

# **Analysis of Hispanic – White Differences in Traffic Stops and Searches in Concord, NC, 2002-2013**

Frank R. Baumgartner, Derek Epp, and Kelsey Shoub<sup>1</sup>  
University of North Carolina at Chapel Hill  
Department of Political Science  
<http://www.unc.edu/~fbaum/traffic.htm>

Contact: [Frankb@unc.edu](mailto:Frankb@unc.edu)

June 19, 2015

---

<sup>1</sup> Baumgartner is the Richard J. Richardson Distinguished Professor of Political Science at UNC-Chapel Hill. Epp and Shoub are graduate students in political science. We thank UNC undergraduates Katherine B. Elliott, Amirah Jiwa, Morgan Herman, Reena Gupta, and Justin Cole for assistance on the logistics of this project. We also acknowledge the assistance of the NC Department of Justice and State Bureau of Investigation for making available the official statistics on which this analysis relies, and for answering technical questions about the organization of this complex database.

Table 1. Overview of the Data

Data Subsets	Observations
Total stops	145,960
-2014	3,965
-Passengers	2,929
-Checkpoint stops	1,065
Stops for analysis	138,097
Searches	4,858

Search Rate = 3.52

Figure 1. Number of Traffic Stops per Year

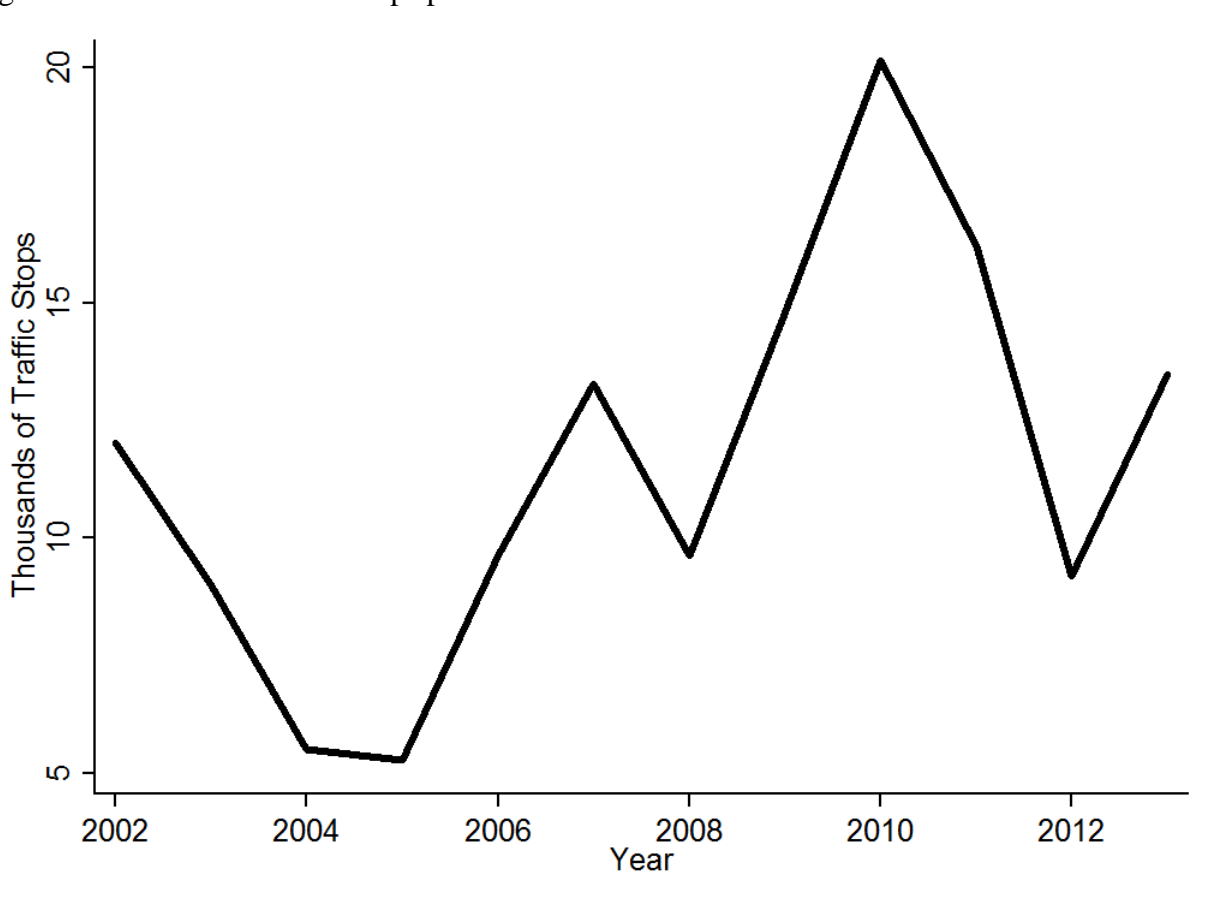


Figure 2. Ethnic Composition of Traffic Stops by Year

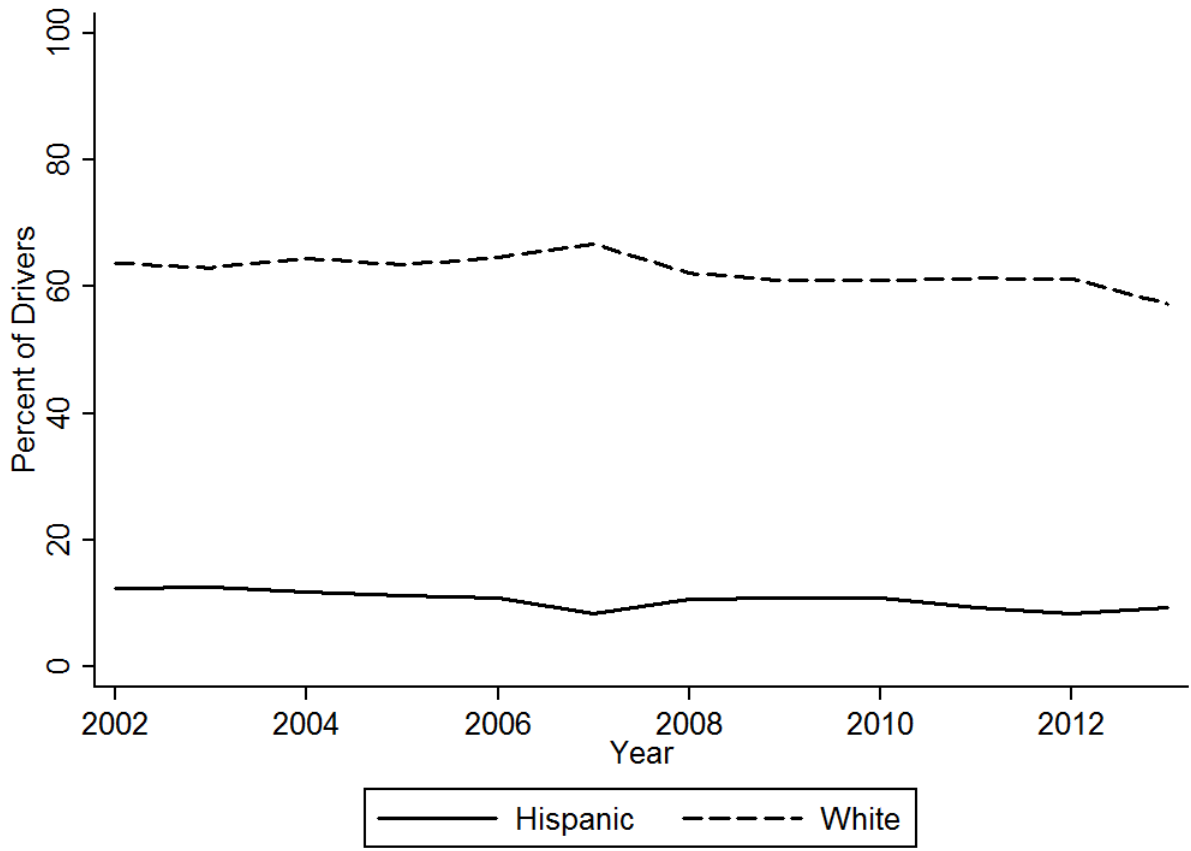


Table 2. Ethnic Composition of Traffic Stops by Purpose, Drivers

Purpose	Number	Percent	
		White	Hispanic
Total Stops	138,097	69.37	10.36
Speed Limit	43,549	74.96	6.66
Stop Light/Sign	12,335	70.58	10.99
Driving Impaired	2,809	75.77	17.44
Safe Movement	15,540	69.32	9.82
Vehicle Equipment	22,400	63.23	13.00
Vehicle Regulatory	21,374	65.58	7.94
Seat Belt	6,167	72.38	7.31
Investigation	7,720	61.12	23.85
Other Vehicle	6,203	63.62	18.38

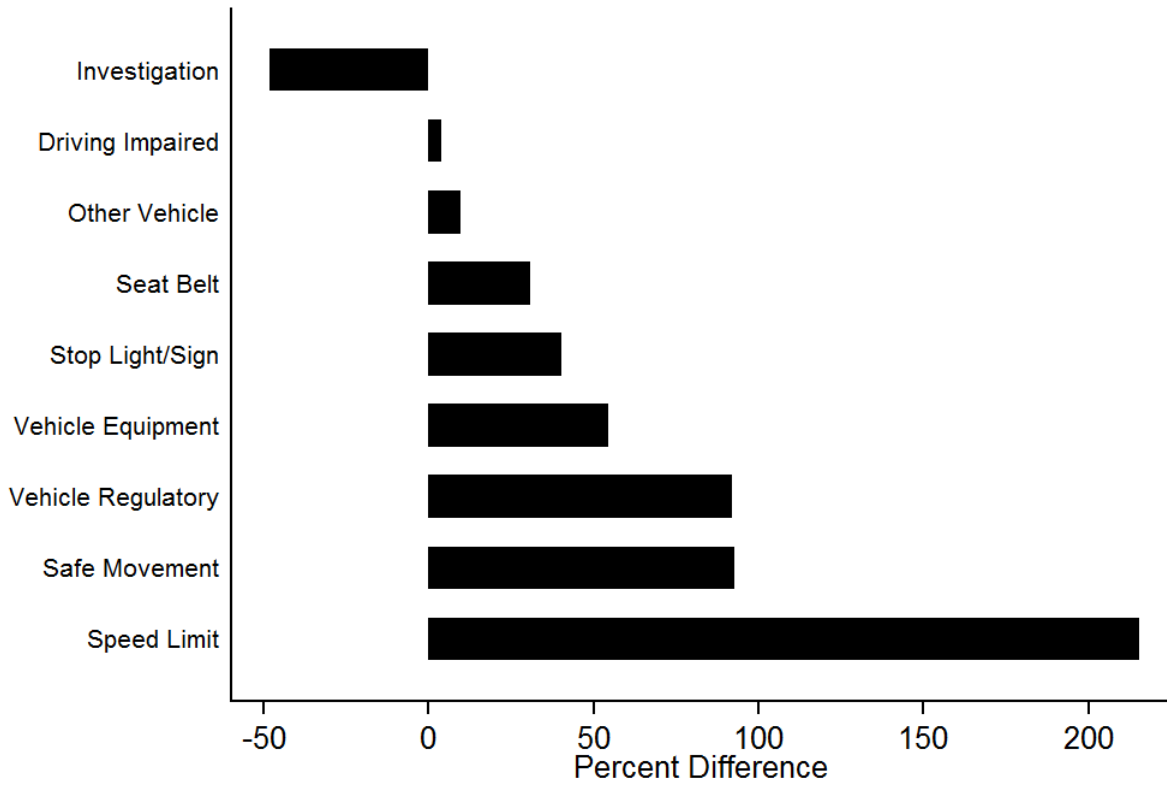
Note: Includes only drivers. Excludes 1,065 checkpoint stops. Excludes 2,929 passengers.

Table 3. Percent Searched by Ethnicity and Purpose of Stop

Purpose	Number	% Total	% White	% Hispanic	Ratio
					Hispanic:White
Total Stops	138,097	-	69.37	10.36	-
Total Searches	4,858	3.52	3.02	5.33	1.76
Speed Limit	43,549	1.39	1.02	3.21	3.15
Stop Light/Sign	12,336	1.81	1.52	2.14	1.41
Driving Impaired	2,809	32.15	34.60	35.92	1.04
Safe Movement	15,540	3.29	2.92	5.64	1.93
Vehicle Equipment	22,400	3.64	3.26	5.05	1.55
Vehicle Regulatory	21,374	2.69	2.30	4.42	1.92
Seat Belt	6,167	2.46	1.86	2.44	1.31
Investigation	7,720	10.51	10.91	5.65	0.52
Other Vehicle	6,203	4.24	3.35	3.68	1.10

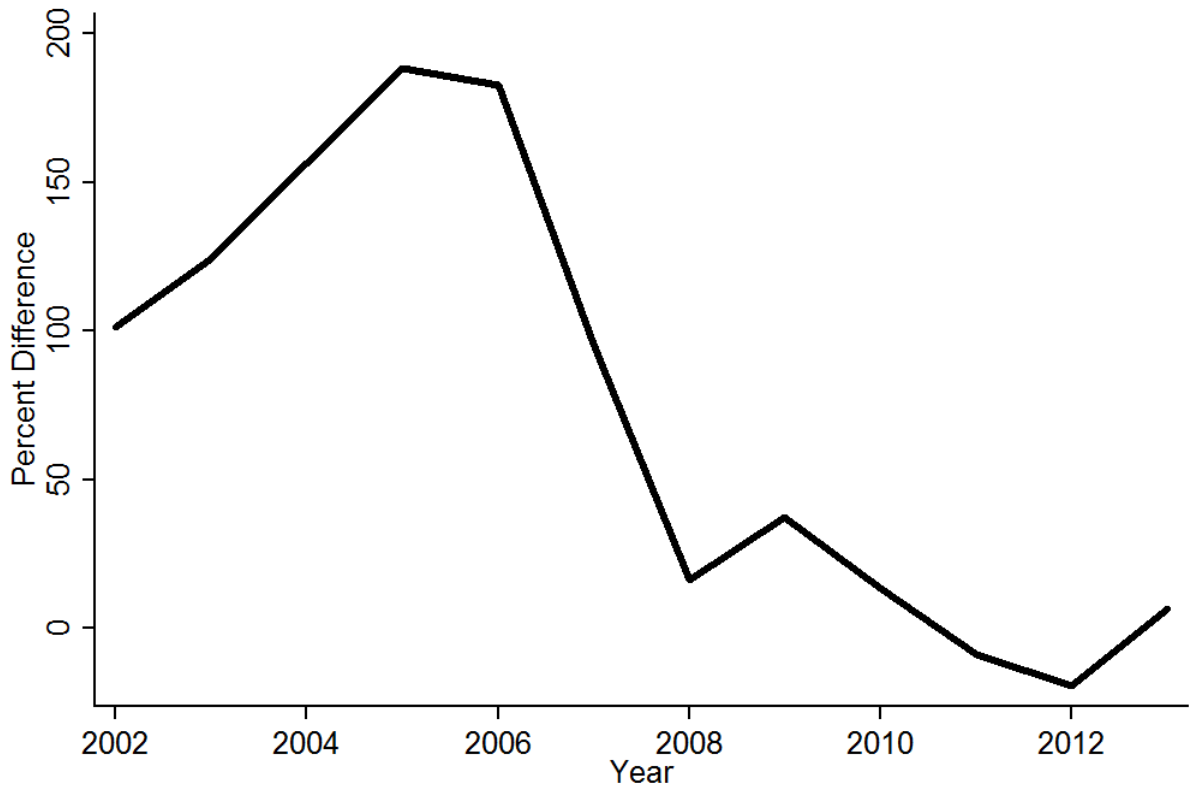
Note: See the appendix for this same table broken down for Men and Women.

Figure 3. Difference in Likelihood of Being Searched, by Ethnicity and Type of Stop



The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites by purpose of stop.

Figure 4. Ethnic Differences in the Likelihood of Search



The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites.

Figure 5. Ethnic Differences in the Likelihood of Search by Gender



The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites by gender.

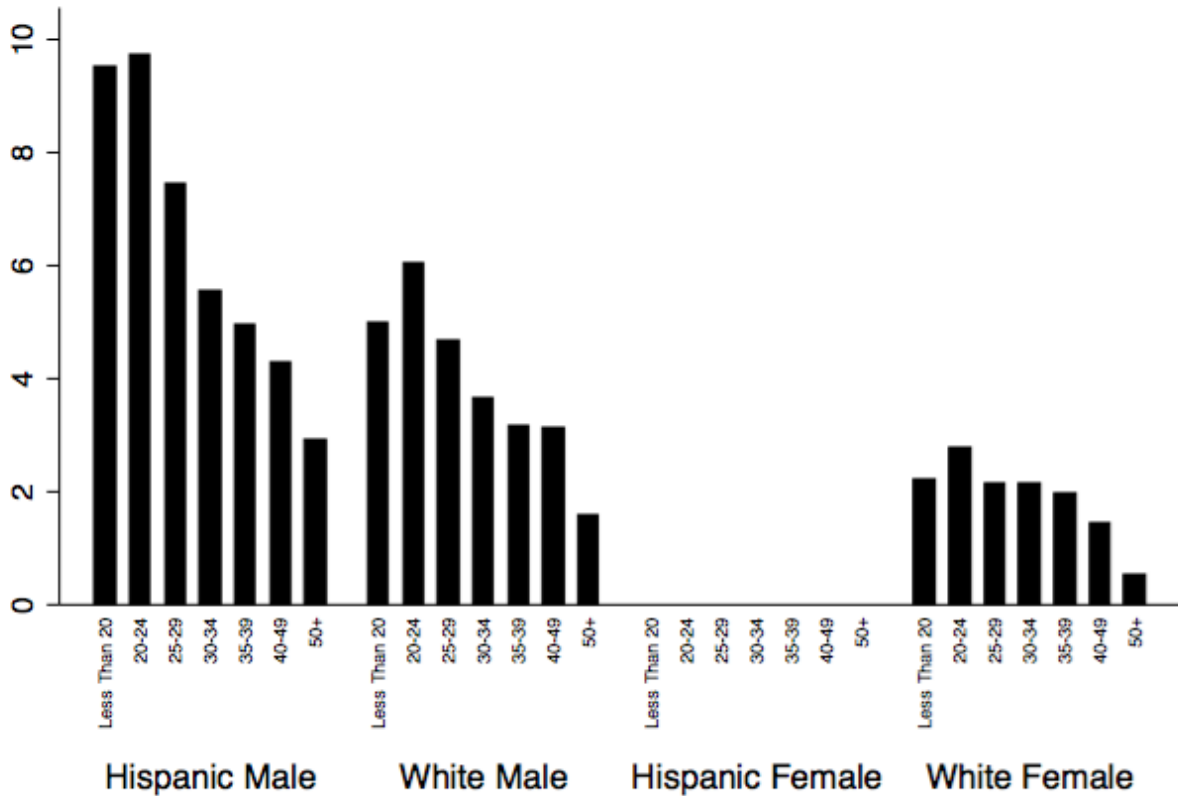
Figure 6. Ethnic Differences in the Likelihood of Search by Gender, for Drivers Under 30



The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites by gender for motorists under 30.



Figure 7. Search Rates by Ethnicity, Gender, and Age Group



Based on 138,097 traffic stops from 2002 through 2013, and 4,858 searches. Overall rate of search: 3.52 percent. No data are presented for categories with fewer than 10 searches.

Figure 8. Number of Stops, by Ethnicity and Gender

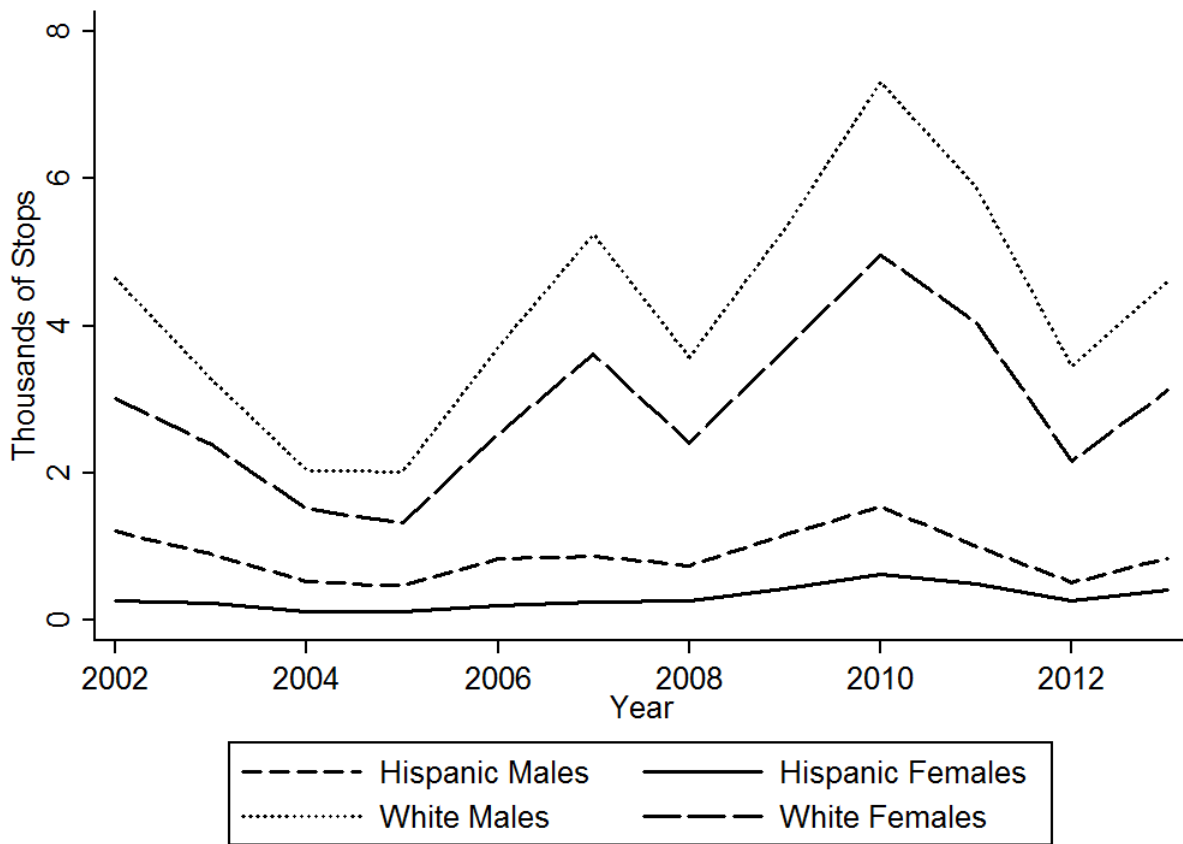


Figure 9. Percent of Stops Resulting in a Search, by Ethnicity and Gender

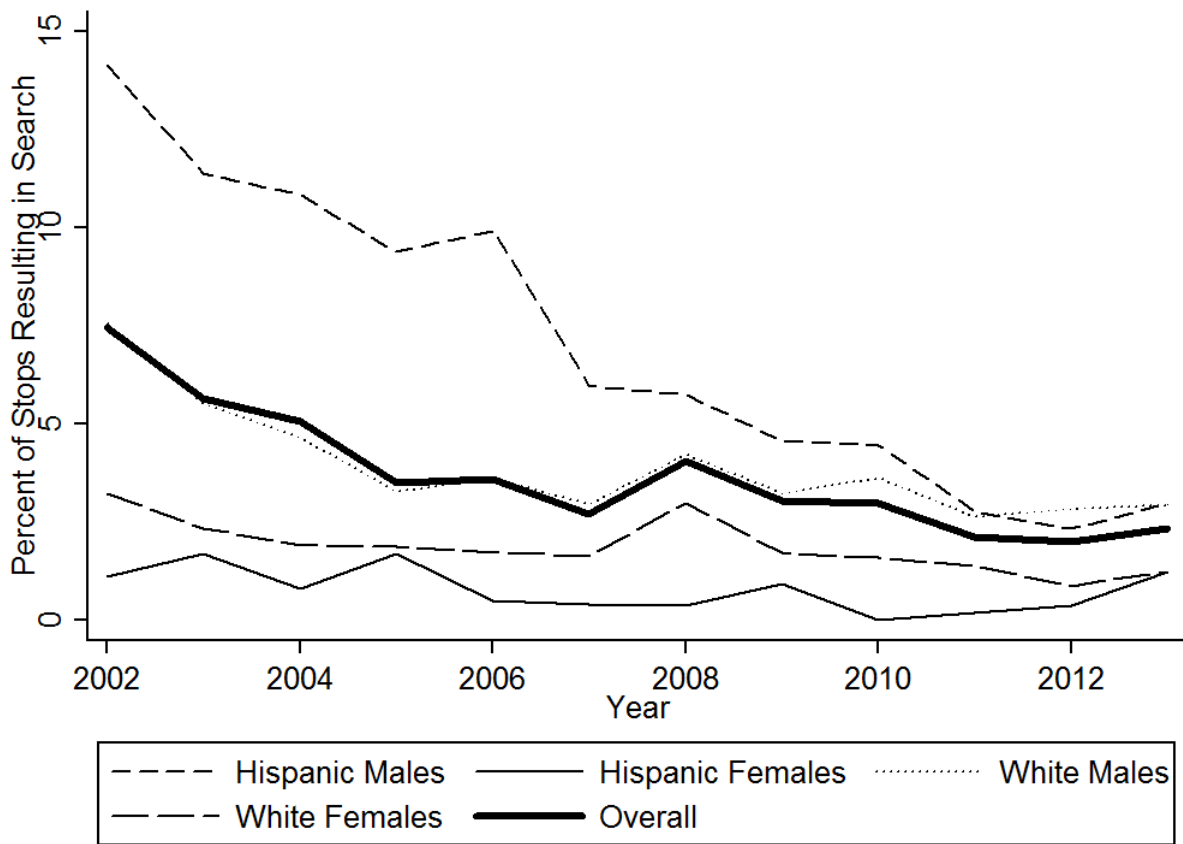


Table 4. Type of Search by Ethnicity

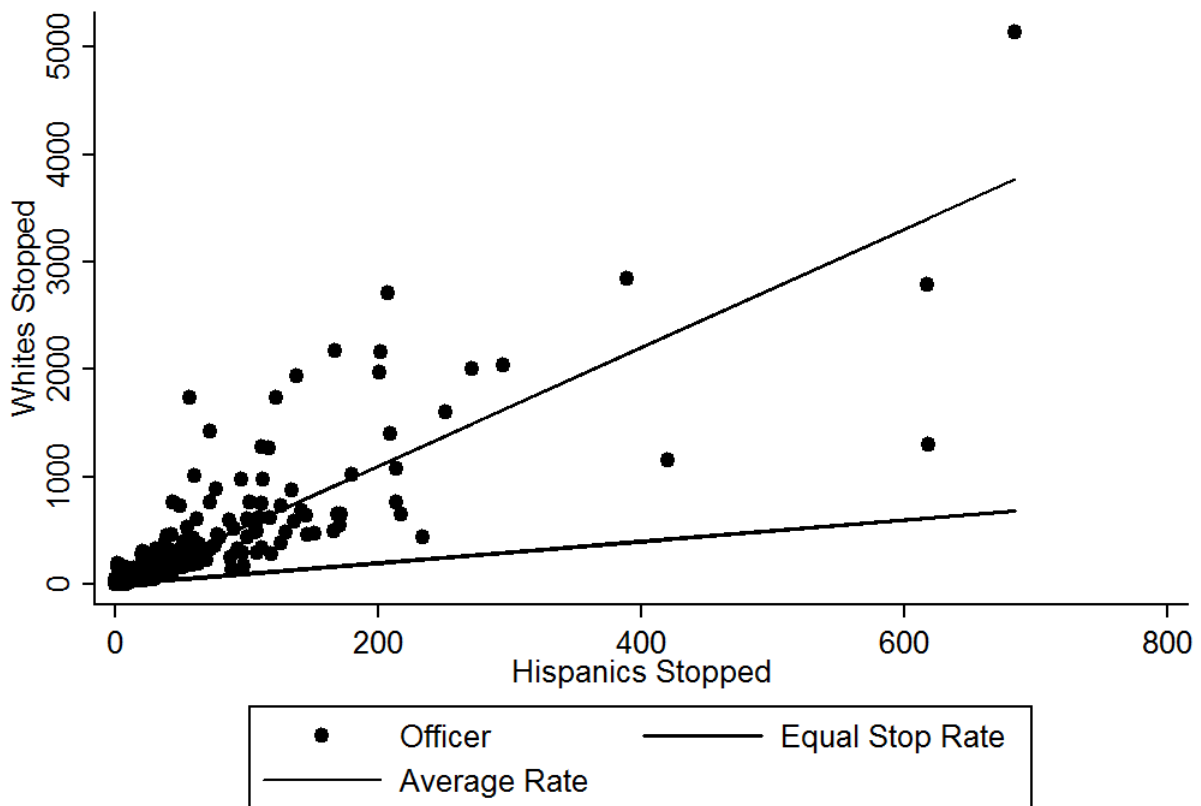
Search Type	Number	% Total	% White	% Hisp	Ratio
					Hisp:White
Total Stops	138,097	-	69.37	10.36	-
Total Searches	4,858	3.52	3.02	5.33	1.76
Consent	2,299	1.66	1.51	2.08	1.38
Search Warrant	6	0.00	0.00	0.01	-
Probable Cause	520	0.38	0.27	0.30	1.11
Incident to Arrest	1,857	1.34	1.16	2.61	2.25
Protective Frisk	176	0.13	0.08	0.33	4.13

Note: See the appendix for this same table separately for Men and Women.

Table 5. Distribution of Officer IDs by Stop

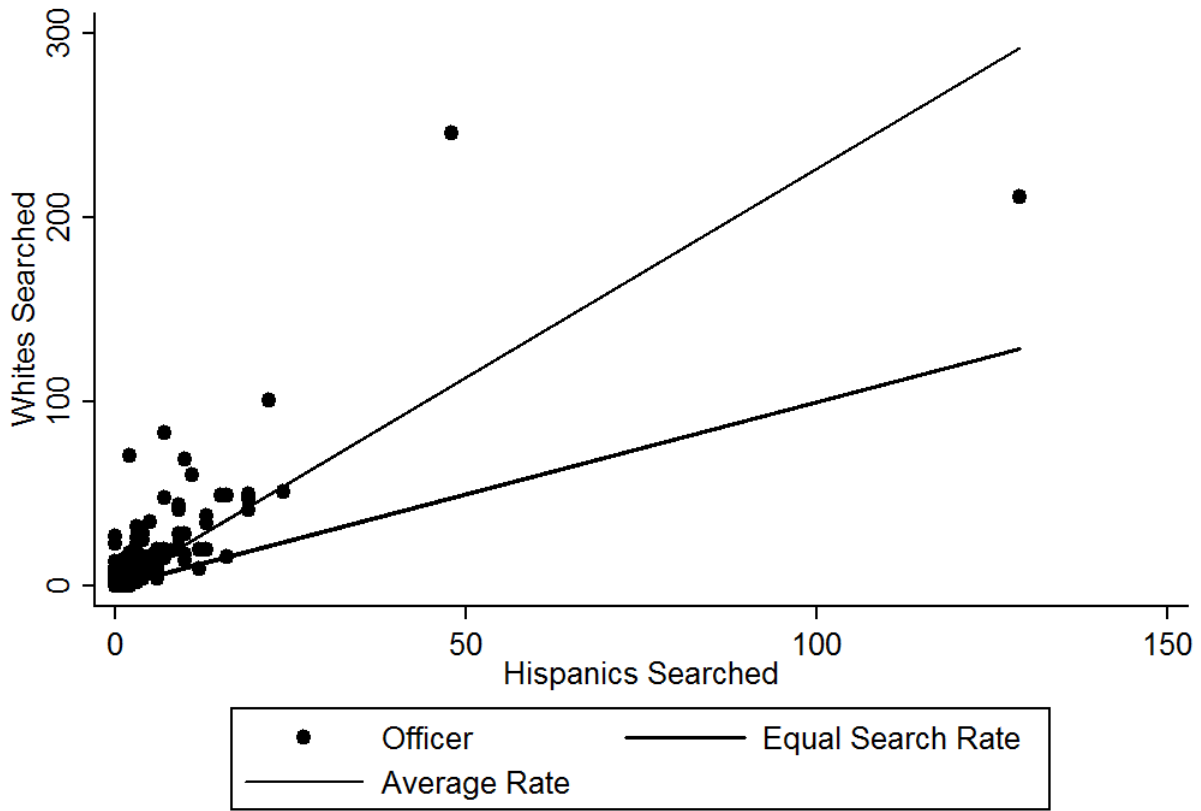
Number of Stops	Officers w/ this many Stops	Percent of Officers	Cumulative Percent	Percent of Stops	Cumulative Percent
1	232	42.65	42.65	0.17	0.17
2 – 10	92	16.91	59.56	0.24	0.41
11 - 100	68	12.50	72.06	2.33	2.74
101 – 1,000	112	20.59	92.65	35.17	37.91
1,001 +	40	7.35	100.00	62.09	100.00
Total	544	100	-	100	-

Figure 10. Number of Hispanic and White Motorists Stopped, by Officer



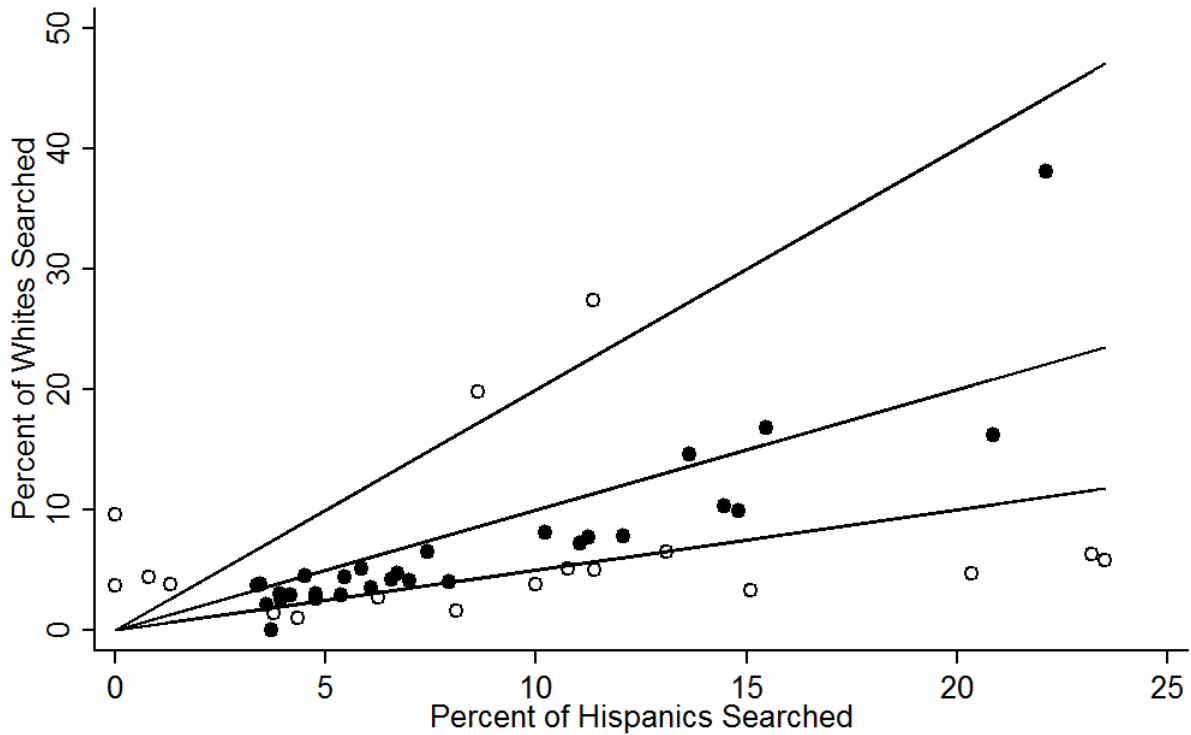
On average, officers stop 5.52 Whites for each Hispanic stopped.

Figure 11. Number of Hispanic and White Motorists Searched, by Officer



On average, officers search 2.26 Whites for each Hispanic searched.

Figure 12. Percent of White and Black Drivers Searched, by Officer



Includes 46 officers with a minimum of 50 White stops, 50 Hispanic stops, and a search rate above the department average of 3.52 for either ethnicity. The hollow circles indicate high disparity officers. 6 officers search Whites at more than twice the rate that they search Hispanics. 14 officers search Hispanics at more than twice the rate that they search Whites.

## Appendix

Table A1. Ethnic Composition of Traffic Stops by Purpose, Passengers

Purpose	Number	Percent	
		White	Hispanic
Total Stops	2,912	55.71	14.32
Speed Limit	314	56.72	14.65
Stop Light/Sign	136	49.52	22.79
Driving Impaired	170	71.09	24.71
Safe Movement	374	59.38	14.44
Vehicle Equipment	613	57.59	16.15
Vehicle Regulatory	392	52.63	12.76
Seat Belt	101	55.32	6.93
Investigation	607	52.09	9.23
Other Vehicle	205	52.02	15.61

Table A2. Percent of Men Searched by Ethnicity and Purpose of Stop

Purpose	Number	% Total	%		Ratio
			White	Hispanic	Hispanic:White
Total Stops	83,803	-	69.81	12.68	0.18
Total Searches	3,973	4.74	3.83	6.95	1.81
Speed Limit	24,068	2.15	1.51	4.48	2.97
Stop Light/Sign	7,351	2.35	1.88	2.53	1.35
Driving Impaired	2,052	36.55	38.79	39.81	1.03
Safe Movement	9,950	4.24	3.52	7.11	2.02
Vehicle Equipment	14,077	4.76	3.92	6.33	1.61
Vehicle Regulatory	12,448	3.70	3.00	5.98	1.99
Seat Belt	4,527	2.89	1.98	3.28	1.66
Investigation	5,245	11.97	11.41	7.38	0.65
Other Vehicle	4,085	5.41	3.99	4.86	1.22

Table A3. Percent of Women Searched by Ethnicity and Purpose of Stop

Purpose	Number	% Total	% White	%		Ratio
				White	Hispanic	Hispanic:White
Total Stops	54,294	-	68.73	6.79	0.10	
Total Searches	885	1.63	1.83	0.65	0.36	
Speed Limit	19,481	0.45	0.43	0.34	0.79	
Stop Light/Sign	4,984	1.00	1.02	1.08	1.06	
Driving Impaired	757	20.21	25.05	6.90	0.28	
Safe Movement	5,590	1.59	1.86	1.29	0.69	
Vehicle Equipment	8,323	1.74	2.21	0.75	0.34	
Vehicle Regulatory	8,926	1.28	1.35	0.42	0.31	
Seat Belt	1,640	1.28	1.54	0.00	-	
Investigation	2,475	7.39	9.99	0.22	0.02	

Other Vehicle	2,118	1.98	2.23	0.00	-
---------------	-------	------	------	------	---

Table A4. Type of Search by Ethnicity: Men

Search Type	Number	% Total	% White	% Hispanic	Ratio Hispanic:White
Total Stops	83,803	-	69.81	12.68	0.18
Total Searches	3,973	4.74	3.83	6.95	1.81
Consent	1,847	2.20	1.88	2.70	1.44
Search Warrant	5	0.01	0.01	0.00	-
Probable Cause	421	0.50	0.35	0.38	1.09
Incident to Arrest	1,532	1.83	1.48	3.43	2.32
Protective Frisk	168	0.20	0.12	0.44	3.67

Table A5. Type of Search by Ethnicity: Women

Search Type	Number	% Total	% White	% Hispanic	Ratio Hispanic:White
Total Stops	54,294	-	68.73	6.79	0.10
Total Searches	885	1.63	1.83	0.65	0.36
Consent	452	0.83	0.97	0.30	0.31
Search Warrant	1	0.00	0.00	0.03	-
Probable Cause	99	0.18	0.15	0.08	0.53
Incident to Arrest	325	0.60	0.69	0.24	0.38
Protective Frisk	8	0.01	0.02	0.00	-



Figure A1. Stops by Day of the Week

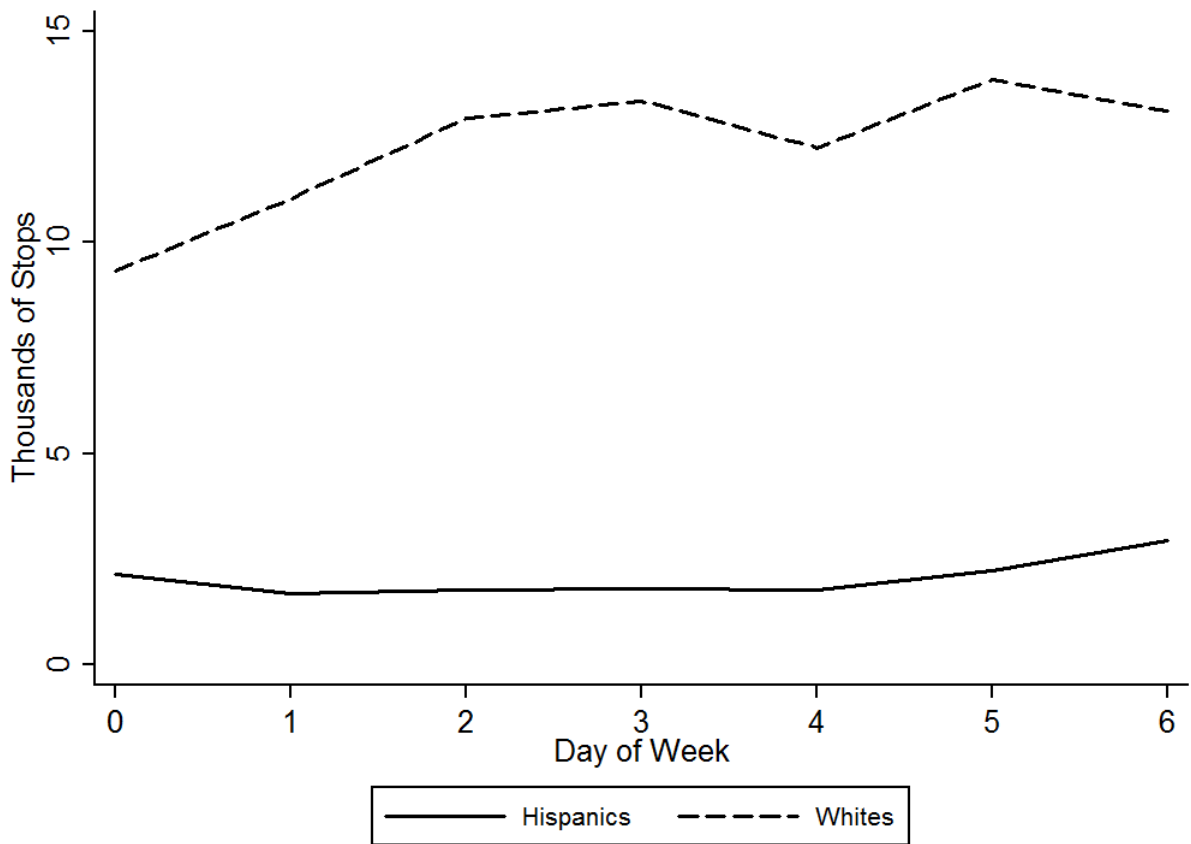


Figure A2. Searches by Day of the Week

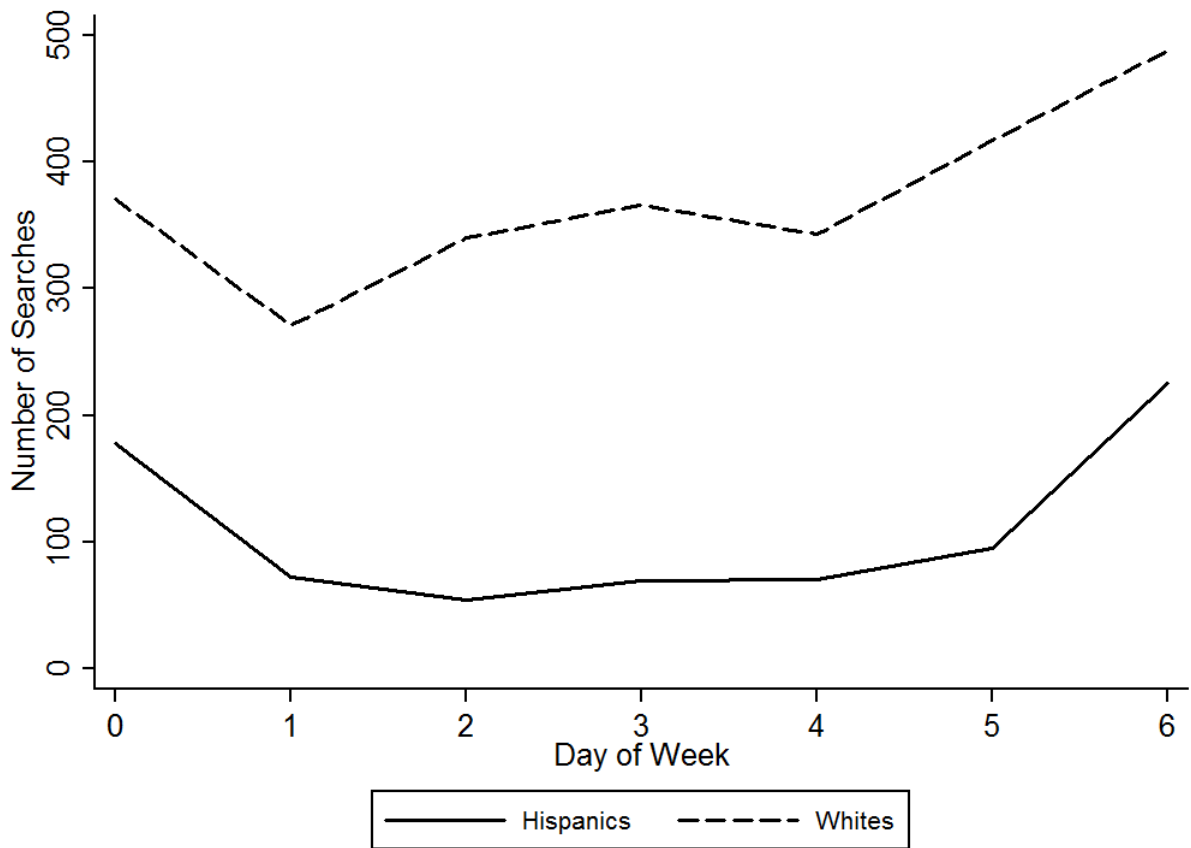
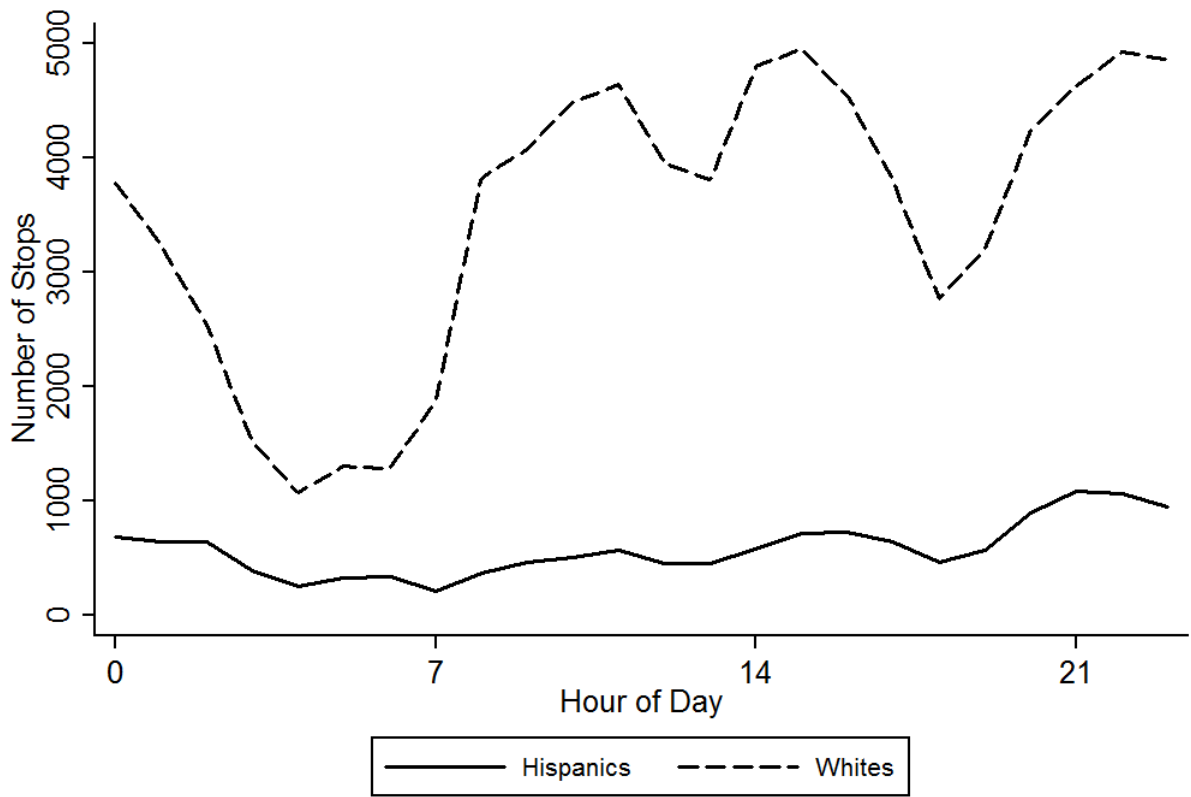
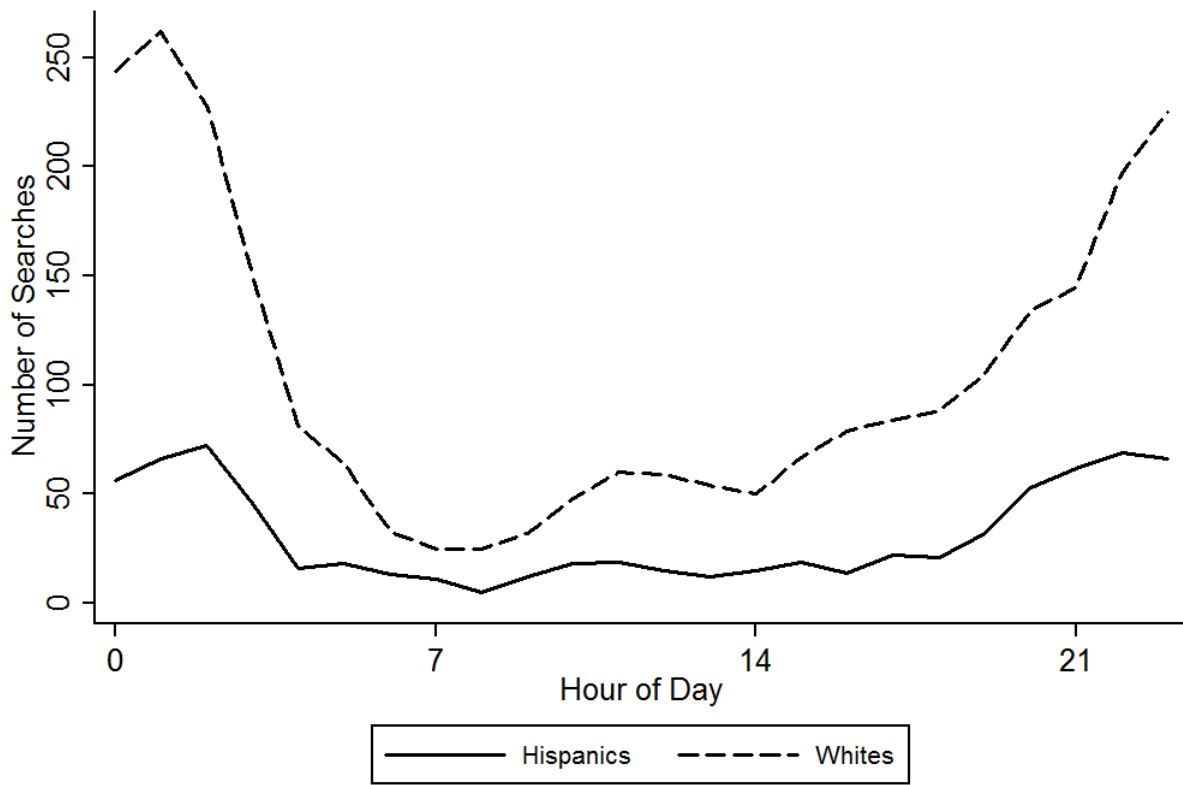


Figure A3. Stops by Hour of the Day



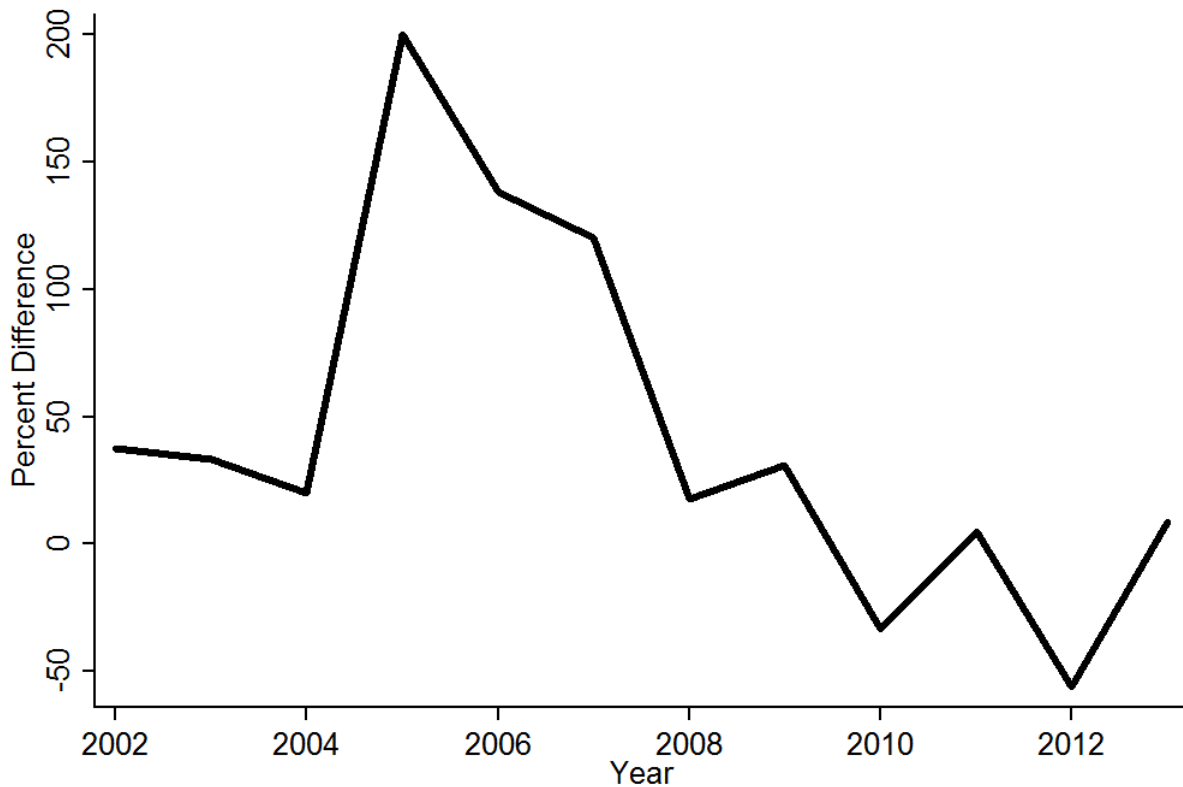
The figure excludes cases where the hour and minute was exactly 0:00. These cases were presumed to be missing data.

Figure A4. Searches by Hour of the Day



The figure excludes cases where the hour and minute was exactly 0:00. These cases were presumed to be missing data.

Figure A5. Ethnic Differences in the Likelihood of Search: Consent Searches Only



The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites; consent searches only.

Table A6. Likelihood of Finding Contraband Given a Search, by Race

Contraband	Number	% Total	% White	% Hispanic
Yes	1,148	23.63	24.88	13.11
No	3,710	76.37	75.12	86.89
Total	4,858	100.00	100.00	100.00

Table A7. Differential Outcomes by Whether or not a Search Occurs

Race	Search Occur	N	No Action	Verbal Warning	Written Warning	Citation Issued	Arrest	Total
White	No	83,274	2.49	43.45	2.07	51.04	0.94	100.0
Hispanic	No	13,550	3.79	35.39	0.84	58.51	1.47	100.0
Total	No	133,239	2.80	43.95	1.82	50.43	1.01	100.0
White	Yes	2,596	1.58	16.06	0.54	31.16	50.65	100.0
Hispanic	Yes	763	0.92	9.31	0.13	32.37	57.27	100.0
Total	Yes	4,858	1.30	14.99	0.45	33.12	50.14	100.0