. Sheriff's departments have lower search rates on average than police agencies (see Baumgartner et al. 2017), possibly reflecting their direct election status.

Data and Measures

The county sheriff's department analysis spans from 2008 through 2015, and includes every county sheriff's department that made at least 10,000 stops in a given year where at least 100 white drivers were stopped and 100 black drivers were stopped. Additionally, the Gaston County Police Department and Gaston County Sheriff's Department are excluded, because they patrol overlapping areas; Gaston County is the only county in North Carolina that has a county police department. Sixty-six sheriff's departments meet this threshold for a total of 334 agency-year dyads being used in the analysis. (There are 100 counties in North Carolina, and 100 county sheriffs.) As in the previous analysis, the dependent variables in each regression is the black-white outcome rate ratios. Additionally, to operationalize discretion, we once again use the investigatory stop rate ratio. Summary statistics for these variables are presented in Table 8.3.

As in the previous analysis, each of the outcome rate ratios have a wide range of values. Among county sheriff's departments that meet our threshold for analysis, black drivers are on average 53 percent more likely to be searched and 13 percent more likely to be arrested; they are, on average, about equally likely to see a light outcome or receive a ticket. In each case, these are lower disparities on average than among the municipalities.

The two major differences between county sheriff's departments and municipal police departments in North Carolina are: 1) the sheriff is directly elected by those residing in the county; and 2) sheriff's departments mainly patrol the unincorporated areas of a county. As a result, the measures for presence, voice, and descriptive representation that we use to calculate our index of black political power are almost the same as before but must be slightly adjusted.

Presence is measured as the proportion of residents in the unincorporated areas of a county that are black. As before, this information comes from the 2010 census. Black proportion of the population ranges from 0.67 percent to 59.62 percent, with a median of 13.20 percent and a mean of 17.34 percent. Voice is measured as the proportion of those voting in a county that are black (note that we use the entire county here, as the whole county votes). As before, this information comes from the North Carolina Board of Elections. As before, election turnout from 2007 is used for 2008 and 2009; turnout from 2009 is used for 2010 and 2011; turnout from 2011 is used for 2012 and 2013; and turnout from 2013 is used for 2014 and 2015. The proportion of the voting population that is black ranges from 0.46 percent to 60.40 percent, with a median of 17.94 percent and a mean of 21.00 percent. Descriptive representation is measured as the race of the sheriff. This is measured on a yearly basis. However, little change occurs during our window

(2008-2016), because sheriff's serve four-year terms and there is little turnover. There are 317 agency-years with white sheriffs and 32 with black sheriffs.

Once again, these three aspects of political power are used to estimate a latent factor of political power using factor analysis.[13] The resulting factor ranges from -1.30 to 2.85, with a median of -0.33 and a mean of -0.01. Figure 8.4 presents the distribution of scores.

[[Insert Figure 8.4]]

Three control variables are included in the regressions. These are: the log of the population residing in unincorporated areas of the county, a random intercept by agency, and the partisanship of the sheriff. There are 181 agency-years with Democratic sheriffs and 162 with Republican sheriffs. Finally, in the previous set of regressions, we also included control variables for the percent living below poverty and the crime rate, but this information is not available at the county level.

Analysis

Table 8.4 presents the results of the regressions. As before, a separate regression is fit for each outcome ratio, and in each case a hierarchical linear model is estimated with agency level random intercepts. As a reminder, we hypothesized that as political power increases, disparities should decrease; and as the investigatory stops ratio increases, then disparities should increase. Table 8.4 presents the results of these regressions.

[[Insert Table 8.4 About Here]]

Table 8.4 shows reinforces our findings looking at municipal police departments for political power, but shows mixed results—as expected—for the role of investigatory stops. As political power of the black community increases, the disparities decrease for searches and light outcomes and increase for citations: they converge towards equality in each case. These results

are statistically significant at the 0.05 level for both light outcomes and citations, and at the 0.10 level for searches. Unlike in the municipalities regressions, only in the light outcome regression is the investigatory stops ratio variable statistically significant at any level.

As before, we present the graphical representations of the relationship between our key variables of interest and the expected outcome rate ratio. Figure 8.5 presents the relationship between black political power and traffic stop outcomes. The solid sloping line indicates the expected rate ratio, the horizontal line indicates equality, and the curved dashed lines show the 0.95 confidence interval.

[[Insert Figure 8.5 About Here]]

In subfigures 8.5a and 8.5b, we see the regression line decreasing as political power increases. While the expected search rate ratio never touches or dips below the line of equality, it comes close at the highest levels of political power. Conversely, the expected light outcome rate ratio almost immediately crosses the equality line. Additionally, the expected relationship is seen in subfigure 8.5c, which shows the relationship between levels of political power and the citation rate ratio. The line increases across the range of values, and crosses the equality line at low values of political power. However, for both the light outcome rate ratio and citation rate ratio this relationship does not become statistically significant until the political power variable is almost 0.

Figure 8.6 presents the relationship between the investigatory stops rate ratios and the expected traffic stop rate ratio outcomes. As in the previous figures, the solid sloping line indicates the expected rate ratio, the horizontal line indicates equality, and the curved dashed lines show the 0.95 confidence interval.

While the investigatory stop rate ratio variable is only statistically significant in the light outcome rate ratio regression, the hypothesized substantive effect is observed for both the expected search rate ratio and the light outcome rate ratio. The slope increases across the range of values. For the search rate ratio, the line is always above equality. For the light outcome rate ratios, the line crosses equality when values of the investigatory stops ratio are high. In the citations rate ratio regression and associated sub figure (8.6c), the relationship is essentially flat. The regression line is essentially indistinguishable from equality.

Finally, the control variables present the expected results given the differences between county sheriff's departments and municipal police departments. Party of sheriff is not statistically significant in any regression, and appears to have a negligible substantive effect. However, the log of the population in the unincorporated areas is statistically significant at the 0.05 level in the search rate ratio regression and at the 0.10 level in the light outcome rate ratio and citation rate ratio regressions. This means that racial disparities may be higher in the smaller counties than in the larger ones.

Conclusion

Having looked systematically at three types of variables: who gets stopped for investigatory compared to traffic safety stops, who experiences which types of outcomes after a traffic stop, and who has political power, we showed that these all fit into a coherent picture. Power matters. It changes the behavior of the police. On that note, the results we have presented in this chapter may be troubling or inspiring depending on how one interprets them. On the one hand, we have documented some very significant (and, we think, troubling) disparities in policing. On the other hand, we have shown these to be potentially related to two factors over which local leaders may

have some control. Of course, this control can be used either to exacerbate and continue the pattern of racial disparity that we see, or to reduce it. Political power can be affected through voting and organization. (It can also be suppressed by voter alienation and gerrymandering, and our analysis suggests some of the substantive effects to which such policies may lead.) Investigatory stops targeting minority drivers can certainly be changed by the actions and leadership of police executives. This suggests that there may be administrative reforms that police leaders can undertake, with or without the presence of high levels of political power for the minority population in their jurisdictions, which can have a significant impact on racial disparities in traffic stops outcomes. We look precisely at this question in the next chapter.
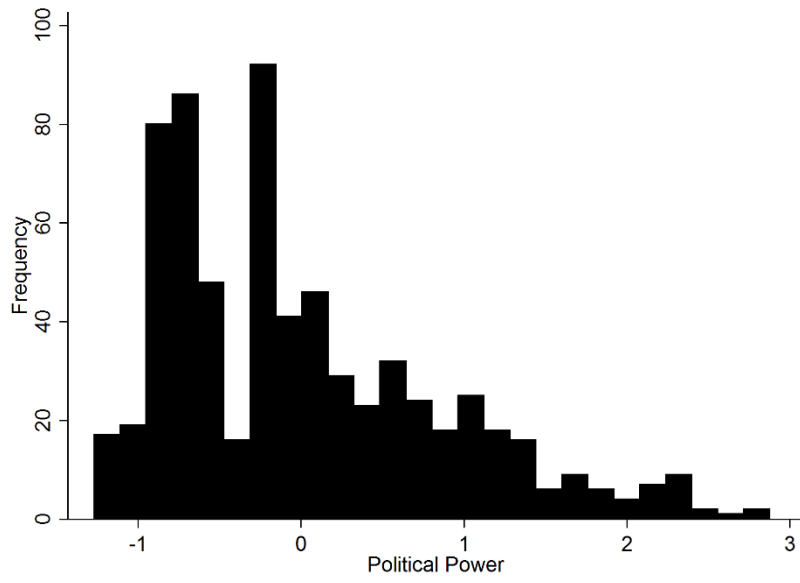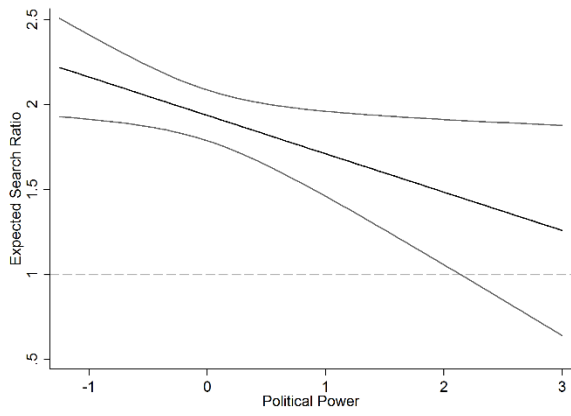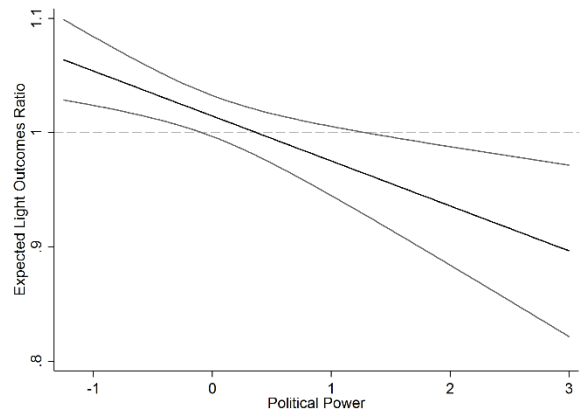
Figure 8.1. Black Political Power

Figure 8.2. Effect of Black Political Power on Traffic Stop Outcomes
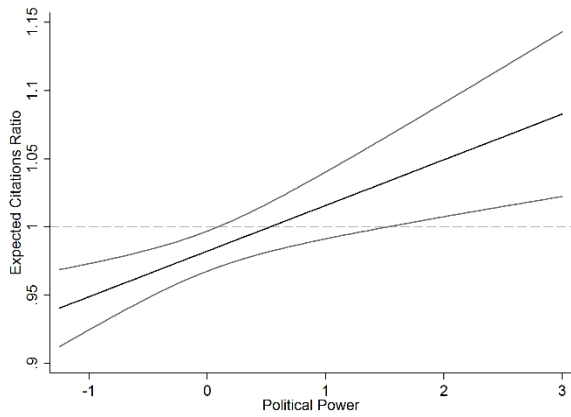
a. Searches

b. Light Outcomes
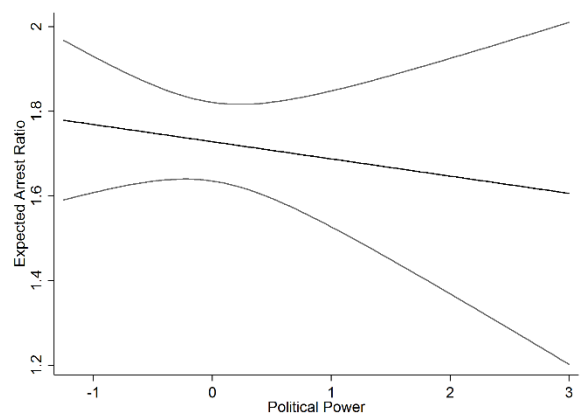
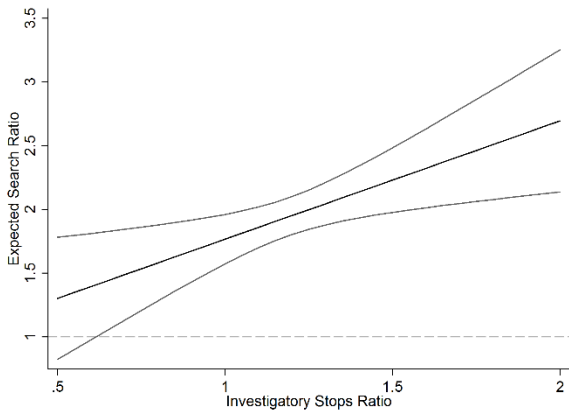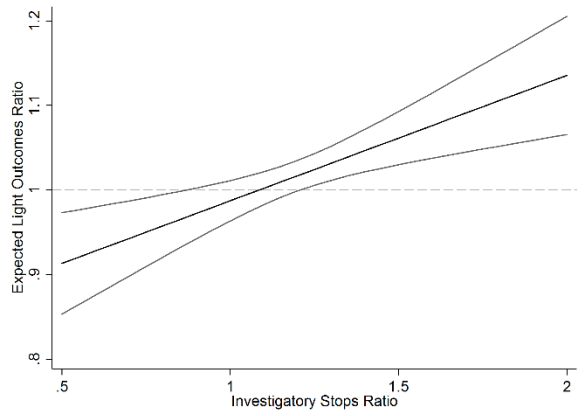c. Citations

d. Arrests

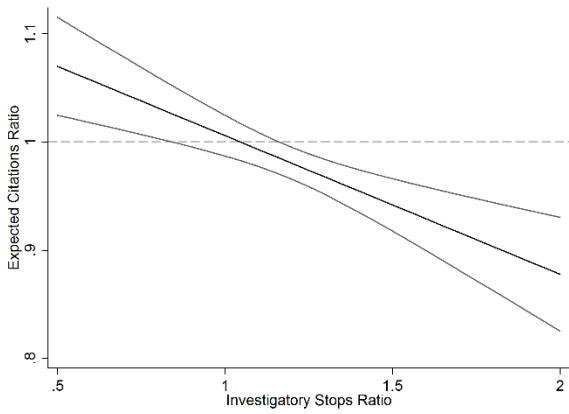Figure 8.3. Effect of Investigatory Stops Ratio on Traffic Stop Outcomes

a. Searches

b. Light Outcomes

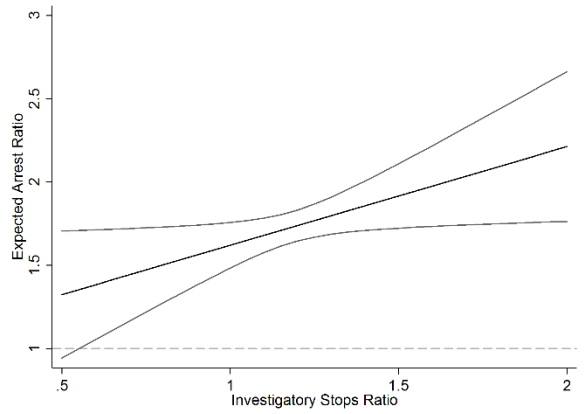

c. Citations

d. Arrests
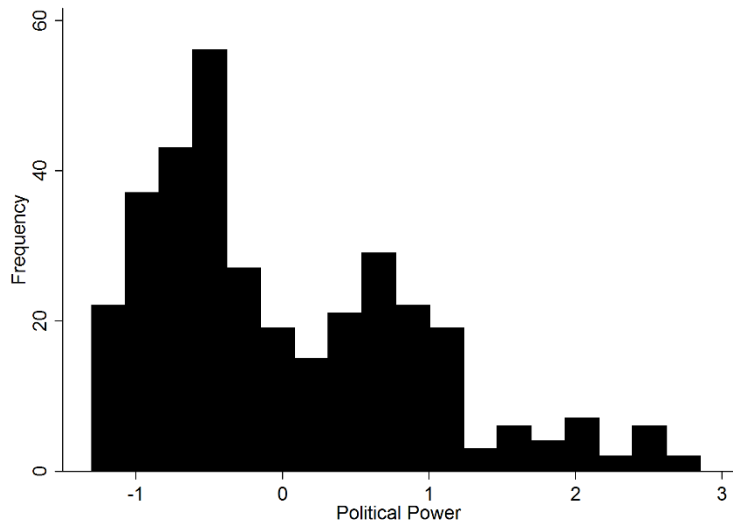
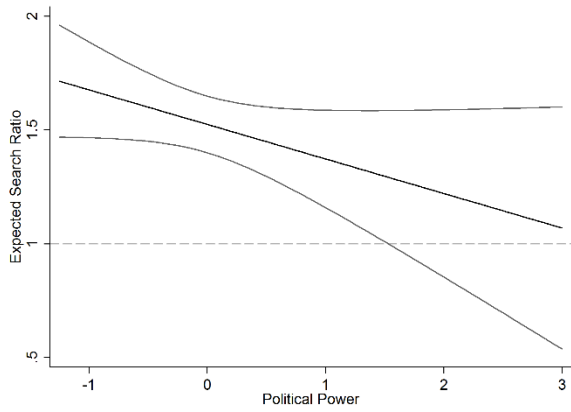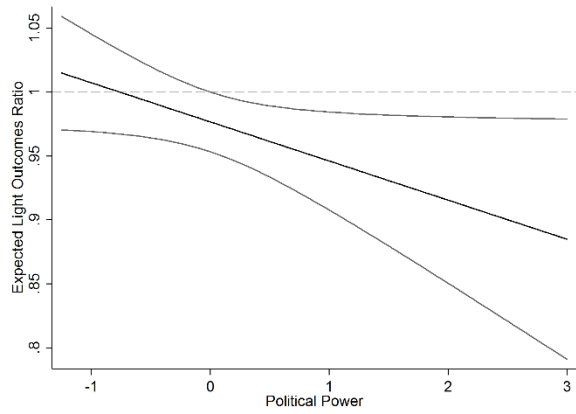Figure 8.4. County Political Power Factor Scores

Figure 8.5. Effect of Black Political Power on Traffic Stop Outcomes (Sheriffs)

a. Searches

b. Light Outcomes
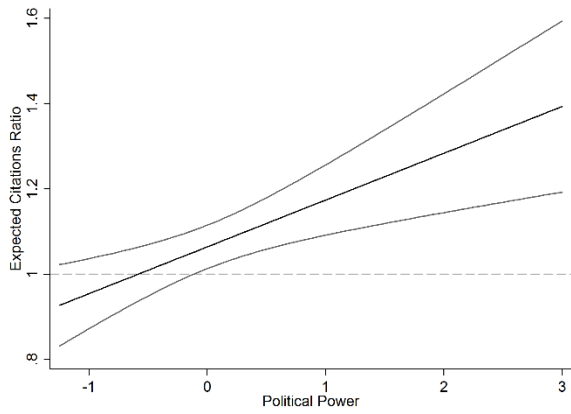
c. Citations
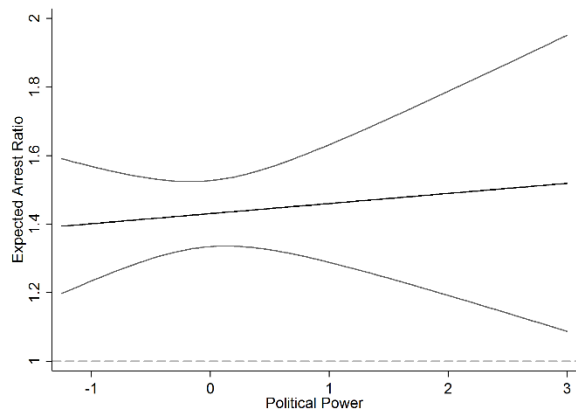
d. Arrests

Figure 8.6. Effect of Investigatory Stops Ratio on Traffic Stop Outcomes (Sheriff's)
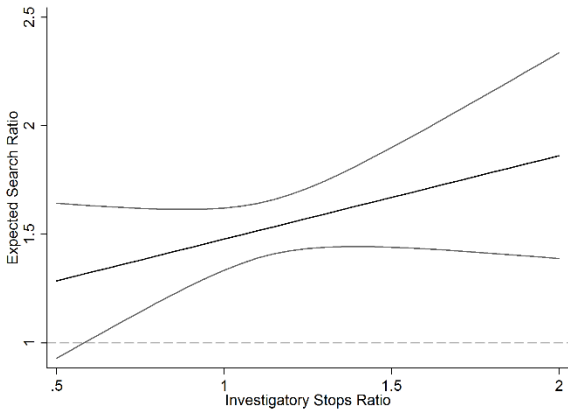
a. Searches
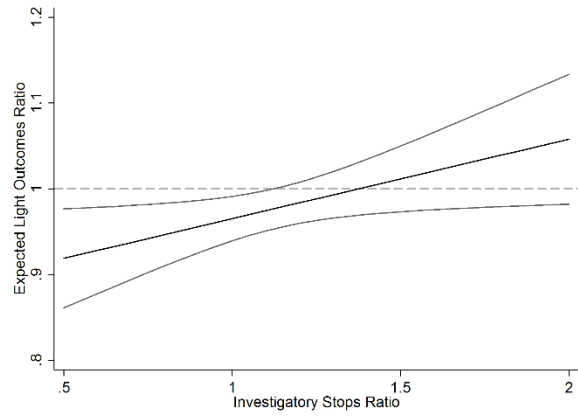
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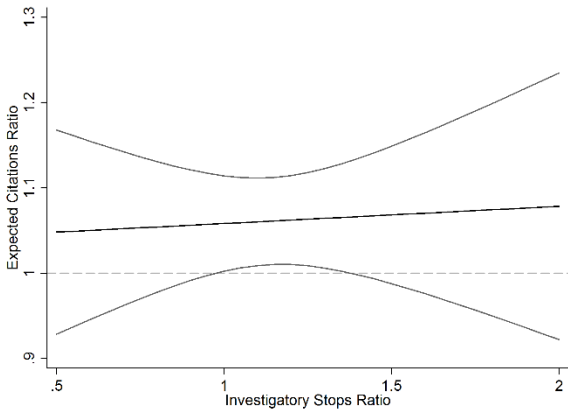
c. Citations
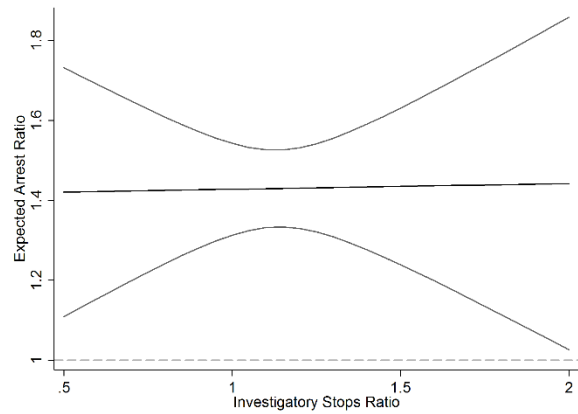
d. Arrests

Table 8.1. Summary Statistics of Traffic Stop Black-White Ratios

	Minimum	1st Qu.	Median	Mean	3rd Qu.	Maximum
Searches	0.17	1.36	1.76	1.93	2.24	9.90
Light Outcomes	0.53	0.93	1.00	1.01	1.08	1.75
Citations	0.62	0.92	0.99	0.98	1.04	1.38
Arrests	0.26	1.19	1.56	1.72	2.06	5.92
Investigatory Stops	0.83	1.08	1.17	1.18	1.27	1.96

Table 8.2. The Effect of Political Power on the Disparity of Traffic Stop Outcomes

	Searches	Light Outcome	Citation	Arrest
Political Power	-0.225**	-0.039**	0.033**	-0.041
	(0.102)	(0.012)	(0.010)	(0.067)
Investigatory Stops Ratio	0.929**	0.148**	-0.138**	0.592**
	(0.338)	(0.042)	(0.032)	(0.278)
Log(Population)	0.101	0.016**	-0.016**	-0.027
	(0.064)	(0.008)	(0.006)	(0.041)
Crime per 100	-0.001	-0.000	-0.000	-0.001
	(0.001)	(0.000)	(0.000)	(0.001)
% Below Poverty	0.456	0.231*	-0.125	1.403*
	(1.089)	(0.132)	(0.106)	(0.718)
Intercept	-0.165	0.647**	1.327**	1.156**
	(0.718)	(0.087)	(0.070)	(0.482)
R^2 Within	0.01	0.01	0.02	0.000
R^2 Between	0.14	0.24	0.27	0.097
R^2 Overall	0.08	0.12	0.15	0.033
Num. obs.	497	497	497	497
Num. groups: City	86	86	86	86

Note: Entries are regression coefficients, with standard errors in parentheses.

Note: ** prob. < 0.05 * prob. < 0.10.

Table 8.3. Summary Statistics of Traffic Stop Black – White Rate Ratios

	Minimum	1st Qu.	Median	Mean	3rd Qu.	Maximum
Searches	0.28	1.06	1.34	1.53	1.78	11.26
Light Outcomes	0.55	0.90	0.97	0.98	1.03	1.86
Citations	0.31	0.93	1.02	1.06	1.17	2.90
Arrests	0.11	0.95	1.30	1.43	1.75	6.02
Investigatory Stops	0.64	1.02	1.11	1.13	1.21	1.98

Table 8.4. Predicting Disparities in Traffic Stops Outcomes, Sheriff's Departments

	Searches	Light Outcome	Citation	Arrest
Political Power	-0.152*	-0.031**	0.110**	0.029
	(0.088)	(0.015)	(0.033)	(0.071)
Investigatory Stops Ratio	0.385	0.093**	0.020	0.014
	(0.270)	(0.043)	(0.087	(0.238)
Republican Sheriff	-0.064	0.000	-0.028	0.036
	(0.148)	(0.026)	(0.055)	(0.120)
Log(Population)	-0.216**	-0.029*	0.060	-0.119
	(0.102)	(0.019)	(0.041)	(0.080)
Intercept	3.464**	1.187**	0.408	2.694**
	(1.139)	(0.207)	(0.447)	(0.906)
R^2 Within	0.012	0.002	0.002	0.004
R^2 Between	0.062	0.158	0.210	0.050
R^2 Overall	0.031	0.066	0.084	0.016
Num. obs.	334	334	334	334
Num. groups: County	66	66	66	66

Note: * indicates statistical significance at the 0.10 level and ** indicates statistical significance at the 0.05 level.

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[1] We have run models with different versions of a racial threat variable (reaching its peak value when the minority presence is at different levels from 20 to 50 percent) for municipalities in

North Carolina. None of those models out-perform the ones we present below, and on average the models reinforce the findings presented here. The models themselves can be seen in the online appendix to this chapter.

[2] Two additional factors that may influence disparities in treatment are the level of segregation in an area and the racial composition of the police force. Information for both factors is publicly available. However, its inclusion biases the results, by generating non-random missingness in the data set. Essentially, those departments likely to respond to surveys asking about policing practices have higher levels of black political power, and those cities that a segregation score has been calculated for are much larger than average. See the appendix to this chapter for further discussion of these issues.

[3] Black-white disparities are robust to the more enhanced specification (i.e. regression). For a discussion of this, see the online appendix to this chapter.

[4] There are 36 agency -year instances of a search ratio lower than 1, and 23 agencies account for this. They are the police departments for: Boone, Butner, Claremont, Conover, Eden, Greenville, Holly Ridge, Kings Mountain, Kinston, Mebane, Mint Hill, Monroe, New Bern, Pineville, Rolesville, Sanford, Spring Lake, Tarboro, Troutman, Waxhaw, Weldon, and Youngsville. There are 8 agency -year instances of a search ratio greater than 4.00, and 8 agencies account for this. They are the police departments for: Archdale, Asheboro, Carrboro, Durham, Fletcher, Fuquay-Varina, Havelock, Morrisville, New Bern, Troutman, and Wilkesboro.

[5] 204 agency-years have a light outcome ratio of less than 1.

[6] 203 agency -years have a citation outcome ratio of less than 1.

[7] To calculate voter turnout, we started with the voting history and voting registration information for each county in North Carolina from the Board of Election's website:

http://www.ncsbe.gov/other-election-related-data. Each file was then merged together to identify in which elections each individual voted. This file was then collapsed by race of voter, election, and municipal description. The totals resulting from this are taken as the number of voters that turned out to vote in each election by race. We then compared voting turnout rates to the 2010 Census population estimates to calculate voter turnout by race. This process was automated and conducted in R.

[8] While many studies that look at the relationship between police behavior and race use the race of the mayor as the key explanatory variable (for examples see: Stucky 2012, Saltzstein 1989), we do not. Rather we adopt a more holistic definition of city government to include both the city council and mayor. While this was done because we believe this is theoretically justified, it was also because there are almost no Black mayors in North Carolina during the time period of our study.

[9] The factor analysis was completed in R using the fa command within the psych package. The factor analysis used an oblique minimizing rotation (oblimin) and minimum residual OLS to estimate the factor. The standardized factor loadings are: 0.70 for the percent of local government that is Black, 0.92 for the percent of the voting population that is Black, and 0.92 for the percent of the population that is Black. The correlation of scores with factors is 0.96. The multiple R square of score with factors is 0.92. The minimum correlation of possible factor scores is 0.85.

[10] For an example report see: https://ucr.fbi.gov/. The specific information comes from Table 8 in the annual Crime Report in the United States.

[11] An HLM regression rather than an OLS regression is fit, because observations are clustered by city as shown by the ANOVA presented in the appendix. However, each observation contains

some information static at the agency level. As a result, an HLM rather than FE in an OLS are used.

[12] Two variables that might also influence outcomes, but are excluded in the analysis presented here, are the percent of cops who are black working in a given city and the level of segregation in a given city. Inclusion of both variables excludes approximately half of the observations. This missingness appears to be directly related to the level of political power in a given city. As a result, neither variable is used in the analysis presented here. See the appendix, for further discussion of this matter and how it affects our results.

[13] The factor analysis was completed in R using the fa command within the psych package. The factor analysis used an oblique minimizing rotation (oblimin) and minimum residual OLS to estimate the factor. The standardized factor loadings are: 0.88 for the race of the sheriff, 0.78 for the percent of the voting population that is black, and 0.49 for the percent of the population that is black. The correlation of scores with factors is 0.92. The multiple R square of score with factors is 0.85. The minimum correlation of possible factor scores is 0.69.