

**Online Appendix For:
Race, Place, and Context:
The Persistence of Race Effects in Traffic Stop Outcomes**

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A. Constructing the Agency and Municipal Data Set

We built the agency and municipal data set used to supplement the micro-level stop data provided by each state. We first identified which municipal police agencies, whose traffic stop data we had access to, had conducted a sufficient number of stops and searches of black and white drivers to be included in the analysis. Then we collected information on the demographics, political representation, and the police force itself for each of the agency. The agencies and cities in North Carolina and Illinois in this data set were then merged with the individual stop data for each state respectively.

Each observation in the data must meet the thresholds laid out in the body of the paper: 10,000 stops, including 100 of white drivers and 100 of black drivers. If the thresholds were not met, we added the following year for the same agency until the threshold was met. For example, if a given agency did not have more than 10,000 total stops and over 100 stops for each race category in its first year of data (say, 2005), we would add data from the next year, in this case 2006. If this combination met the thresholds, it constituted its own observation in the macro level dataset, and the process would begin again with 2007. If the 2005 and 2006 combination did not break the threshold then we would combine the 2005 and 2006 observations with the 2007 observations, repeating this process until the threshold was met (if the threshold was not ever met, then the data was dropped). This process did create observations with different time boundaries.

The agency and municipal data was collected by a number of graduate and undergraduate students working for the authors. Table A1 summarizes the variables used from this data set, the initial source of that information, and what (if anything) was done to the raw data to construct the specific variable used. The traffic stops data was collapsed to construct agency-windows, as discussed above. When the observation consisted of a time window, rather than a single year, data was collected that corresponds to the first year in that window. For this paper, only the years where the data was specifically collected was used—i.e., the first year of the window when applicable or the stand-alone year.

Table A1. Summary of Sources for Municipal and Agency Characteristics

Variable	Source	Construction
Race of Police Chief	Online searches of records of current and former police chiefs.	N/A
Size of Police Force	LEMAS	Mean of available responses. If the agency responded only once, then that value is used.
Not White Prop. Of the Police Force	LEMAS	See size of force.
Degree of Segregation	Brown's Diversity & Disparity Database	N/A
Racial Diversity	Interpolated and extrapolated counts of population values based on the ACS and census.	Reverse Herfindahl index using the proportion of the population that is white, black, and other.
Not White Pop. Prop.	See racial diversity.	Number of white residents divided by the total number of residents.
Unemployed Pop. Prop	See racial diversity.	Number unemployed divided by the number of in the employment population.
Foreign Born Pop. Prop	See racial diversity.	Number of residents born in another country divided by number of residents.
Less than HS Diploma Pop. Prop.	See racial diversity.	Number of residents over 35 with less than a HS degree divided by number of residents over 35.
Pop. Prop New to Current Residence	See racial diversity.	Number of residents newly moved into their house or apartment divided by number of housing units.
Crime Rate	FBI's Universal Crime Reports	N/A
Violent Crime Rate	See crime rate.	N/A
Property Crime Rate	See crime rate.	N/A

B. Summary Statistics of the Dependent and Independent Variables

Illinois Summary Statistics

In 2003, Illinois public law 93-0209 was signed into law. It established a statewide study of traffic stops to identify racial bias, which has been extended to run until July 1, 2019. As with the North Carolina data set, the form officers fill out for each traffic stop omits key pieces of information that would be helpful to this study, such as the number of passengers (if no search is conducted), the race and age of those passengers, and officer characteristics (ex. race, gender, and years on the force). Despite this, the traffic stops data made public by the state allows for many aspects of a stop to be evaluated.

Between 2004 and 2015, over 20 million traffic stops have been logged into the state's database. In this analysis, we focus on stops that were conducted by municipal police departments between 2008 and 2011 for which we have corresponding agency and municipal characteristics. 2008 is the first year, because prior to that time point significantly fewer municipalities have corresponding agency and municipal data. 2011 is the cut off, because, after that year, the state stopped collecting information on the type of search—if any.

Throughout this period (2008-2011) in the resulting dataset, 1,271,360 were conducted by officers in agencies and years where the police chief was white, 75,577 were conducted by officers in agencies and years where the chief was black, and 7,864 were conducted by officers in agencies where the chief was Latino. Of all of these stops, the majority were for speeding violations (411,414), while the rest were for a variety of reasons: 70,441 were for lane violation, 60,237 were for seat belt violations, 253,300 were for traffic sign or signal violations, 7,963 were for following too close 145,113 were for other moving violation, 255,156 were for equipment violations, 151,277 were for license plate/registration violations.

The data includes information from 41 agencies. Each agency may have data from 1 or more years. The agencies included are: Addison Police, Arlington Heights Police, Aurora Police, Belleville Police, Bloomingdale Police, Bloomington Police, Burr Ridge Police, Carol Stream Police, Chicago Police, Crystal Lake Police, De Kalb Police, East Peoria Police, Elgin Police, Elk Grove Village Police, Elmhurst Police, Elmwood Park Police, Evanston Police, Evergreen Park Police, Hanover Park Police, Hoffman Estates Police, Joliet Police, Lockport Police, Mount Prospect Police, Naperville Police, Niles Police, Normal Police, Northbrook Police, Oak Park Police, Oswego Police, Palatine Police, Peoria Police, Rock Island Police, Rockford Police, Schaumburg Police, Skokie Police, Springfield Police, Urbana Police, Waukegan Police, Westchester Police, Wheaton Police, and Wheeling Police.

Table B4 presents the summary statistics for the continuous independent variables.

Table B4. Summary Statistics of the Continuous Independent Variables, Illinois

	Minimum	Mean	Standard Dev.	Maximum
Age	15.000	35.703	13.806	99.00
Vehicle Age	0.000	9.298	5.563	75.000
Black Prop. of Population	0.168	16.077	12.636	34.088
Foreign Born Prop. of Population	1.593	18.576	8.416	44.390
In Poverty Prop. of Population	2.204	11.691	7.594	27.124
Less than HS Diploma Prop. of Pop.	1.751	13.734	7.106	31.016
New to Home Prop. of Population	14.583	31.632	7.832	61.661
Overall Crime Rate	0.000	36.672	18.981	100.400
Population Total	10,505	853,726	1,214,323	2,832,052

North Carolina Summary Statistics

In 1999, North Carolina passed a law mandating that for every stop the State Highway Patrol conducted the officer conducting the stop needed to fill out a form with basic information about the stop and driver. Since then, this law was expanded to also include all sizeable or relatively active police departments in the state. Beginning, January 1, 2002, officers and agencies have done just that: they fill out the state mandated form, submit it to their agency, which in turn regularly sends this information to the state. For additional information on the North Carolina case, see Baumgartner, Epp, and Shoub 2018. While the form that officers are required to fill out and submit contains a great deal of information helpful to researchers, it does omit key pieces of information that would be helpful to this study, such as the number of passengers (if no search is conducted), the race and age of those passengers, and officer characteristics (ex. race, gender, and years on the force). It also cannot provide information as to the tone and tenor of the stop. Despite these missing pieces of information, the traffic stops data made public by the state is rich and allows for many aspects of a stop to be evaluated. As stated in the paper and previously here, the individual traffic stop data is supplemented by a data set of agency and municipal attributes.

To date, over 20 million traffic stops have been logged into the state's database, made available by request to the state. In this analysis, we focus on stops that were conducted by municipal police departments between 2002 and 2016 for which we have corresponding agency and municipal characteristics. 2002 is the first year, because it is the first year that municipal agencies were required to report to the state.

Throughout this period (2002-2016), 3,511,023 were conducted by officers in agencies and years where the police chief was white, 810,940 were conducted by officers in agencies and years where the chief was black, and 195,380 were conducted by officers in agencies where the chief was Latino. Of all of these stops, the majority were for speeding violations (1,674,914), while the rest were for a variety of reasons: 340,332 were for stop light/sign violations, 41,772 were for driving while impaired, 320,641 were for safe movement violations, 564,552 were for equipment violations, 1,109,555 were for vehicle regulatory violations, 200,431 were for seat belt violations, 223,569 were for investigations, and 249,144 were for miscellaneous other violations.

The data includes information from 49 agencies. Each agency may have data from 1 or more years. The agencies included are: Albemarle Police Department, Apex Police Department, Asheboro Police Department, Asheville Police Department, Burlington Police Department, Carrboro Police Department, Cary Police Department, Chapel Hill Police Department, Clayton Police Department, Concord Police Department, Cornelius Police Department, Durham Police Department, Elizabeth City Police Department, Fayetteville Police Department, Fuquay-Varina Police Department, Garner Police Department, Gastonia Police Department, Goldsboro Police Department, Greensboro Police Department, Greenville Police Department, Havelock Police Department, Henderson Police Department, Hickory Police Department, High Point Police Department, Holly Springs Police Department, Hope Mills Police Department, Huntersville Police Department, Jacksonville Police Department, Kannapolis Police Department, Kings Mountain Police Department, Kinston Police Department, Leland Police Department, Lexington Police Department, Lumberton Police Department, Mint Hill Police Department, Monroe Police Department, Morganton Police Department, Morrisville Police Department, Mount Holly Police Department, Raleigh Police Department, Reidsville Police Department, Roanoke Rapids Police Department, Salisbury Police Department, Shelby Police Department, Statesville Police

Department, Tarboro Police Department, Wilmington Police Department, Wilson Police Department, and Winston-Salem Police Department.

Based on this list of agencies, the authors then searched to see which agencies instituted a written consent form and required officers to record video of the verbal consent. To the best of the author’s knowledge and based on public news accounts, five agencies in this set instituted such policing during the period of this study. These are: Carrboro (June 1, 2015), Chapel Hill (June 1, 2015), Durham (October 1, 2014), Fayetteville (March 2, 2012), and Greensboro (November 2015).

Table B1 presents the summary statistics for the continuous independent variables for the North Carolina data set. Table B2 presents the counts for the dichotomous independent and dependent variables for the North Carolina data set.

Table B1. Summary Statistics of the Continuous Independent Variables, North Carolina

	Minimum	Mean	Standard Dev.	Maximum
Age	0.00	34.41	13.24	99.00
Black Prop. of Population	4.76	29.62	10.68	63.66
Foreign Born Prop. of Population	0.81	10.19	3.89	25.83
In Poverty Prop. of Population	1.95	14.89	5.01	32.67
Less than HS Diploma Prop. of Pop.	1.88	12.81	5.22	35.70
New to Home Prop. of Population	0.75	31.92	15.27	69.67
Overall Crime Rate in 10s	0.00	61.98	28.86	183.67
Population Total	9889.00	188,545.00	118,794.00	441,326.00

Table B2 Summary Counts of Remaining Dichotomous Variables, North Carolina

	No	Yes
High Disparity Officer	2,887,930	1,836,980
Written Consent Policy	4,436,696	288,214

Note: “High disparity” officers are defined as those who have a minimum of at least 50 stops of black drivers, 50 stops of white drivers, a search rate above the state-wide average, and a search rate twice as high for one racial group as compared to another. Over one-third of all traffic stops are made by such officers (see Baumgartner, Epp, and Shoub 2018, chapter 6).

C. Full Regression Table

This section presents the other results from the regressions. Due its size, only those variables not shown in the original regression table are shown here. Further, due to variance in stop purpose types, the results are presented separately for Illinois (Table C1) and North Carolina (Table C2).

Table C1. Logistic Regression Explaining Who is Searched in Illinois, Results Associated with Variables not Shown in the Regression Table in the Paper

	Consent	Probable Cause
Intercept	Yes	Yes
Race-Gender	Yes	Yes
Driver Age	-0.04*	-0.06*
	(0.00)	(0.00)
Vehicle Age	0.04*	0.03*
	(0.00)	(0.00)
Lane Violation	1.89*	1.90*
	(0.05)	(0.04)
Seat Belt Violation	1.44*	1.12*
	(0.05)	(0.05)
Traffic Sign Violation	1.25*	1.21*
	(0.04)	(0.04)
Following Too Close	1.58*	1.10*
	(0.16)	(0.16)
Moving Violation	1.58*	1.91*
	(0.04)	(0.04)
Equipment Violation	1.60*	1.12*
	(0.04)	(0.04)
Regulatory Violation	1.48*	1.15*
	(0.04)	(0.04)
Monday	-0.02	0.05
	(0.03)	(0.04)
Saturday	0.07*	0.09*
	(0.03)	(0.03)
Sunday	0.11*	0.06
	(0.03)	(0.04)
Thursday	0.00	-0.01
	(0.03)	(0.03)
Tuesday	-0.03	-0.03
	(0.03)	(0.03)
Wednesday	-0.06*	-0.01
	(0.03)	(0.04)
Chief Race	Yes	Yes
City Context	Yes	Yes
Year FE	Yes	Yes
Agency FE	Yes	Yes
Log Likelihood	-64013.73	-51160.5
Num. obs.	1344117	1342063

Note: * indicates $p < 0.05$. Coefficients presented in the table with standard errors below in parentheses. Only coefficients and standard errors for variables included in the regressions but not presented in the body of the paper are shown here due to space constraints.

C2. Logistic Regression Explaining Who is Searched in North Carolina, Results Associated with Variables not Shown in the Regression Table in the Paper

	Consent	Prob. Cause
Intercept	Yes	Yes
Race-Gender	Yes	Yes
Age	-0.0298* (0.0003)	-0.0532* (0.0005)
Stop Light/Sign Violation	0.8405* (0.0185)	0.6506* (0.0223)
Driving While Impaired	1.9816* (0.0323)	3.3187* (0.0261)
Safe Movement Violation	1.4166* (0.0153)	1.1610* (0.0188)
Vehicle Equipment Violation	1.3373* (0.0138)	0.9701* (0.0169)
Vehicle Regulatory Violation	1.1302* (0.0130)	0.7336* (0.0159)
Seat Belt Violation	1.2109* (0.0192)	1.1490* (0.0245)
Investigation	2.0236* (0.0144)	1.9931* (0.0177)
Other Violation	1.3428* (0.0174)	1.2167* (0.0210)
Monday	0.0457* (0.0144)	-0.0241 (0.0187)
Tuesday	0.0616* (0.0140)	0.0214 (0.0180)
Wednesday	0.0538* (0.0138)	0.0525* (0.0175)
Thursday	0.0721* (0.0138)	0.0732* (0.0173)
Friday	-0.0040 (0.0138)	0.0645* (0.0172)
Saturday	-0.0370* (0.0140)	0.0468* (0.0172)
High Disparity Officer	-0.0221* (0.0076)	0.1622* (0.0094)
Hour of Day	Yes	Yes
Agency	Yes	Yes
City Context		
Year FE	Yes	Yes
Agency FE	Yes	Yes
Log Likelihood	-345523.4072	-230011.188
Num. obs.	4184049	4153004

*Note: * indicates $p < 0.05$. Coefficients presented in the table with standard errors below in parentheses. Only coefficients and standard errors for variables included in the regressions but not presented in the body of the paper are shown here due to space constraints.*

D. Alternative Model Specifications

We question whether the models chosen influenced our results. To address this we first, fit two multinomial models—one for Illinois and one for North Carolina—where we jointly estimate a model for whether a driver was subjected to either a consent search or a probable cause search (Table D1). In the associated table, the first two columns present the results for Illinois, while the second two columns present the results for North Carolina. The first column for each state presents the coefficients and standard errors associated with the portion of the model predicting whether a driver was subject to a consent search, while the second column is associated with probable cause searches. The results remain exactly the same in both regressions as before.

Then we question whether our choice to model all searches following any type of search together influenced our results. The potential problem lies in that officers may approach two different, general types of searches differently. Safety stops are those typically thought to enforce and ensure safe driving on the roadways and decrease the number of crashes. In North Carolina, we attribute four stop purposes as “safety” in nature: speeding violations, stop light and sign violations, driving while intoxicated, and unsafe movement. In Illinois, we attribute five stop purposes as “safety” in nature: speeding violations, lane violations, traffic sign and light violations, moving violations, and following too close. Investigatory stops are those which are perceived as intrusive in nature and/or as a way for an officer to get a look inside of a car (Epp et al 2014). In North Carolina, we define five stop purposes as investigatory: equipment violations, registration violations, investigation, seat belt violations and other violations. In Illinois, we define three stop purposes as such: seat belt violations, equipment violations, and registration violations. To test whether our choice to jointly rather than separately model searches following a stop influenced our results, we re-estimate the models on subsets of the data, where each subset is by general type of stop. The results are shown in tables D2 (Illinois) and D3 (North Carolina). The results for race-gender remain the same across all regressions and both states. The results as they pertain to police chief race vary. We see similar results as in the paper for one general type of stop in each state: investigatory stops in Illinois and safety stops in North Carolina. This indicates that while we still see support for our race of police chief hypothesis when and why we see it may vary based on context and norms within the state. On balance, we see the same or similar results as shown and discussed in the paper.

Table D1. Multinomial Regression Using the Same Specification as in the Body of the Paper for Each State

	Model 1: Illinois		Model 2: North Carolina	
	Consent	Prob. Cause	Consent	Prob. Cause
(Intercept)	-48.26*	-37.87*	14.36*	-17.03*
	(0.07)	(0.18)	(0.05)	(0.07)
White Female	-0.91*	-0.79*	-0.72*	-0.74*
	(0.05)	(0.04)	(0.01)	(0.02)
Black Male	1.07*	1.09*	0.65*	1.05*
	(0.03)	(0.03)	(0.01)	(0.01)
Black Female	-0.25*	-0.17*	-0.82*	-0.25*
	(0.04)	(0.04)	(0.01)	(0.02)
Latino Male	0.70*	0.48*	0.04*	-0.09*
	(0.03)	(0.03)	(0.02)	(0.02)
Latina Female	-0.54*	-0.48*	-1.47*	-1.36*
	(0.07)	(0.06)	(0.05)	(0.06)
Other Race Male	-0.64*	-0.90*	-0.30*	-0.32*
	(0.09)	(0.11)	(0.03)	(0.05)
Other Race Female	-2.03*	-1.85*	-1.36*	-1.30*
	(0.29)	(0.24)	(0.08)	(0.11)
Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.30*	-0.27*	-0.03*	0.20*
	(0.05)	(0.05)	(0.01)	(0.02)
Latino Chief	0.07	-0.30*	0.04	0.03
	(0.22)	(0.13)	(0.03)	(0.04)
Written Consent			-1.27*	-0.05*
			(0.03)	(0.02)
Pct. Foreign Born	0.10*	0.06*	-0.03*	-0.05*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Black	-0.20*	0.17*	-0.02*	0.01*
	(0.01)	(0.02)	(0.00)	(0.00)
Pct. Less than HS	0.39*	-0.07*	0.08*	0.10*
	(0.01)	(0.02)	(0.00)	(0.01)
Pct. Below Poverty	0.22*	-0.01	0.05*	-0.08*
	(0.02)	(0.02)	(0.01)	(0.01)
Pct. Newly Moved	0.03*	-0.07*	-0.03*	-0.01*
	(0.02)	(0.01)	(0.00)	(0.00)
log(Population)	2.66*	3.23*	-2.06*	1.12*
	(0.04)	(0.05)	(0.01)	(0.01)
Crime Rate in 10s	0.05*	0.01	0.00*	0.00*
	(0.01)	(0.01)	(0.00)	(0.00)
Agency & Year FE	Yes	Yes	Yes	Yes
Log Likelihood		-111,411		-578,026
Num. obs.		1,354,801		4,234,806

Note: * indicates $p < 0.05$. Coefficients presented with standard errors below in parentheses.

Table D2. Logistic Regressions Explaining Whether a Search Occurred on Subsets of the Data by Stop Type (Safety or Investigatory) for Illinois

	Safety Stop Purposes		Investigatory Stop Purposes	
	Consent	Prob. Cause	Consent	Prob. Cause
(Intercept)	-44.55*	-42.31*	-47.44*	-41.57*
	(7.61)	(8.36)	(7.79)	(9.30)
White Female	-1.00*	-0.95*	-0.79*	-0.61*
	(0.06)	(0.05)	(0.07)	(0.06)
Black Male	1.15*	0.99*	0.86*	1.13*
	(0.03)	(0.03)	(0.04)	(0.04)
Black Female	-0.29*	-0.28*	-0.32*	-0.09
	(0.06)	(0.06)	(0.06)	(0.06)
Latino Male	0.76*	0.45*	0.57*	0.45*
	(0.04)	(0.04)	(0.04)	(0.05)
Latina Female	-0.59*	-0.61*	-0.51*	-0.33*
	(0.09)	(0.08)	(0.10)	(0.09)
Other Race Male	-0.63*	-1.02*	-0.62*	-0.72*
	(0.12)	(0.13)	(0.15)	(0.16)
Other Race Female	-2.15*	-1.80*	-1.82*	-1.96*
	(0.38)	(0.26)	(0.45)	(0.45)
Other Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.18	-0.18*	-0.43*	-0.30*
	(0.09)	(0.07)	(0.09)	(0.08)
Latino Chief	0.18	-0.38*	-0.15	-0.44*
	(0.34)	(0.17)	(0.31)	(0.20)
Pct. Foreign Born	0.12	0.06	0.10	0.09
	(0.06)	(0.05)	(0.06)	(0.05)
Pct. Black	-0.25*	0.15*	-0.14*	0.14*
	(0.05)	(0.05)	(0.05)	(0.05)
Pct. Less than HS	0.41*	-0.01	0.36*	-0.09
	(0.07)	(0.05)	(0.07)	(0.06)
Pct. Below Poverty	0.28*	0.03	0.14*	-0.06
	(0.05)	(0.03)	(0.05)	(0.04)
Pct. Newly Moved	-0.01	-0.08*	0.07	-0.06*
	(0.03)	(0.02)	(0.04)	(0.03)
log(Population)	0.05*	-0.00	0.05*	0.02
	(0.01)	(0.01)	(0.01)	(0.01)
Crime Rate in 10s	2.25*	3.53*	2.71*	3.64*
	(0.71)	(0.78)	(0.72)	(0.84)
Agency + Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-32472	-28554	-31239	-22490
Num. obs.	882015	881923	462102	460140

Note: * indicates $p < 0.05$. Table presents coefficients with standard errors presented in parentheses below. Safety stops are defined as speeding stops, lane violations, traffic sign violations, other moving violations, and following too close. Investigatory stops are defined as seat belt stops, equipment violations, and other regulatory violations (e.g., expired tags).

Table D3. Logistic Regressions Explaining Whether a Search Occurred on Subsets of the Data by Stop Type (Safety or Investigatory) for North Carolina

	Safety Stop Purposes		Investigatory Stop Purposes	
	Consent	Prob. Cause	Consent	Prob. Cause
(Intercept)	16.91*	-13.37*	13.82*	-13.63*
	(1.66)	(2.43)	(1.05)	(1.66)
White Female	-0.83*	-0.73*	-0.67*	-0.74*
	(0.03)	(0.03)	(0.02)	(0.03)
Black Male	0.73*	1.04*	0.59*	1.04*
	(0.02)	(0.02)	(0.01)	(0.02)
Black Female	-0.87*	-0.28*	-0.83*	-0.23*
	(0.03)	(0.03)	(0.02)	(0.02)
Latino Male	0.39*	0.19*	-0.13*	-0.26*
	(0.03)	(0.03)	(0.02)	(0.03)
Latina Female	-1.06*	-1.04*	-1.68*	-1.58*
	(0.08)	(0.09)	(0.07)	(0.09)
Other Race Male	-0.25*	-0.41*	-0.33*	-0.27*
	(0.05)	(0.07)	(0.04)	(0.06)
Other Race Female	-1.65*	-1.66*	-1.21*	-1.06*
	(0.15)	(0.18)	(0.10)	(0.13)
Other Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.11*	0.21*	0.01	0.19*
	(0.02)	(0.03)	(0.02)	(0.02)
Latino Chief	-0.20*	-0.03	0.21*	0.15*
	(0.05)	(0.07)	(0.04)	(0.05)
Written Consent	-1.57*	-0.31*	-1.11*	0.22*
	(0.06)	(0.04)	(0.04)	(0.03)
Pct. Foreign Born	-0.00	0.01	-0.06*	-0.05*
	(0.01)	(0.02)	(0.01)	(0.01)
Pct. Black	0.01	0.03*	-0.03*	0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Less than HS	0.05*	0.08*	0.09*	0.11*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Below Poverty	0.07*	-0.09*	0.03*	-0.05*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Newly Moved	-0.04*	-0.01	-0.03*	-0.01
	(0.00)	(0.01)	(0.00)	(0.00)
log(Population)	-2.29*	0.73*	-1.87*	0.84*
	(0.17)	(0.25)	(0.11)	(0.17)
Crime Rate in 10s	-0.00*	-0.00	0.01*	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)
Agency + Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-111,198	-83,632	-233,234	-145,196
Num. obs.	2,114,706	2,108,547	2,069,343	2,044,457

Note: * indicates $p < 0.05$. Table presents coefficients with standard errors presented in parentheses below. Safety stops are defined as speeding violations, driving while intoxicated, stop sign and light violations, and other moving violations. Investigatory stops are defined as seat belt stops, equipment violations, regulatory violations (e.g., expired tags), investigatory stops, and other types of stops and violations.

E. Alternative Covariates Used

In addition to altering how we estimated the models, we also tested whether our choice of measures influenced our results. We do so in a number of ways.

First, we tested whether our choice to have an intersectional set of dichotomous variables indicating race and gender rather than simply interacting driver race and gender altered the statistical results. To evaluate this, we reran each of the models shown in the paper with an interaction between driver race and gender, which is shown in Table E1. For us to still see statistical support for race-gender hypothesis, we should see the coefficient associated with being a black driver be positive and statistically significant, the coefficient associated with being a female driver be negative and statistically significant, and the interaction of the two should be negative and statistically significant. This is what is found. Additionally, the point estimates and statistical significance of the coefficients associated with chief race are unchanged. As a result, this choice does not alter the evaluation of statistical significance.

Second, we tested whether our choice of using the overall crime rate rather than only the violent crime rate or property crime rate influenced the results. Table E2 shows these regressions for Illinois, while Table E3 shows these regressions for North Carolina. Using either measure instead of the overall crime rate, leave the results unchanged. As a result, we can say that this choice did not alter the evaluation of the statistical or substantive significance of the variables associated with our two hypotheses.

Third, we tested whether using the percentage living below the poverty line rather than the percentage unemployed as a measure of economic status and make-up of the area mattered. We did not include both in the regressions initially due to multicollinearity concerns; the two measures are highly correlated. Table E4 shows these regressions. Using this alternative measure, does not change the substantive or statistical results associated with our hypotheses. However, the sign (positive versus negative) of the economic status variables are inverse of each other in Illinois for consent searches.

Fourth, we tested whether our choice of including the percentage of the population that is black and the percentage of the population that is foreign born as measures of local diversity and threat to local white populations altered the results. To test this, we first re-estimated the regressions with a reverse Herfindahl scale to estimate local diversity (where the three possible groups in index were white, black, and other) and excluded the percentage foreign born. Next we re-estimated the regressions using the percentage of the population that is not white rather than that is black. The results of these regressions are shown in Table E5 for Illinois and E6 for North Carolina. In Illinois, nothing changes. In North Carolina, the statistical significance associated with the police chief coefficients changes for consent searches. As a result, while on balance the results are the same as shown in the paper, it is not universal support.

Table E1. Logistic Regressions Explaining Probability of Search, Race and Gender Measured Separately and Interacted

	<u>Illinois Regressions</u>		<u>North Carolina Regressions</u>	
	Consent	Prob. Cause	Consent	Prob. Cause
(Intercept)	-47.86*	-41.89*	13.64*	-15.39*
	(5.42)	(6.18)	(0.88)	(1.37)
Black Driver	1.07*	1.06*	0.64*	1.05*
	(0.03)	(0.03)	(0.01)	(0.01)
Latino/a Driver	0.70*	0.45*	0.04*	-0.09*
	(0.03)	(0.03)	(0.02)	(0.02)
Other Race Driver	-0.64*	-0.91*	-0.29*	-0.32*
	(0.09)	(0.10)	(0.03)	(0.05)
Female Driver	-0.91*	-0.82*	-0.72*	-0.74*
	(0.05)	(0.04)	(0.01)	(0.02)
Black * Female Driver	-0.41*	-0.43*	-0.74*	-0.55*
	(0.06)	(0.06)	(0.02)	(0.03)
Latina * Female Driver	-0.33*	-0.13	-0.79*	-0.54*
	(0.08)	(0.07)	(0.05)	(0.07)
Other Race * Female Driver	-0.48	-0.11	-0.35*	-0.24*
	(0.31)	(0.25)	(0.09)	(0.12)
Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.29*	-0.23*	-0.03*	0.21*
	(0.07)	(0.05)	(0.01)	(0.02)
Latino Chief	0.07	-0.40*	0.06	0.03
	(0.23)	(0.13)	(0.03)	(0.04)
Written Consent			-1.29*	-0.05*
			(0.03)	(0.02)
Pct. Foreign Born	0.10*	0.07*	-0.04*	-0.03*
	(0.05)	(0.03)	(0.01)	(0.01)
Pct. Black	-0.20*	0.15*	-0.02*	0.01
	(0.04)	(0.03)	(0.00)	(0.01)
Pct. Less than HS	0.39*	-0.04	0.08*	0.10*
	(0.05)	(0.04)	(0.01)	(0.01)
Pct. Below Poverty	0.22*	-0.01	0.05*	-0.08*
	(0.03)	(0.02)	(0.01)	(0.01)
Pct. Newly Moved	0.03	-0.07*	-0.03*	-0.01
	(0.02)	(0.02)	(0.00)	(0.00)
log(Population)	0.05*	0.00	-1.98*	0.95*
	(0.01)	(0.01)	(0.09)	(0.14)
Crime Rate in 10s	2.61*	3.52*	0.00*	0.00*
	(0.50)	(0.57)	(0.00)	(0.00)
Agency and Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-64013.73	-51160.5	-345523	-230011
Num. obs.	1344117	1342063	4184049	4153004

Note: * indicates $p < 0.05$. Coefficients shown in table with standard errors in parentheses below each.

Table E2. Logistic Regressions Explaining Probability of Being Searched Using Alternative Crime Measures, Illinois Only

	Consent Searches		Probable Cause Searches	
	Model 1	Model 2	Model 3	Model 4
(Intercept)	-26.47*	-40.85*	-41.13*	-41.73*
	(5.15)	(5.59)	(5.92)	(6.16)
White Female	-0.91*	-0.91*	-0.82*	-0.82*
	(0.05)	(0.05)	(0.04)	(0.04)
Black Male	1.07*	1.07*	1.06*	1.06*
	(0.03)	(0.03)	(0.03)	(0.03)
Black Female	-0.25*	-0.25*	-0.19*	-0.19*
	(0.04)	(0.04)	(0.04)	(0.04)
Latino Male	0.70*	0.70*	0.45*	0.45*
	(0.03)	(0.03)	(0.03)	(0.03)
Latina Female	-0.53*	-0.53*	-0.50*	-0.50*
	(0.07)	(0.07)	(0.06)	(0.06)
Other Race Male	-0.64*	-0.64*	-0.91*	-0.91*
	(0.09)	(0.09)	(0.10)	(0.10)
Other Race Female	-2.03*	-2.03*	-1.83*	-1.83*
	(0.29)	(0.29)	(0.23)	(0.23)
Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.28*	-0.35*	-0.23*	-0.23*
	(0.07)	(0.06)	(0.05)	(0.05)
Latino Chief	-0.49*	-0.37	-0.38*	-0.36*
	(0.21)	(0.22)	(0.12)	(0.12)
Pct. Foreign Born	0.01	0.08	0.07*	0.07*
	(0.05)	(0.05)	(0.03)	(0.03)
Pct. Black	-0.07	-0.04	0.17*	0.17*
	(0.04)	(0.04)	(0.04)	(0.04)
Pct. Less than HS	0.35*	0.34*	-0.08*	-0.07
	(0.06)	(0.06)	(0.04)	(0.04)
Pct. Below Poverty	-0.18*	-0.16*	-0.06	-0.06
	(0.04)	(0.04)	(0.04)	(0.04)
Pct. Newly Moved	0.07*	0.05*	-0.07*	-0.07*
	(0.02)	(0.02)	(0.02)	(0.02)
Violent Crime Rate	0.00		0.00	
	(0.00)		(0.00)	
Property Crime Rate		0.00*		0.00
		(0.00)		(0.00)
log(Population)	1.27*	2.38*	3.57*	3.59*
	(0.50)	(0.51)	(0.56)	(0.57)
Agency & Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-64035.94	-64023.72	-51159.46	-51159.49
Num. obs.	1344117	1344117	1342063	1342063

Note: * indicates $p < 0.05$. Coefficients shown in table with standard errors in parentheses below each. Alternative crime rates once again come from the FBI's Universal Crime Report.

Table E3. Logistic Regressions Explaining Probability of Being Searched Using Alternative Crime Measures, North Carolina Only

	Consent Searches		Probable Cause Searches	
	Model 1	Model 2	Model 3	Model 4
(Intercept)	13.62*	13.77*	-12.97*	-15.62*
	(0.89)	(0.88)	(1.38)	(1.37)
White Female	-0.72*	-0.72*	-0.74*	-0.74*
	(0.01)	(0.01)	(0.02)	(0.02)
Black Male	0.64*	0.64*	1.05*	1.05*
	(0.01)	(0.01)	(0.01)	(0.01)
Black Female	-0.83*	-0.83*	-0.24*	-0.24*
	(0.02)	(0.02)	(0.02)	(0.02)
Latino Male	0.04*	0.04*	-0.09*	-0.08*
	(0.02)	(0.02)	(0.02)	(0.02)
Latina Female	-1.47*	-1.47*	-1.37*	-1.37*
	(0.05)	(0.05)	(0.06)	(0.06)
Other Race Male	-0.29*	-0.29*	-0.32*	-0.32*
	(0.03)	(0.03)	(0.05)	(0.05)
Other Race Female	-1.37*	-1.37*	-1.30*	-1.30*
	(0.08)	(0.08)	(0.10)	(0.10)
Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.03*	-0.04*	0.16*	0.22*
	(0.01)	(0.01)	(0.02)	(0.02)
Latino Chief	0.08*	0.05	0.04	0.01
	(0.03)	(0.03)	(0.04)	(0.04)
Written Consent	-1.29*	-1.28*	-0.03	-0.05*
	(0.03)	(0.03)	(0.02)	(0.02)
Pct. Foreign Born	-0.05*	-0.04*	-0.02	-0.04*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Black	-0.02*	-0.02*	0.01	0.01
	(0.00)	(0.00)	(0.01)	(0.01)
Pct. Less than HS	0.08*	0.07*	0.08*	0.09*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Below Poverty	0.04*	0.05*	-0.07*	-0.08*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Newly Moved	-0.03*	-0.03*	-0.01	-0.01
	(0.00)	(0.00)	(0.00)	(0.00)
Violent Crime Rate	0.00*		-0.00*	
	(0.00)		(0.00)	
Property Crime Rate		0.00*		0.00*
		(0.00)		(0.00)
log(Population)	-1.97*	-1.99*	0.76*	0.95*
	(0.09)	(0.09)	(0.14)	(0.14)
Agency & Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-345532.05	-345522.72	-229987.33	-229986.13
Num. obs.	4184049	4184049	4153004	4153004

Note: * indicates $p < 0.05$. Coefficients shown in table with standard errors in parentheses below each. Alternative crime rates once again come from the FBI's Universal Crime Report.

Table E4. Logistic Regressions Explaining Probability of Being Searched Using Percentage Unemployed Instead of Percentage Below Poverty Line

	Illinois Regressions		North Carolina Regressions	
	Consent	Prob. Cause	Consent	Prob. Cause
(Intercept)	-36.65*	-41.95*	15.83*	-18.95*
	(5.31)	(6.18)	(0.85)	(1.33)
White Female	-0.91*	-0.82*	-0.72*	-0.74*
	(0.05)	(0.04)	(0.01)	(0.02)
Black Male	1.07*	1.06*	0.64*	1.05*
	(0.03)	(0.03)	(0.01)	(0.01)
Black Female	-0.25*	-0.19*	-0.82*	-0.24*
	(0.04)	(0.04)	(0.02)	(0.02)
Latino Male	0.70*	0.45*	0.04*	-0.09*
	(0.03)	(0.03)	(0.02)	(0.02)
Latina Female	-0.53*	-0.50*	-1.47*	-1.37*
	(0.07)	(0.06)	(0.05)	(0.06)
Other Race Male	-0.64*	-0.91*	-0.29*	-0.32*
	(0.09)	(0.10)	(0.03)	(0.05)
Other Race Female	-2.03*	-1.83*	-1.37*	-1.30*
	(0.29)	(0.23)	(0.08)	(0.10)
Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.36*	-0.23*	-0.05*	0.20*
	(0.07)	(0.05)	(0.01)	(0.02)
Latino Chief	-0.38	-0.36*	0.06*	-0.01
	(0.22)	(0.12)	(0.03)	(0.04)
Written Consent			-1.28*	-0.04*
			(0.03)	(0.02)
Pct. Foreign Born	0.07	0.07*	-0.05*	-0.03*
	(0.05)	(0.03)	(0.01)	(0.01)
Pct. Black	-0.05	0.17*	0.00	-0.02*
	(0.04)	(0.04)	(0.00)	(0.01)
Pct. Less than HS	0.34*	-0.08	0.08*	0.09*
	(0.06)	(0.04)	(0.01)	(0.01)
Pct. Unemployed	-0.16*	-0.06	0.01*	0.00
	(0.04)	(0.04)	(0.00)	(0.00)
Pct. Newly Moved	0.06*	-0.07*	-0.03*	-0.02*
	(0.02)	(0.02)	(0.00)	(0.00)
Crime Rate in 10s	0.03*	0.00	0.00*	0.00*
	(0.01)	(0.01)	(0.00)	(0.00)
log(Population)	2.01*	3.61*	-2.22*	1.32*
	(0.49)	(0.57)	(0.09)	(0.14)
Agency & Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-64025.93	-51159.42	-345545.12	-230065.41
Num. obs.	1344117	1342063	4184049	4153004

Note: * indicates $p < 0.05$. Coefficients shown in table with standard errors in parentheses below each.

Table E5. Logistic Regressions Explaining Probability of Being Searched Using Alternative Measures of Local Diversity, Illinois Only

	Diversity (Reverse Herfindahl)		Percent Not White	
	Consent	Prob. Cause	Consent	Prob. Cause
(Intercept)	-43.05*	-45.54*	-53.38*	-35.31*
	(5.52)	(7.08)	(5.49)	(5.73)
White Female	-0.91*	-0.82*	-0.91*	-0.82*
	(0.05)	(0.04)	(0.05)	(0.04)
Black Male	1.07*	1.06*	1.07*	1.06*
	(0.03)	(0.03)	(0.03)	(0.03)
Black Female	-0.25*	-0.19*	-0.25*	-0.19*
	(0.04)	(0.04)	(0.04)	(0.04)
Latino Male	0.70*	0.45*	0.70*	0.45*
	(0.03)	(0.03)	(0.03)	(0.03)
Latina Female	-0.53*	-0.50*	-0.53*	-0.50*
	(0.07)	(0.06)	(0.07)	(0.06)
Other Race Male	-0.64*	-0.91*	-0.64*	-0.91*
	(0.09)	(0.10)	(0.09)	(0.10)
Other Race Female	-2.03*	-1.84*	-2.03*	-1.83*
	(0.29)	(0.23)	(0.29)	(0.23)
Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.29*	-0.23*	-0.38*	-0.17*
	(0.07)	(0.05)	(0.06)	(0.05)
Latino Chief	0.05	-0.38*	-0.01	-0.32*
	(0.23)	(0.13)	(0.23)	(0.13)
Pct. Foreign Born			0.18*	-0.01
			(0.05)	(0.04)
Diversity (Reverse Herfindahl)	-9.14*	6.40*		
	(1.75)	(1.75)		
Pct. Not White			-16.06*	12.29*
			(2.64)	(2.09)
Pct. Less than HS	0.45*	0.00	0.38*	-0.05
	(0.04)	(0.03)	(0.05)	(0.04)
Pct. Below Poverty	0.13*	0.02	0.19*	0.01
	(0.03)	(0.02)	(0.03)	(0.02)
Pct. Newly Moved	0.05*	-0.05*	0.04	-0.07*
	(0.02)	(0.02)	(0.02)	(0.02)
Crime Rate in 10s	0.04*	0.01	0.04*	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
log(Population)	2.79*	3.67*	3.58*	2.65*
	(0.50)	(0.62)	(0.51)	(0.51)
Agency & Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-64017.04	-51165.81	-64010.3	-51152.99
Num. obs.	1344117	1342063	1344117	1342063

Note: * indicates $p < 0.05$. Coefficients shown in table with standard errors in parentheses below each.

Table E5. Logistic Regressions Explaining Probability of Being Searched Using Alternative Measures of Local Diversity, North Carolina Only

	Diversity (Reverse Herfindahl)		Percent Not White	
	Consent	Prob. Cause	Consent	Prob. Cause
(Intercept)	15.43*	-15.40*	15.03*	-12.52*
	(0.90)	(1.40)	(0.89)	(1.39)
White Female	-0.72*	-0.74*	-0.72*	-0.74*
	(0.01)	(0.02)	(0.01)	(0.02)
Black Male	0.64*	1.05*	0.64*	1.05*
	(0.01)	(0.01)	(0.01)	(0.01)
Black Female	-0.83*	-0.24*	-0.82*	-0.24*
	(0.02)	(0.02)	(0.02)	(0.02)
Latino Male	0.04*	-0.09*	0.04*	-0.08*
	(0.02)	(0.02)	(0.02)	(0.02)
Latina Female	-1.47*	-1.37*	-1.47*	-1.37*
	(0.05)	(0.06)	(0.05)	(0.06)
Other Race Male	-0.29*	-0.32*	-0.29*	-0.32*
	(0.03)	(0.05)	(0.03)	(0.05)
Other Race Female	-1.37*	-1.30*	-1.37*	-1.30*
	(0.08)	(0.10)	(0.08)	(0.10)
Stop Controls	Yes	Yes	Yes	Yes
Black Chief	-0.01	0.21*	-0.03*	0.20*
	(0.01)	(0.02)	(0.01)	(0.02)
Latino Chief	0.07*	0.03	0.06*	0.03
	(0.03)	(0.04)	(0.03)	(0.04)
Written Consent	-1.30*	-0.05*	-1.26*	-0.04
	(0.03)	(0.02)	(0.03)	(0.02)
Pct. Foreign Born	-0.01	-0.03*	-0.02*	0.02*
	(0.01)	(0.01)	(0.01)	(0.01)
Diversity (Reverse Herfindahl)	-4.13*	-0.25		
	(0.52)	(0.74)		
Pct. Not White			-0.04*	-0.06*
			(0.00)	(0.01)
Pct. Less than HS	0.09*	0.10*	0.09*	0.10*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Below Poverty	0.03*	-0.08*	0.04*	-0.06*
	(0.01)	(0.01)	(0.01)	(0.01)
Pct. Newly Moved	-0.03*	-0.01	-0.03*	-0.01*
	(0.00)	(0.00)	(0.00)	(0.00)
Crime Rate in 10s	0.00*	0.00*	0.00*	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)
log(Population)	-2.03*	0.98*	-2.09*	0.80*
	(0.09)	(0.14)	(0.09)	(0.14)
Agency & Year FE	Yes	Yes	Yes	Yes
Log Likelihood	-345500.48	-230016.26	-345495.25	-229960.75
Num. obs.	4184049	4153004	4184049	4153004

Note: * indicates $p < 0.05$. Coefficients shown in table with standard errors in parentheses below each.

