

Analysis of Hispanic – White Differences in Traffic Stops and Searches in Wake County, NC, 2002-2013

Frank R. Baumgartner, Derek Epp, and Kelsey Shoub¹
University of North Carolina at Chapel Hill
Department of Political Science
<http://www.unc.edu/~fbaum/traffic.htm>

Contact: Frankb@unc.edu

September 28, 2015

¹ 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	116,703
-2014	4,404
-Passengers	4,505
-Checkpoint stops	256
Stops for analysis	107,812
Searches	8,584

Search Rate = 7.96

Figure 1. Number of Traffic Stops per Year

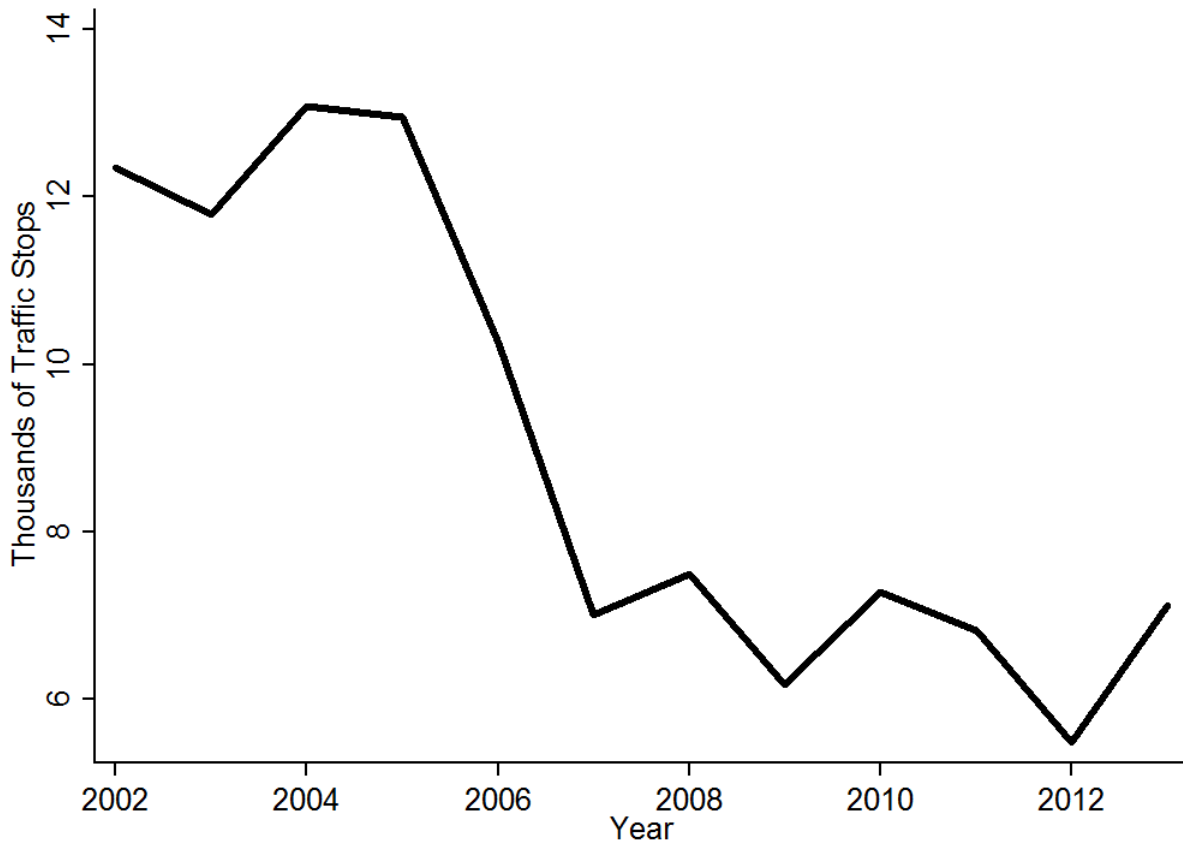


Figure 2. Ethnic Composition of Traffic Stops by Year

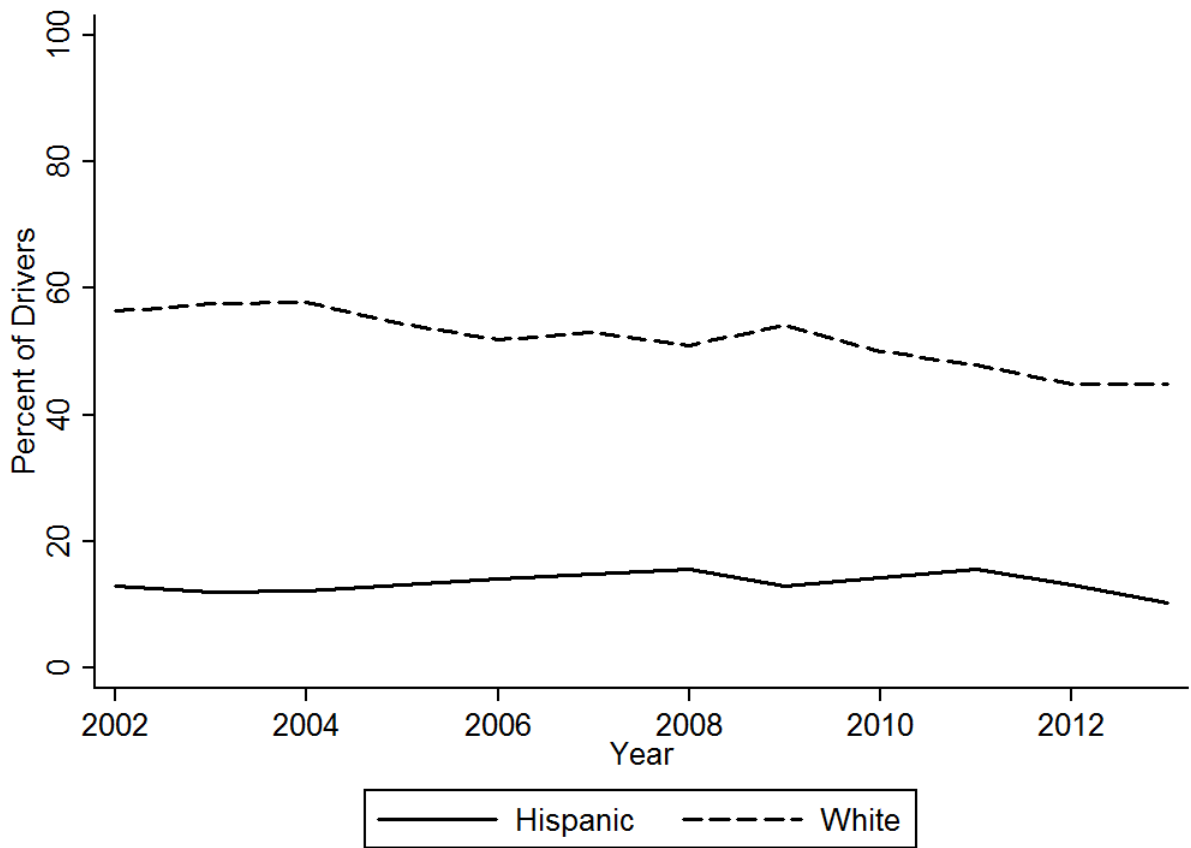


Table 2. Ethnic Composition of Traffic Stops by Purpose, Drivers

Purpose	Number	Percent	
		White	Hispanic
Total Stops	107,812	61.10	13.29
Speed Limit	38,983	67.58	9.08
Stop Light/Sign	7,498	69.10	10.78
Driving Impaired	2,217	66.79	24.09
Safe Movement	9,852	59.10	14.70
Vehicle Equipment	10,455	49.55	15.26
Vehicle Regulatory	21,260	56.35	11.70
Seat Belt	3,111	61.70	10.29
Investigation	8,189	52.88	27.16
Other Vehicle	6,247	53.39	22.01

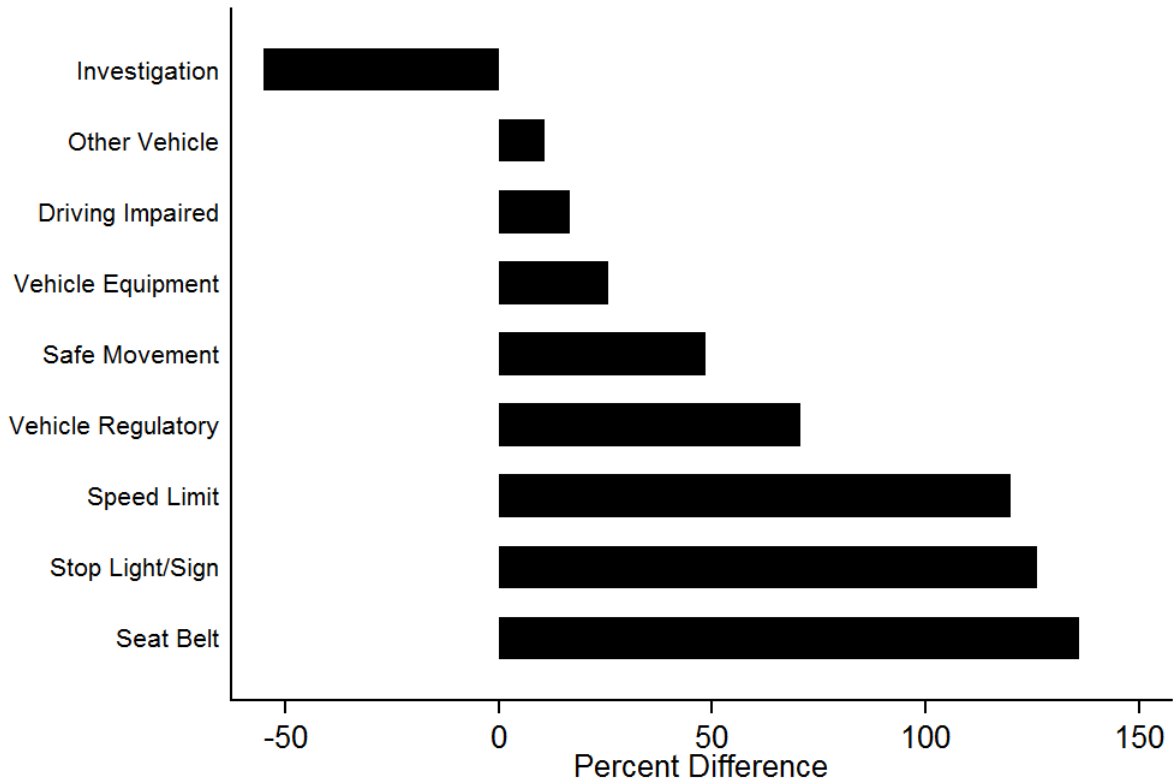
Note: Includes only drivers. Excludes 252 checkpoint stops. Excludes 4,505 passengers.

Table 3. Percent Searched by Ethnicity and Purpose of Stop

Purpose	Number	% Total	% White	% Hispanic	Ratio
					Hispanic:White
Total Stops	107,812	-	61.10	13.29	-
Total Searches	8,584	7.96	6.33	10.49	1.66
Speed Limit	38,983	3.60	2.72	5.99	2.20
Stop Light/Sign	7,498	3.60	2.57	5.82	1.17
Driving Impaired	2,217	46.10	46.98	54.87	1.17
Safe Movement	9,852	10.05	8.38	12.43	1.48
Vehicle Equipment	10,455	11.03	9.48	11.91	1.26
Vehicle Regulatory	21,260	7.68	5.82	9.93	1.71
Seat Belt	3,111	7.97	4.24	10.00	2.36
Investigation	8,189	16.22	19.31	8.68	0.45
Other Vehicle	6,247	8.63	7.23	8.00	1.11

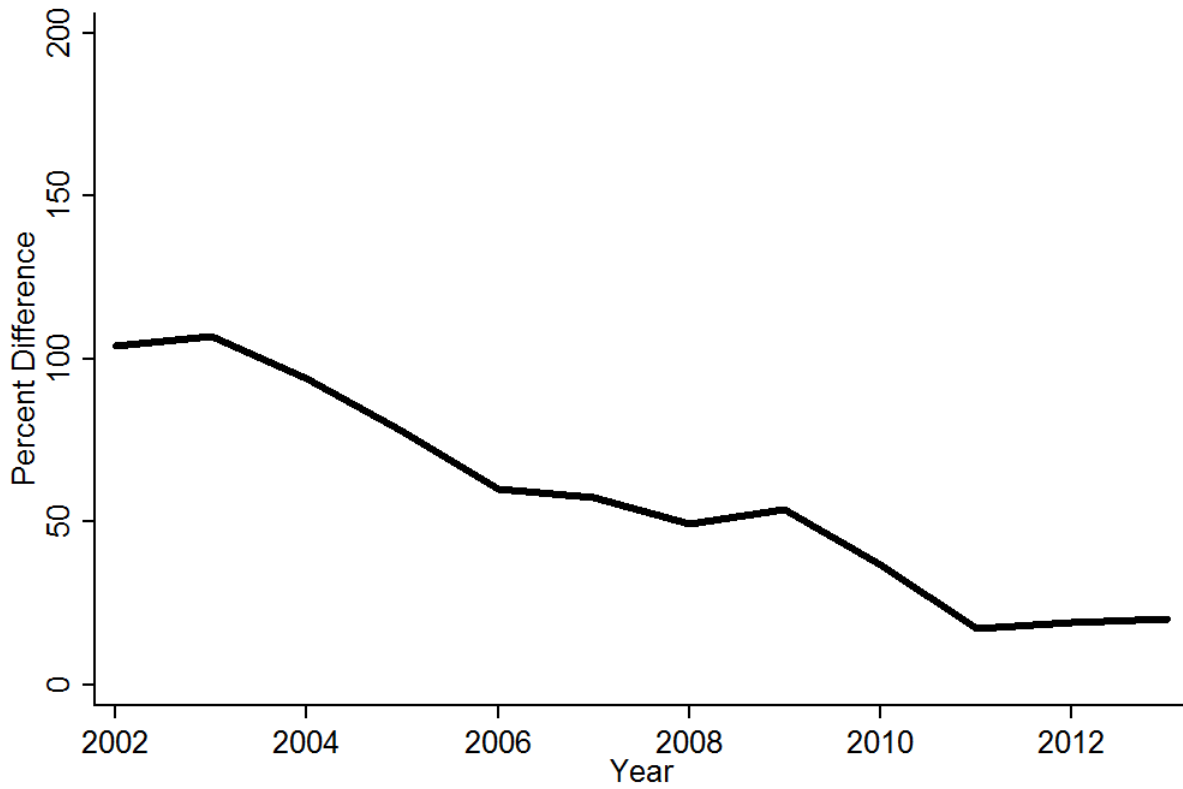
Note: See the appendix for this same table broken down for Men and Women.

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



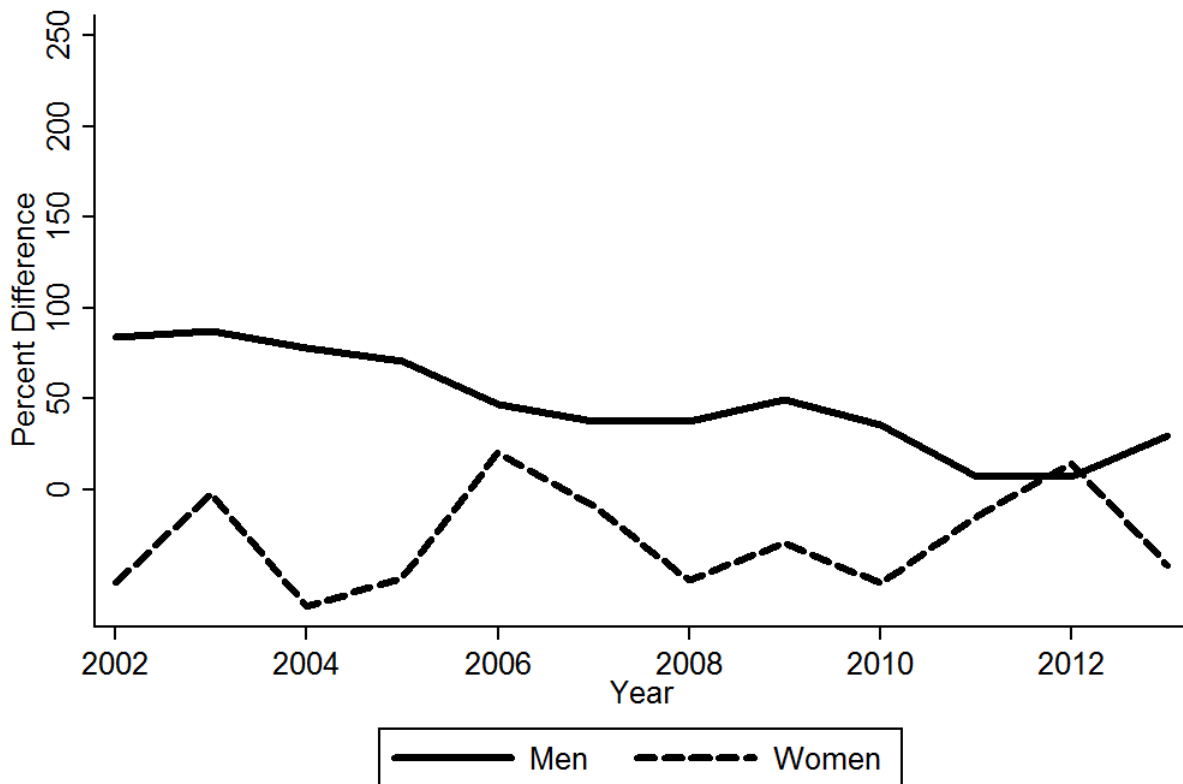
The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites by purpose of stop.

Figure 4. Ethnic Differences in the Likelihood of Search



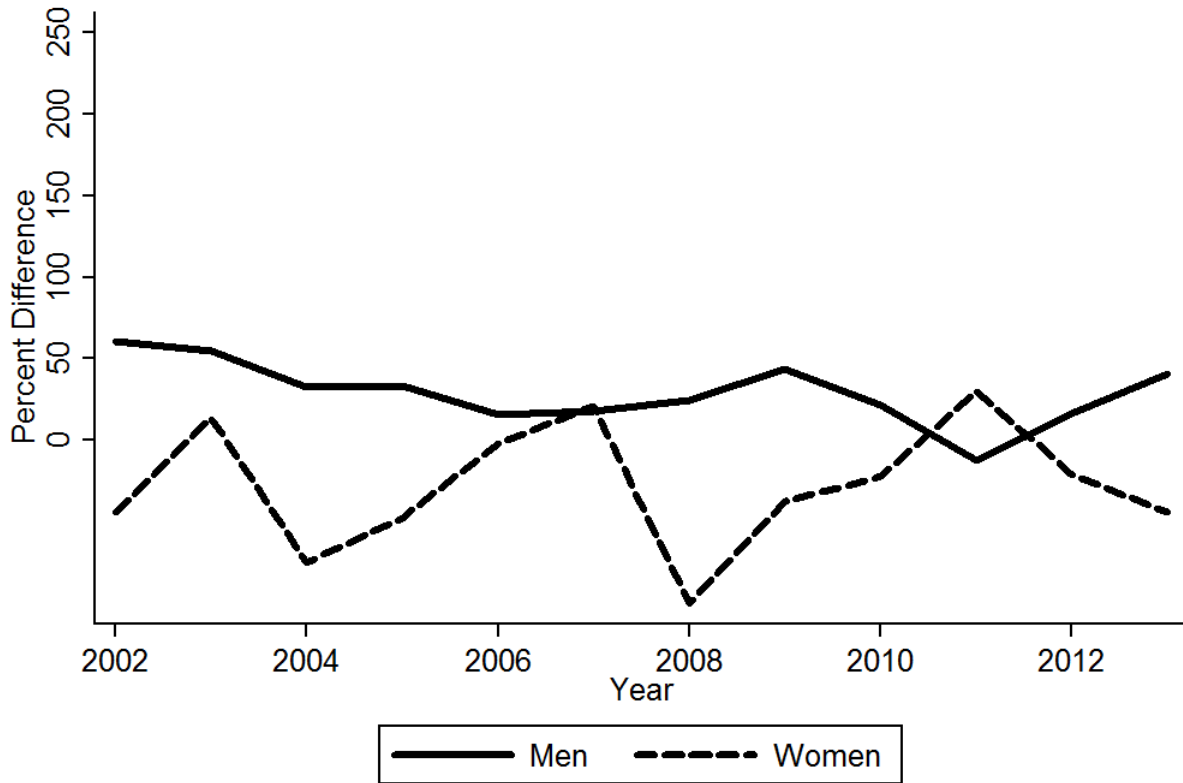
The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites.

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



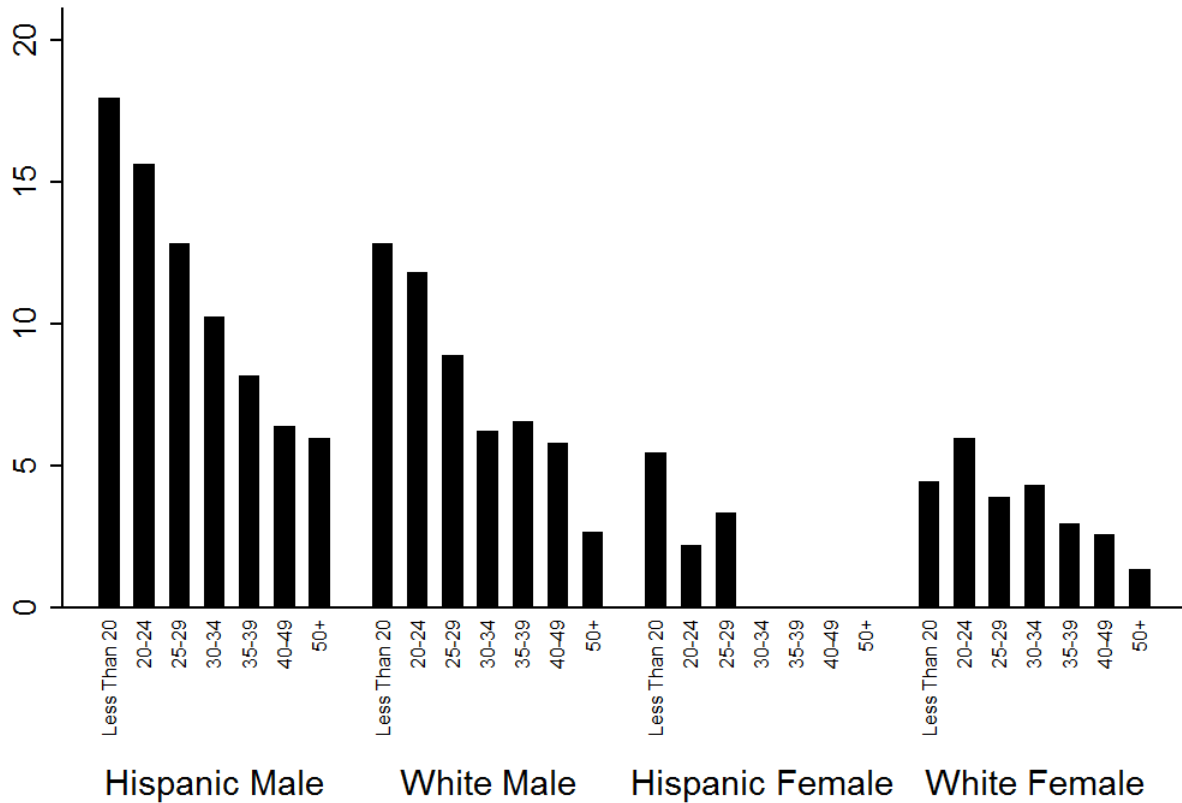
The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites by gender.

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 107,812 traffic stops from 2002 through 2013, and 8,584 searches. Overall rate of search: 7.96 percent.
 No data are presented for categories with fewer than 10 searches.

Figure 8. Number of Stops, by Ethnicity and Gender

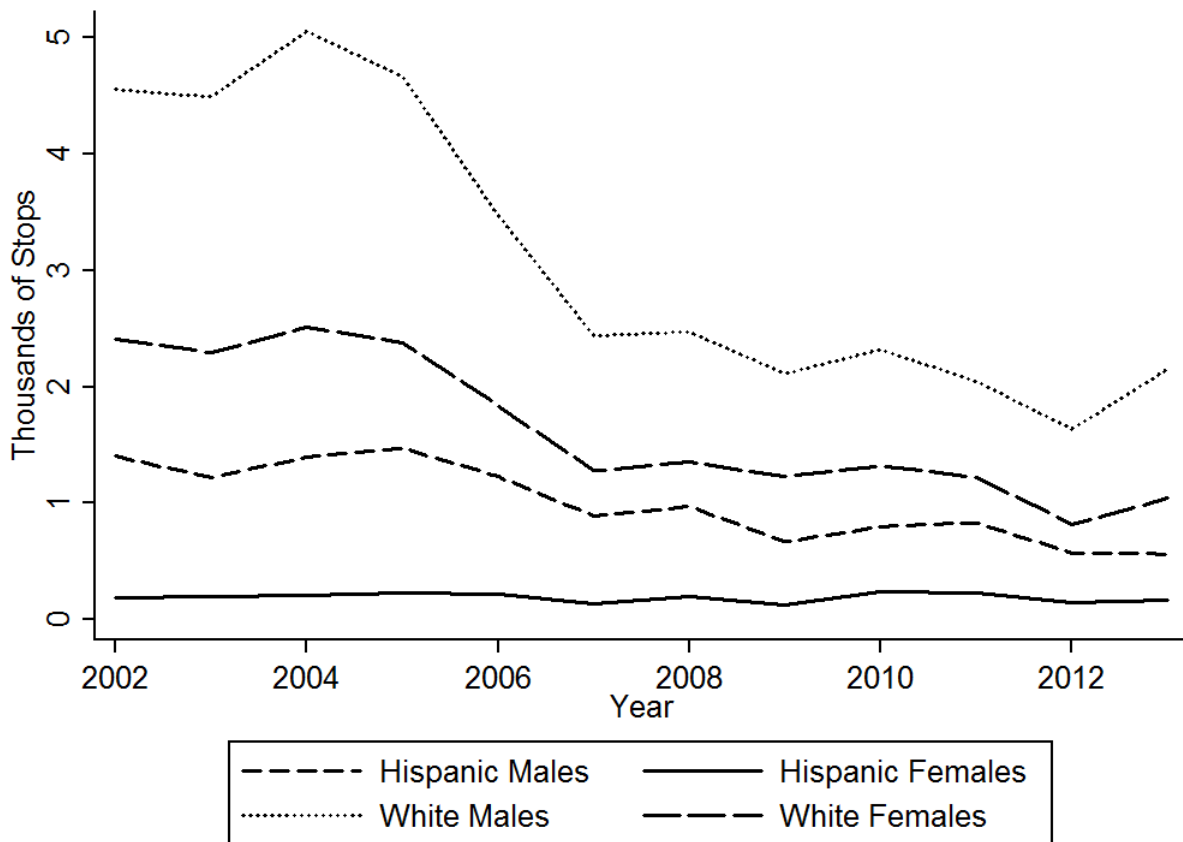


Figure 9. Percent of Stops Resulting in a Search, by Ethnicity and Gender

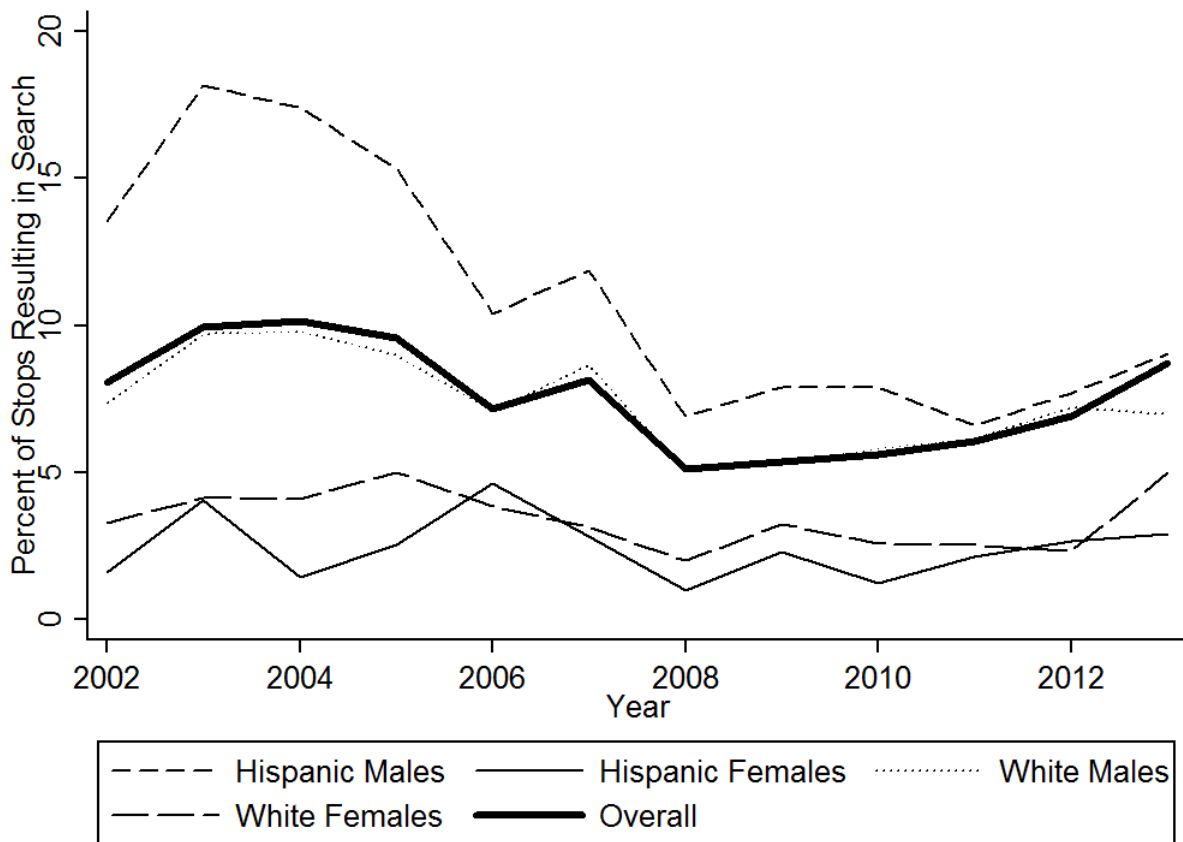


Table 4. Type of Search by Ethnicity

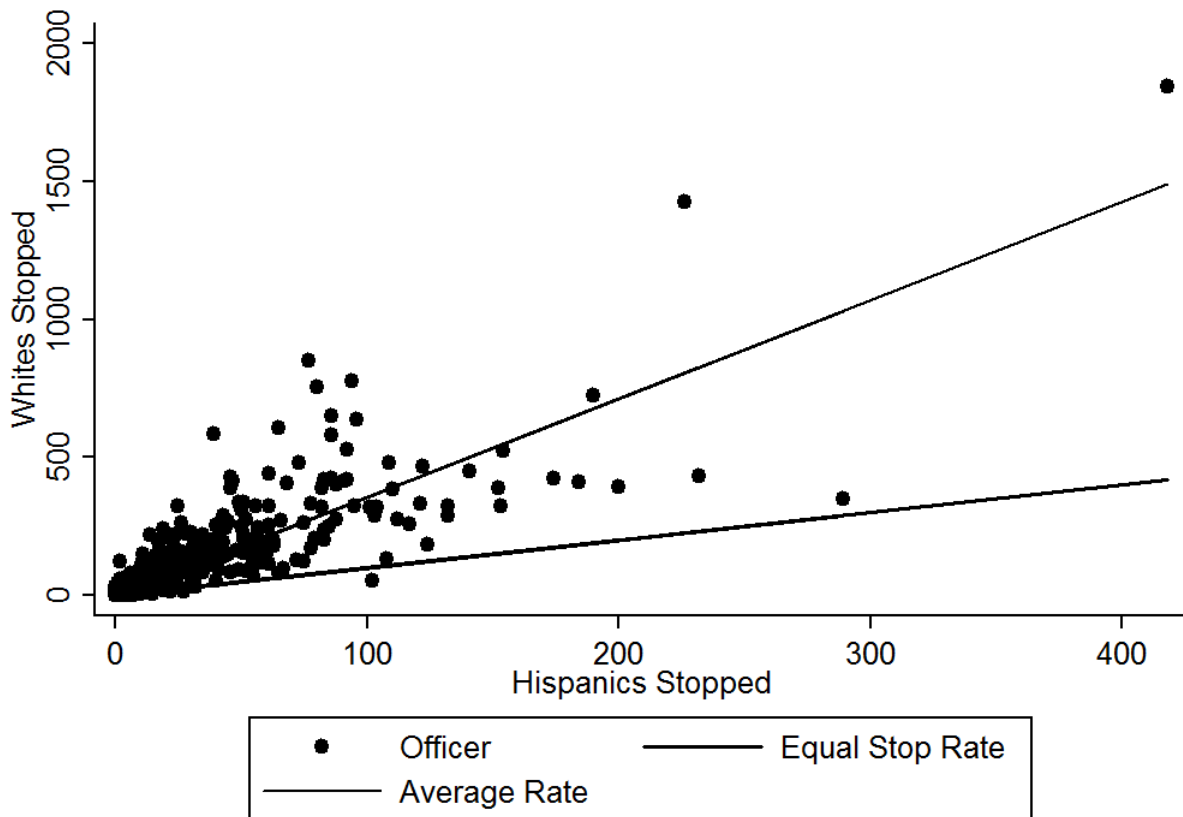
Search Type	Number	% Total	% White	Ratio	
				% Hispanic	Hispanic:White
Total Stops	107,812	-	61.10	13.29	-
Total Searches	8,584	7.96	6.33	10.49	1.66
Consent	4,376	4.06	3.35	5.09	1.52
Search Warrant	21	0.02	0.01	0.03	3.00
Probable Cause	1,397	1.30	0.88	0.91	1.03
Incident to Arrest	2,579	2.39	1.95	4.17	2.14
Protective Frisk	211	0.20	0.15	0.30	2.00

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

Table 5. Distribution of Officer IDs by Stop

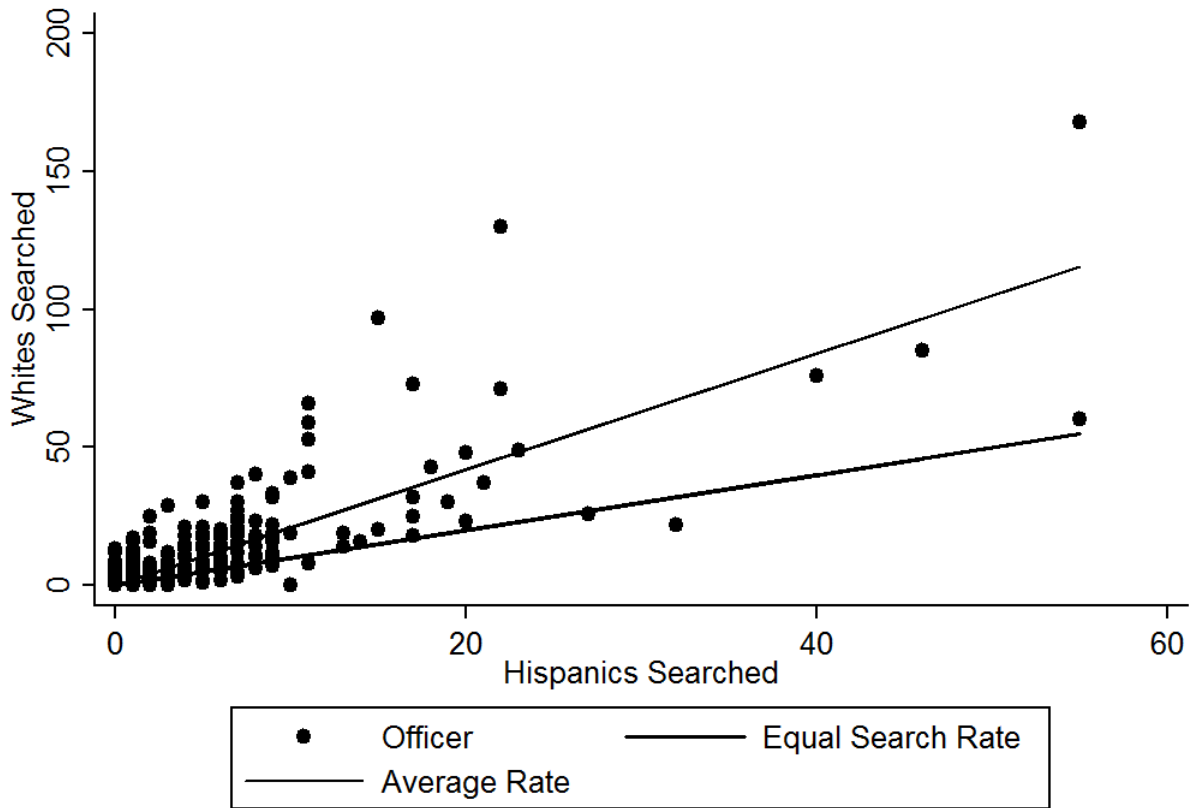
Number of Stops	Officers w/ this many Stops	Percent of Officers	Cumulative Percent	Percent of Stops	Cumulative Percent
1	549	35.47	35.47	0.51	0.51
2 – 10	414	26.74	62.21	1.57	2.08
11 - 100	341	22.03	84.24	12.58	14.66
101 – 1,000	235	15.18	99.42	72.59	87.25
1,001 +	9	0.58	100.00	12.75	100.00
Total		100	-	100	-

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



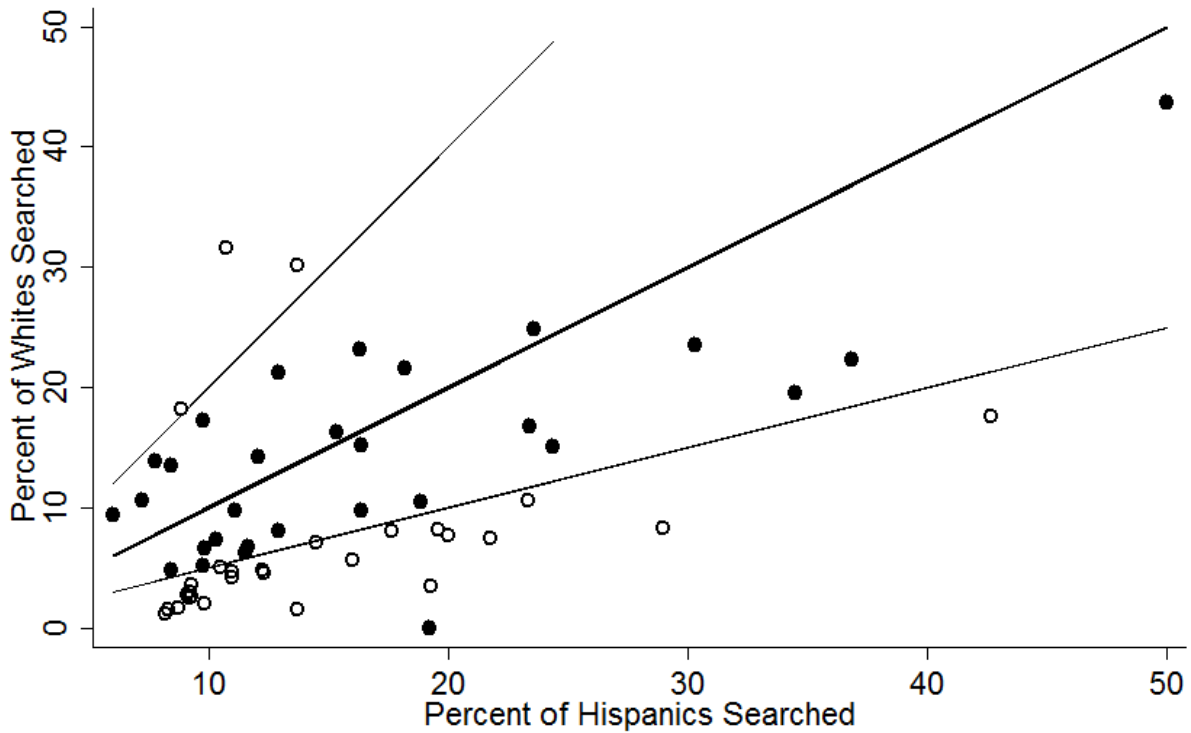
On average, officers stop 3.56 Whites for each Hispanic stopped.

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



On average, officers search 2.10 Whites for each Hispanic searched.

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



Includes 56 officers with a minimum of 50 White stops, 50 Hispanic stops, and a search rate above the department average of 7.96 for either ethnicity. The hollow circles indicate high disparity officers. 3 officers searched Whites at more than twice the rate that they searched Hispanics. 25 officers searched Hispanics at more than twice the rate that they searched Whites.

Appendix

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

Purpose	Number	Percent	
		White	Hispanic
Total Stops	4,504	44.39	18.53
Speed Limit	643	47.42	18.66
Stop Light/Sign	125	43.64	12.00
Driving Impaired	282	58.55	31.56
Safe Movement	570	44.40	18.60
Vehicle Equipment	684	35.32	18.86
Vehicle Regulatory	792	42.20	17.42
Seat Belt	139	30.65	10.79
Investigation	967	50.67	14.89
Other Vehicle	277	40.39	26.71

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

Purpose	Number	% Total	% Searched		Ratio
			White	Hispanic	Hispanic:White
Total Stops	73,279	-	61.07	16.40	0.27
Total Searches	7,389	10.08	7.77	12.05	1.55
Speed Limit	25,585	4.80	3.59	6.99	1.95
Stop Light/Sign	4,726	4.74	3.31	7.35	2.22
Driving Impaired	1,700	49.00	48.73	57.17	1.17
Safe Movement	7,036	12.75	10.47	14.57	1.39
Vehicle Equipment	7,538	13.19	10.85	13.51	1.25
Vehicle Regulatory	13,693	10.23	7.57	11.40	1.51
Seat Belt	2,391	9.49	4.67	11.27	2.41
Investigation	6,205	18.02	20.86	9.73	0.47
Other Vehicle	4,405	10.62	8.90	9.19	1.03

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

Purpose	Number	% Searched		Ratio	
		Total	White	Hispanic	Hispanic:White
Total Stops	34,533	-	61.14	6.69	0.11
Total Searches	1,195	3.46	3.60	2.42	0.67
Speed Limit	13,398	1.31	1.16	1.29	1.11
Stop Light/Sign	2,772	1.66	1.40	0.55	0.39
Driving Impaired	517	36.56	42.86	30.43	0.71
Safe Movement	2,816	3.30	3.54	2.36	0.67
Vehicle Equipment	2,917	5.45	6.29	2.58	0.41
Vehicle Regulatory	7,567	3.05	3.01	2.82	0.94
Seat Belt	720	2.92	2.89	0.00	0.00
Investigation	1,984	10.58	15.52	1.72	0.11
Other Vehicle	1,842	3.85	3.63	1.80	0.50

Table A4. Type of Search by Ethnicity: Men

Search Type	Number	% Total	% White	% Hispanic	Ratio Hispanic:White
Total Stops	73,279	-	61.07	16.40	0.27
Total Searches	7,389	10.08	7.77	12.05	1.55
Consent	3,802	5.19	4.14	5.90	1.43
Search Warrant	17	0.02	0.01	0.04	4.00
Probable Cause	1,186	1.62	1.08	1.01	0.94
Incident to Arrest	2,189	2.99	2.33	4.74	2.03
Protective Frisk	195	0.27	0.21	0.35	1.67

Table A5. Type of Search by Ethnicity: Women

Search Type	Number	% Total	% White	% Hispanic	Ratio Hispanic:White
Total Stops	34,533	-	61.14	6.69	0.11
Total Searches	1,195	3.46	3.60	2.42	0.67
Consent	574	1.66	1.85	0.87	0.47
Search Warrant	4	0.01	0.02	-	-
Probable Cause	211	0.61	0.48	0.35	0.73
Incident to Arrest	390	1.13	1.22	1.17	1.00
Protective Frisk	16	0.05	0.03	0.04	1.33

Figure A1. Stops by Day of the Week

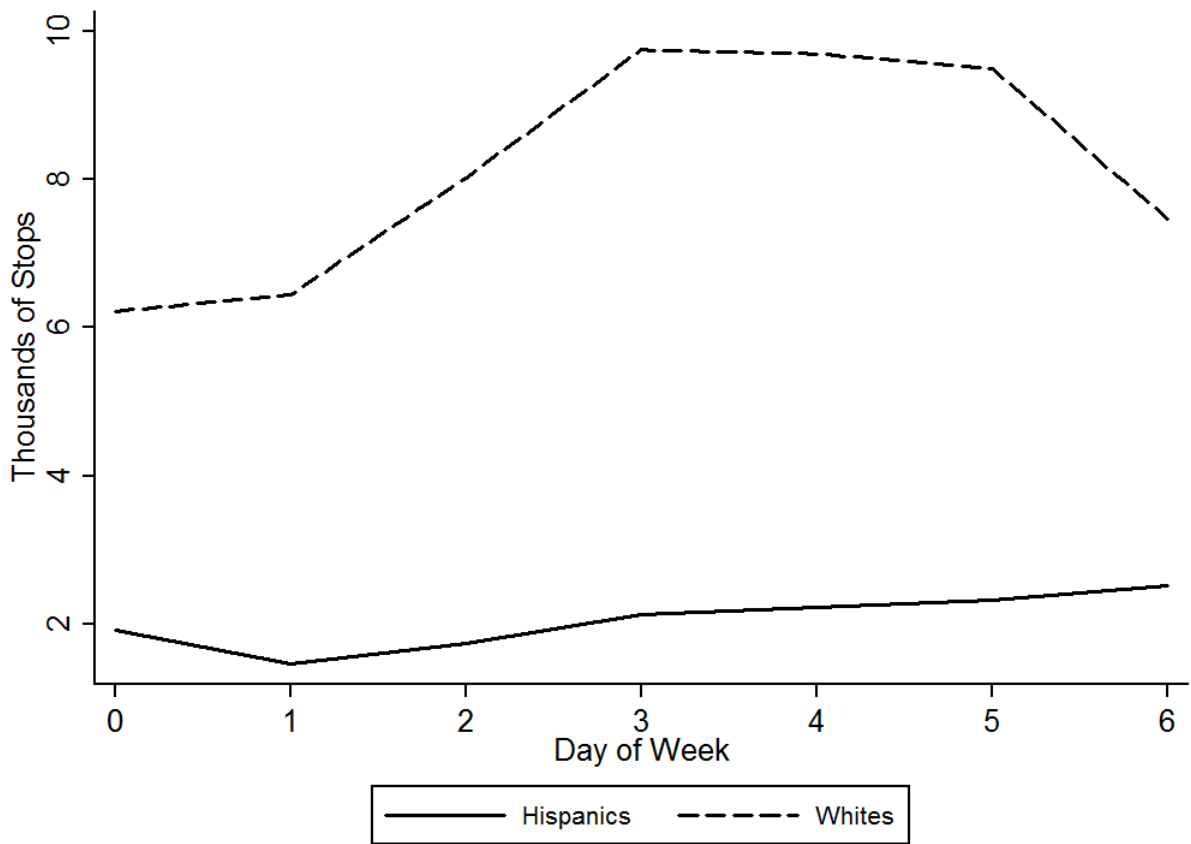


Figure A2. Searches by Day of the Week

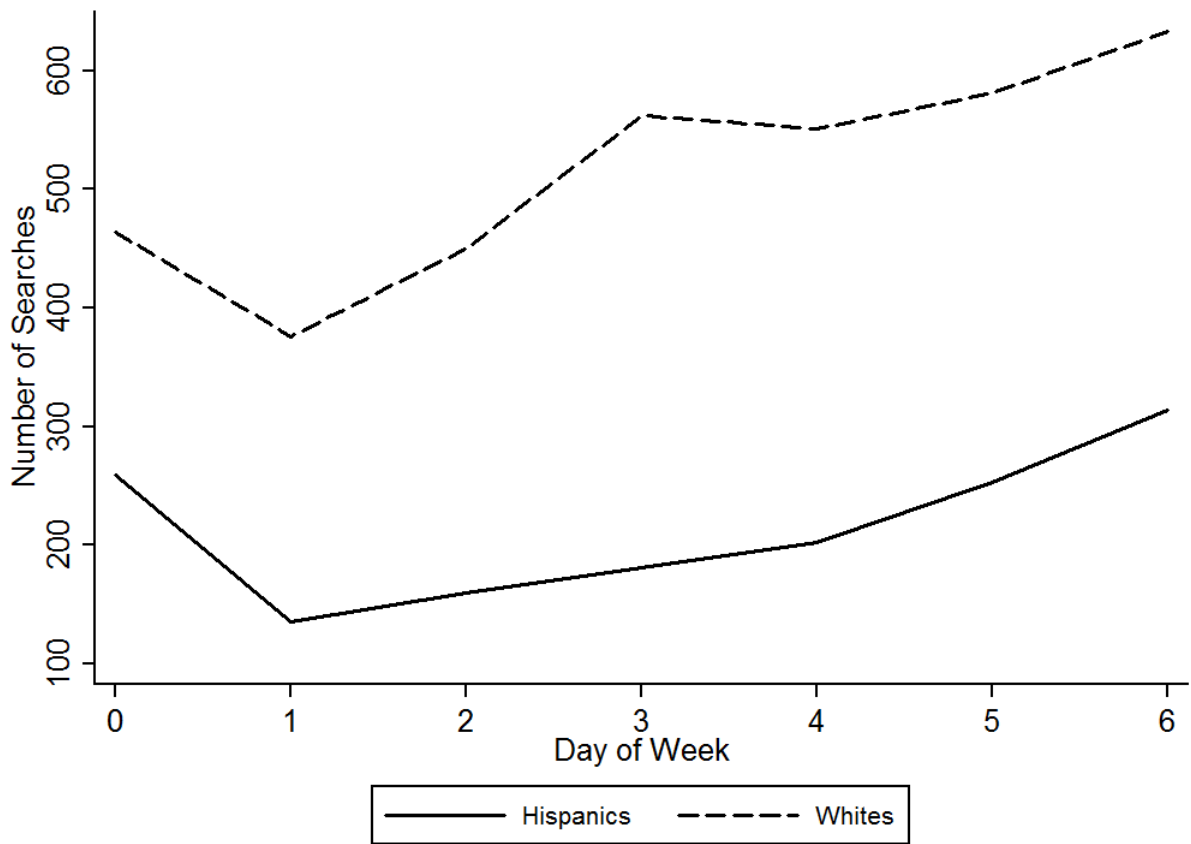
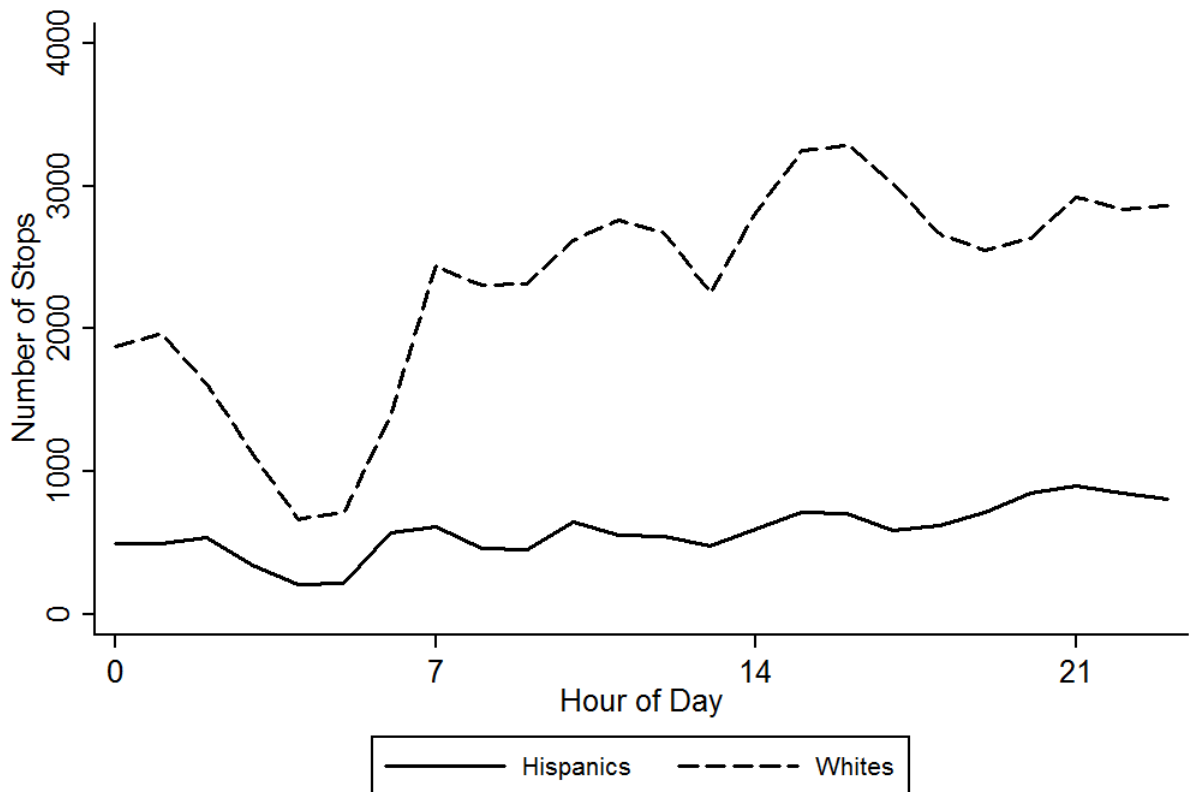
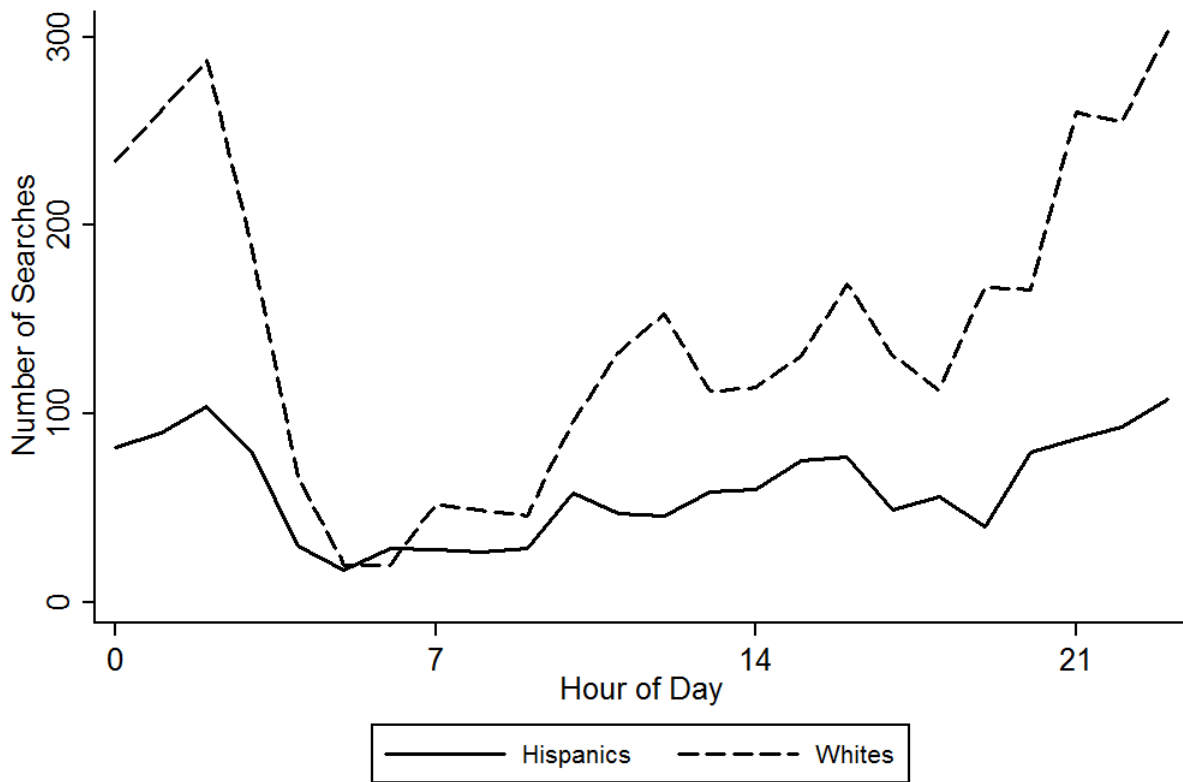


Figure A3. Stops by Hour of the Day



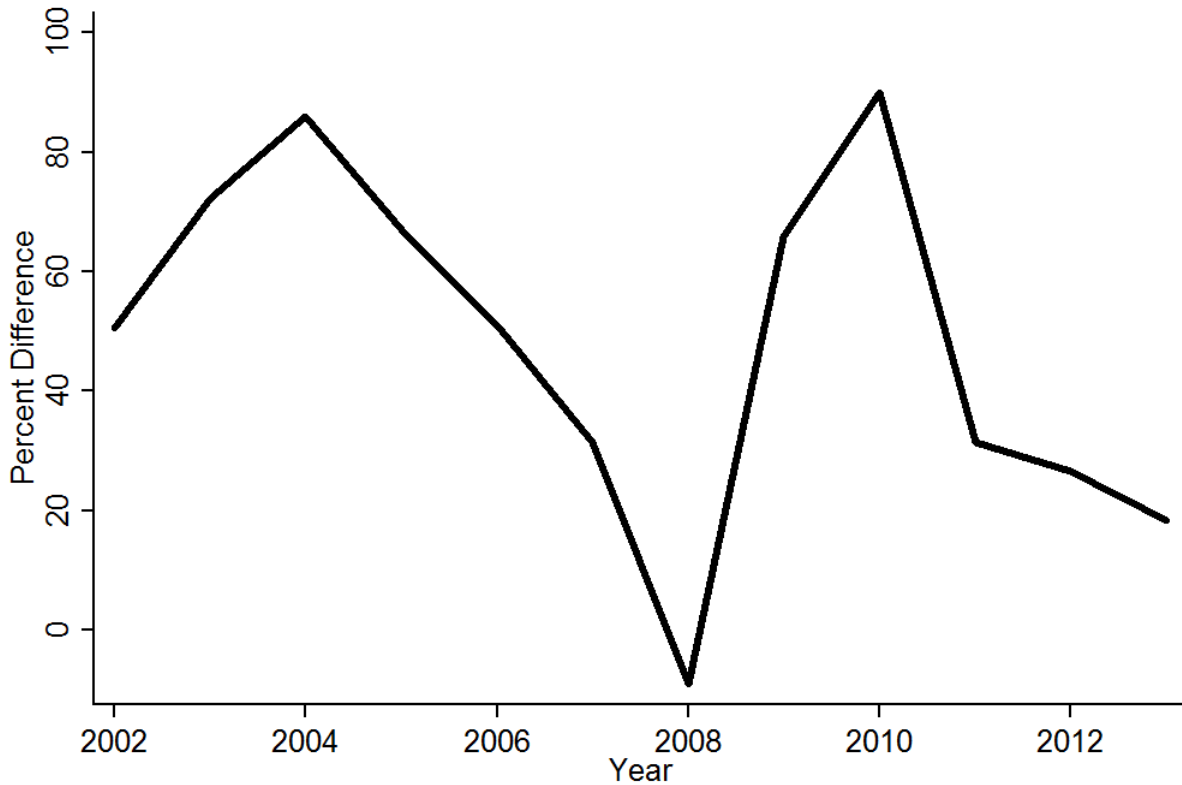
The figure excludes cases where the hour and minute was exactly 0:00. These cases were presumed to be missing data.

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 Ethnicity

Contraband	Number	% Total	% White	% Hispanic
Yes	2,448	28.52	30.77	18.55
No	6,136	71.48	69.23	30.64
Total	8,584	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	53,495	2.06	29.03	8.53	59.64	0.74	100.0
Hisp	No	12,828	2.25	23.05	4.30	68.86	1.54	100.0
Total	No	99,228	2.28	30.23	7.36	59.30	0.84	100.0
White	Yes	3,617	1.08	15.34	5.20	43.16	35.22	100.0
Hisp	Yes	1,504	0.47	10.97	6.25	41.56	40.76	100.0
Total	Yes	8,584	0.96	16.03	5.20	43.64	34.18	100.0