

# **Analysis of Hispanic-White Differences in Traffic Stops and Searches in Asheville, 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	106,010
-2014	2,617
-Passengers	5,408
-Checkpoint stops	263
Stops for analysis	97,797
Searches	8,194

Search Rate = 8.38

Figure 1. Number of Traffic Stops per Year

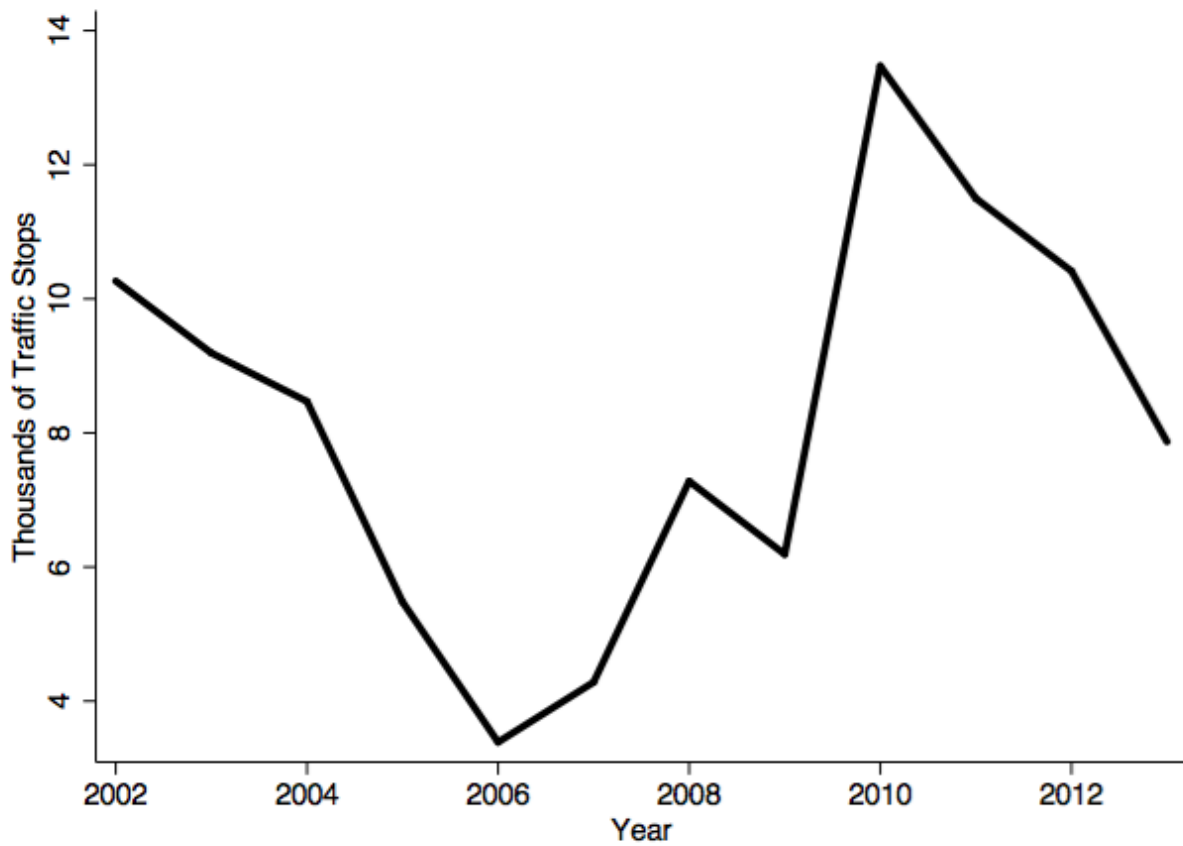


Figure 2. Ethnic Composition of Traffic Stops by Year

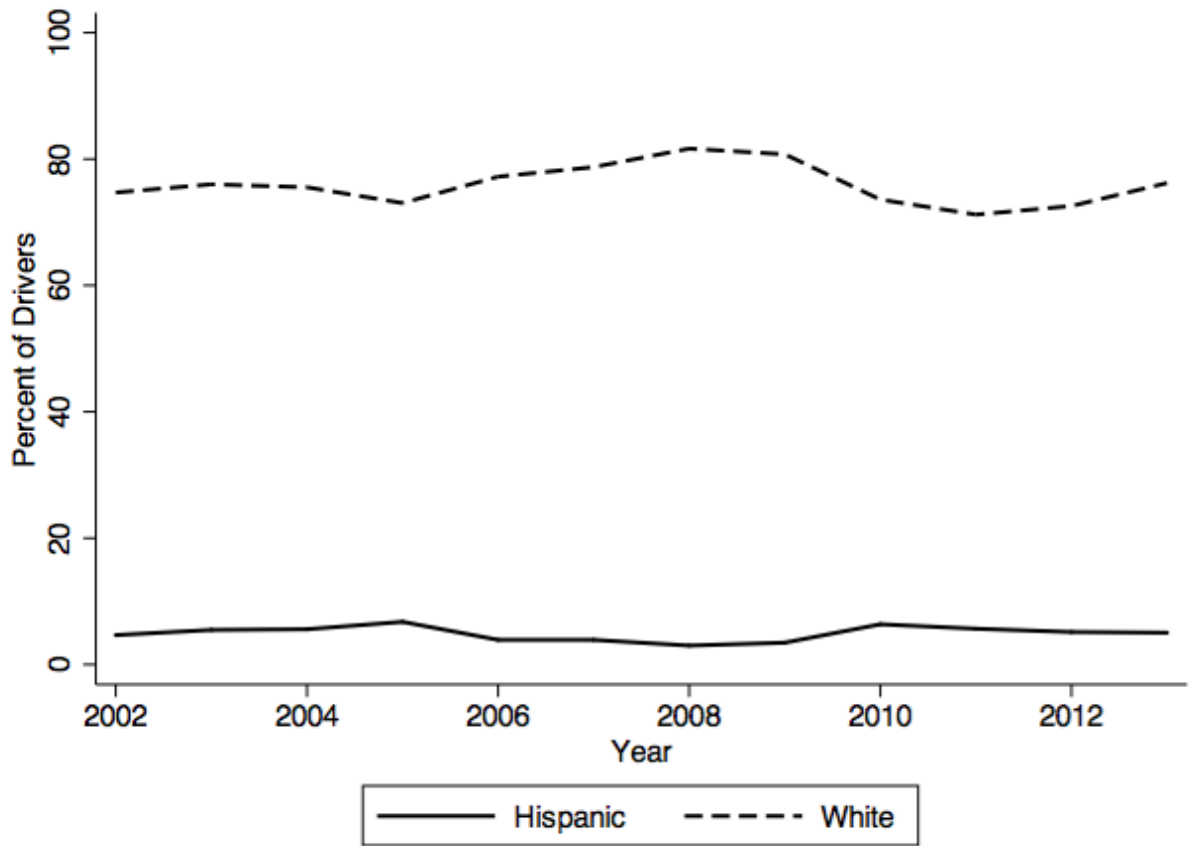


Table 2. Ethnic Composition of Traffic Stops by Purpose, Drivers

Purpose	Number	Percent	
		White	Hispanic
Total Stops	97,797	79.35	5.11
Speed Limit	36,437	86.84	4.33
Stop Light/Sign	8,264	77.83	4.60
Driving Impaired	1,027	85.36	9.54
Safe Movement	10,756	78.93	5.99
Vehicle Equipment	8,295	72.67	4.98
Vehicle Regulatory	17,875	74.73	4.28
Seat Belt	3,749	79.59	3.01
Investigation	6,745	67.31	9.24
Other Vehicle	4,649	68.57	8.22

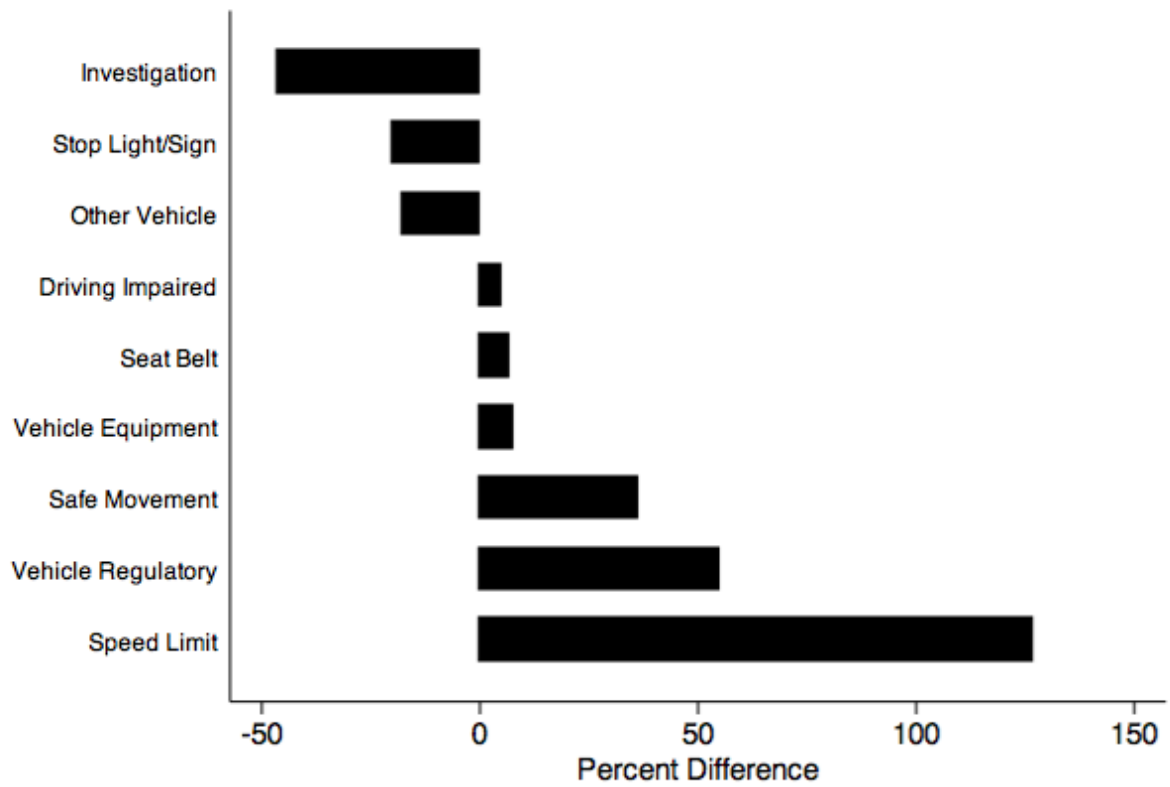
Note: Includes only drivers. Excludes 263 checkpoint stops. Excludes 5,408 passengers.

Table 3. Percent Searched by Ethnicity and Purpose of Stop

Purpose	Number	% Total	% White	% Hispanic	Ratio
					Hispanic:White
Total Stops	97,797	-	79.35	5.11	-
Total Searches	8,194	8.38	6.79	9.39	1.38
Speed Limit	36,437	2.31	1.67	3.80	2.28
Stop Light/Sign	8,264	6.44	4.94	3.95	0.80
Driving Impaired	1,027	53.55	54.48	57.14	1.05
Safe Movement	10,756	12.35	10.47	14.29	1.36
Vehicle Equipment	8,295	13.04	11.49	12.35	1.07
Vehicle Regulatory	17,875	9.20	7.51	11.63	1.55
Seat Belt	3,749	7.12	5.81	6.19	1.07
Investigation	6,745	20.61	20.94	11.24	0.54
Other Vehicle	4,649	12.02	9.23	7.59	0.82

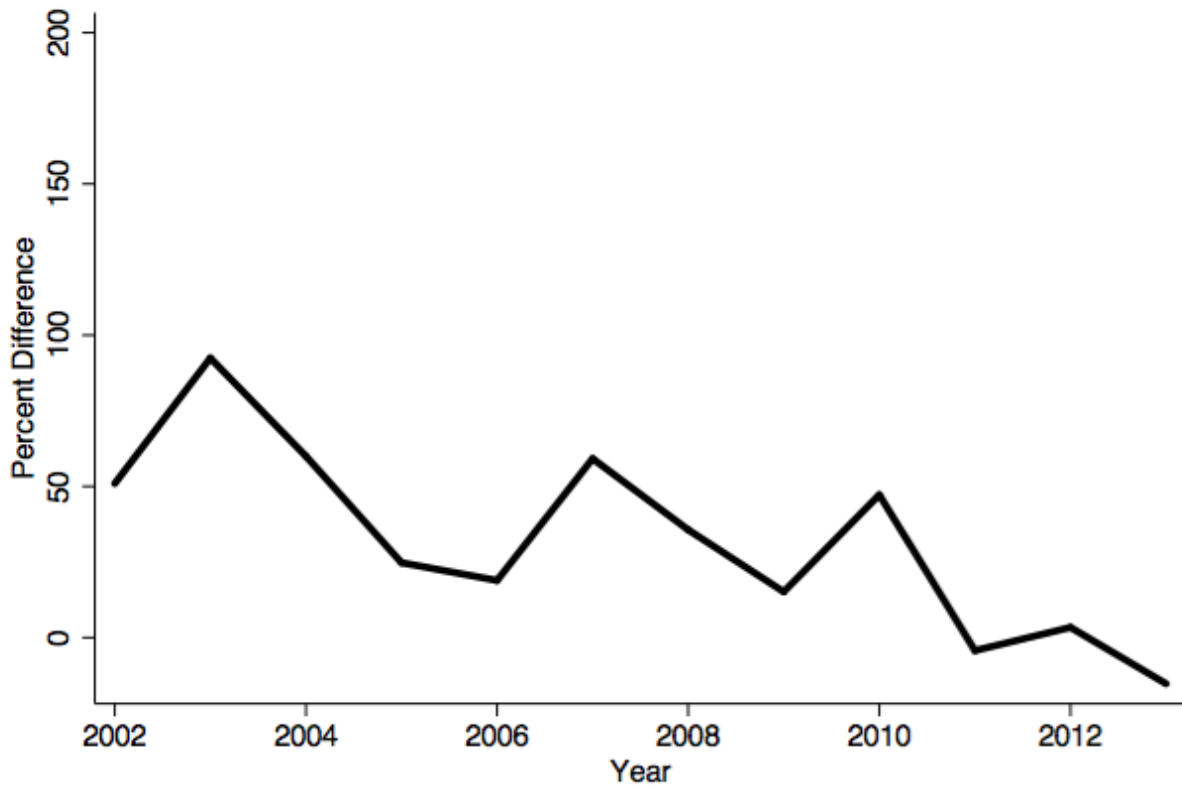
Note: See the appendix for this same table broken down for Men and Women.

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



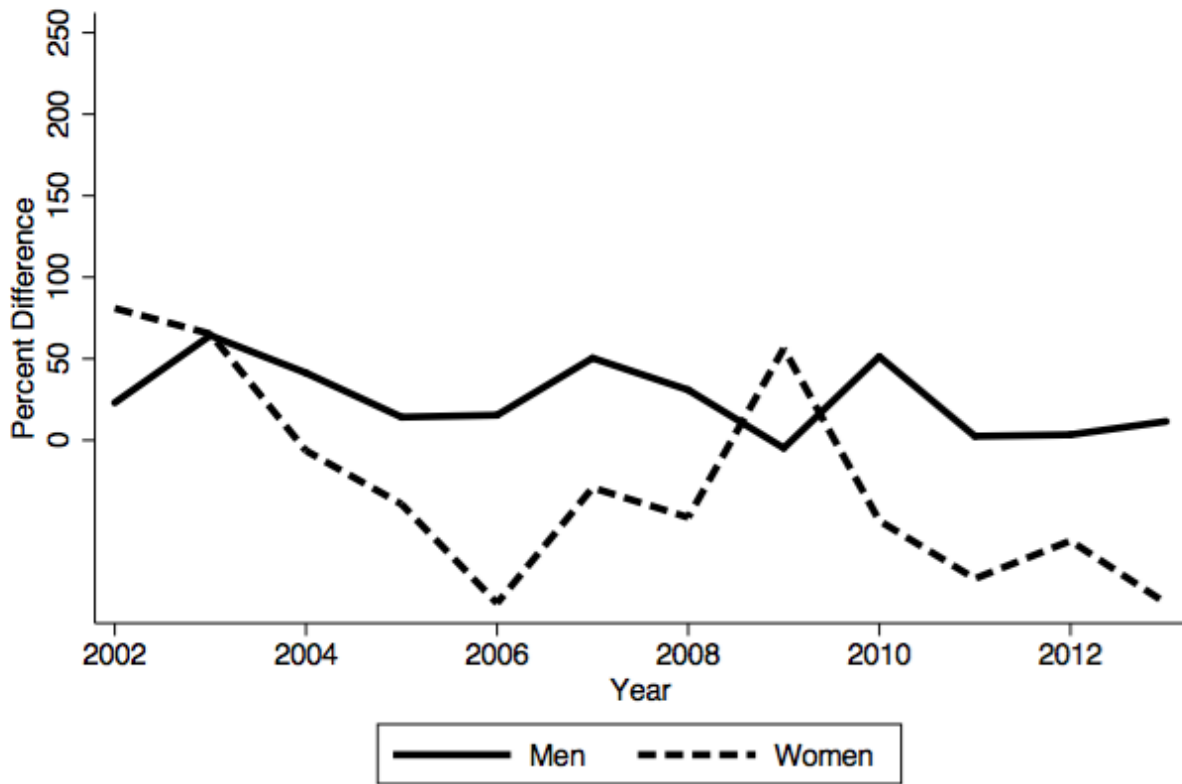
The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites by purpose of stop.

Figure 4. Ethnic Differences in the Likelihood of Search



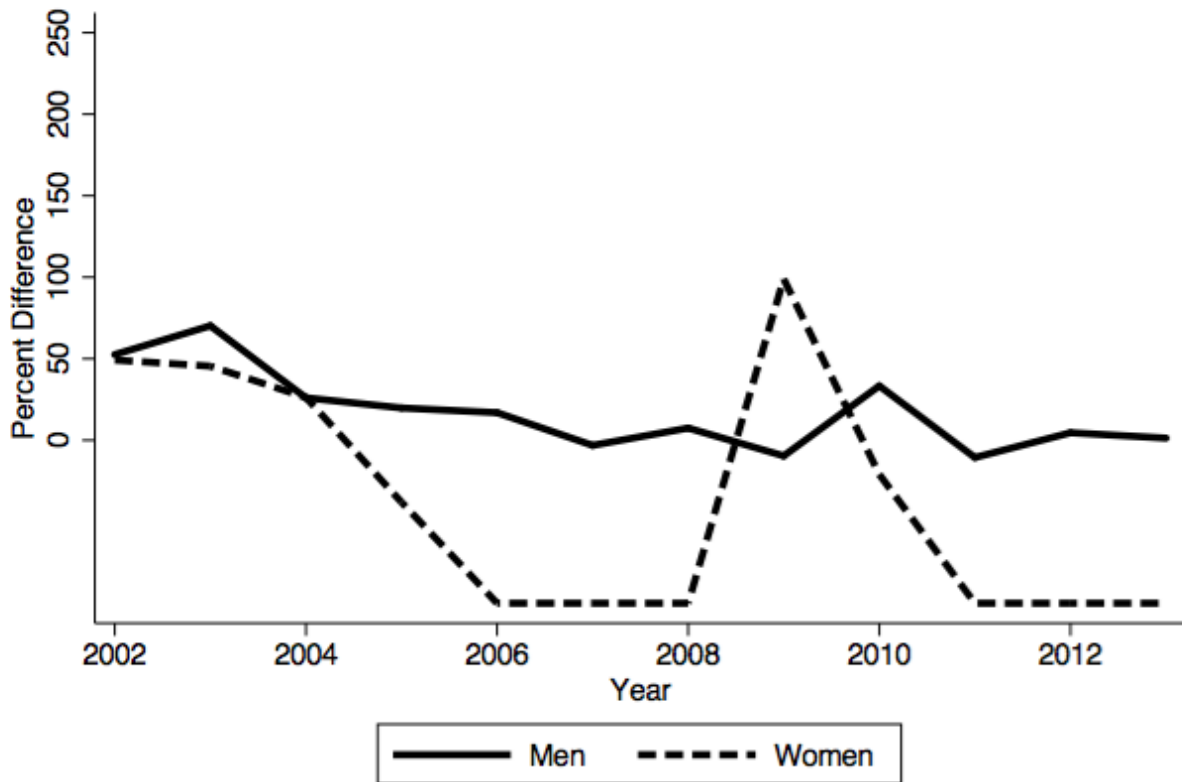
The figure shows the percentage difference in the likelihood of Hispanics being searched as compared to Whites.

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.

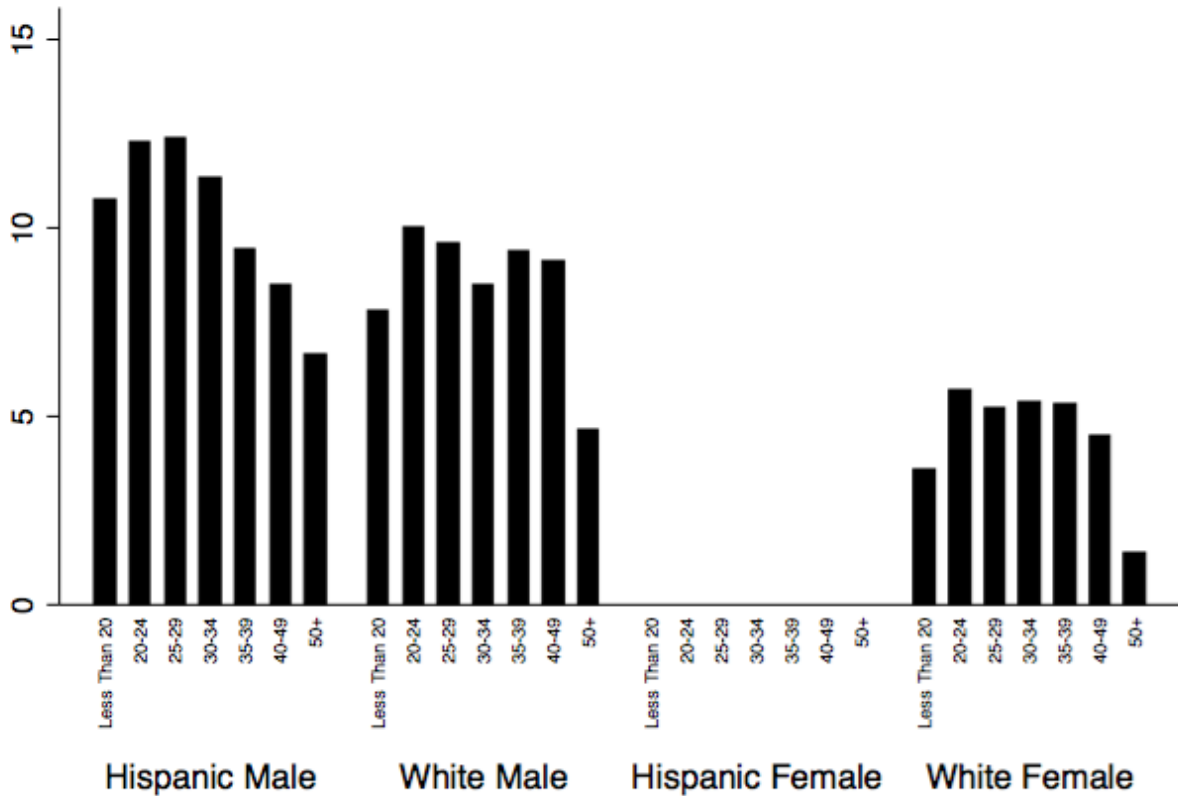
Figure 6. Ethnic Differences in the Likelihood of Search by Gender, for Drivers Under 30



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 97,797 traffic stops from 2002 through 2013, and 8,194 searches. Overall rate of search: 8.38 percent.  
 No data are presented for categories with fewer than 10 searches.

Figure 8. Number of Stops, by Ethnicity and Gender

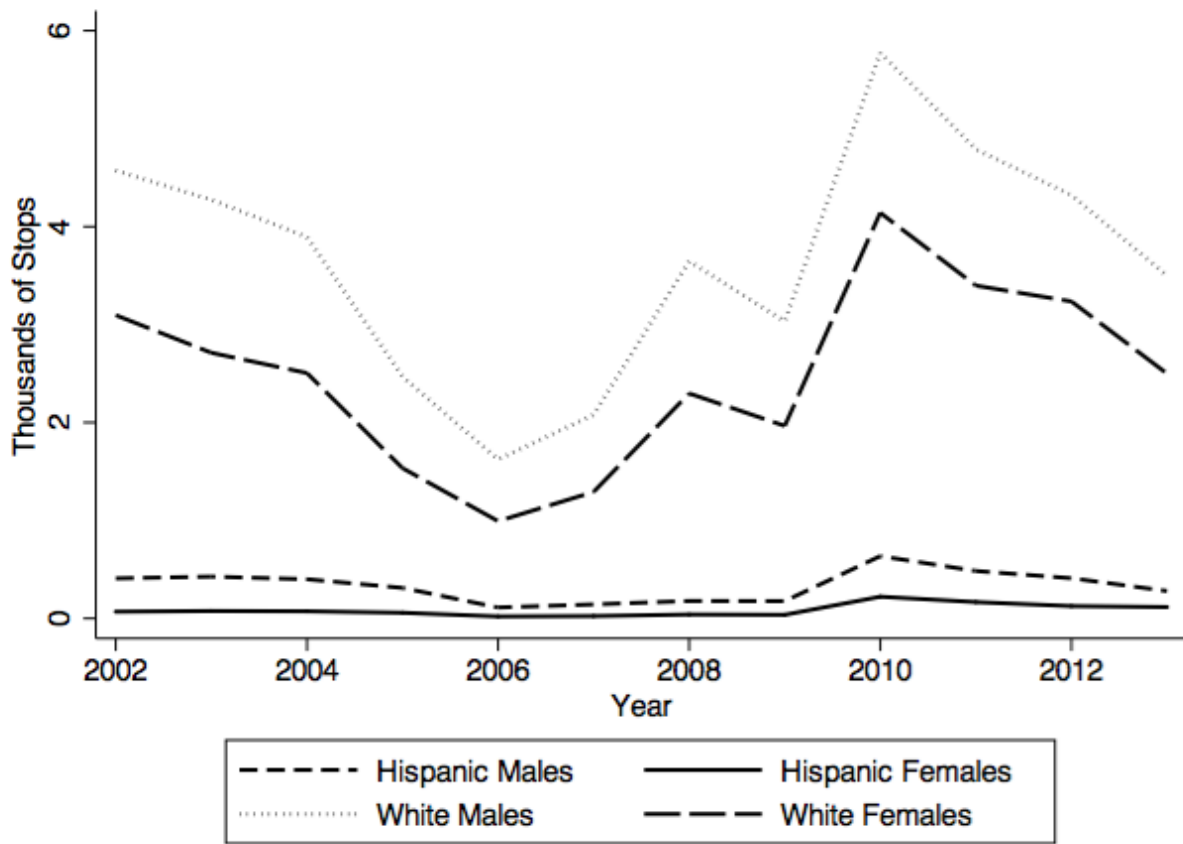


Figure 9. Percent of Stops Resulting in a Search, by Ethnicity and Gender

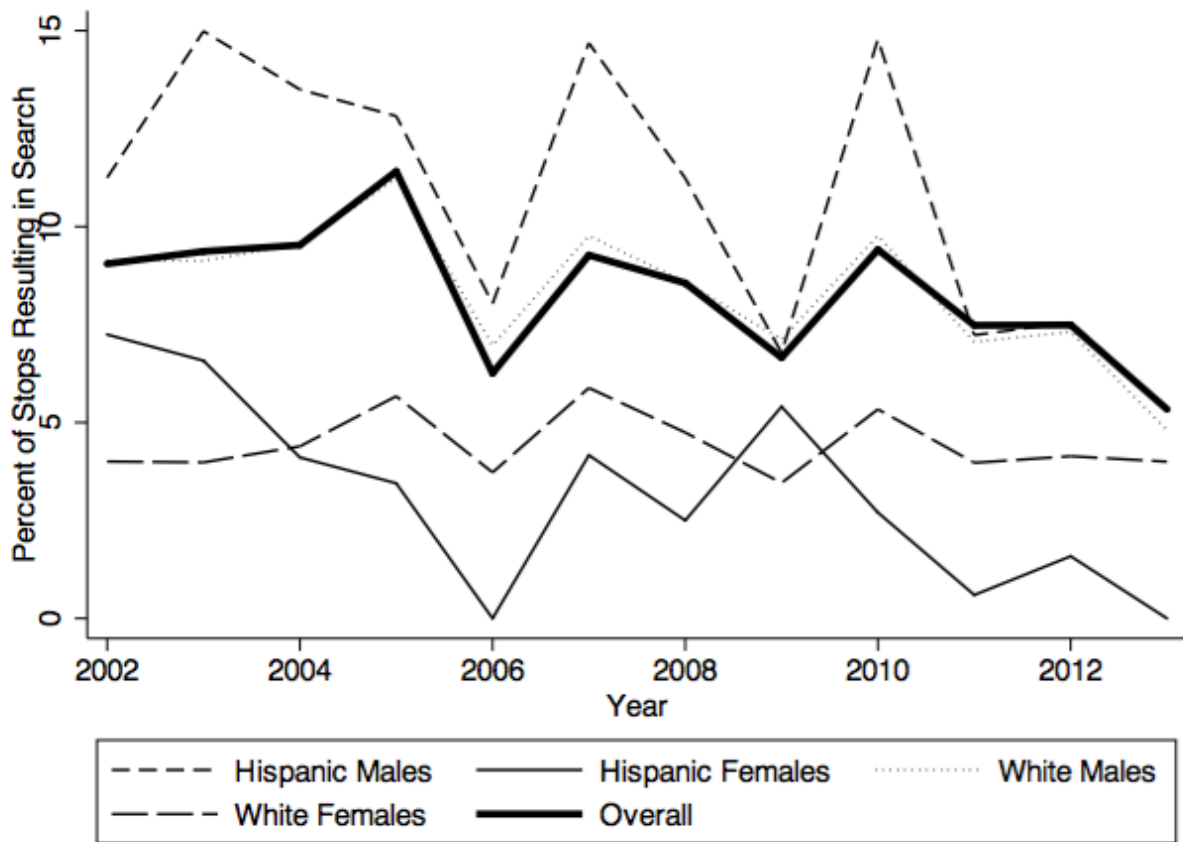


Table 4. Type of Search by Ethnicity

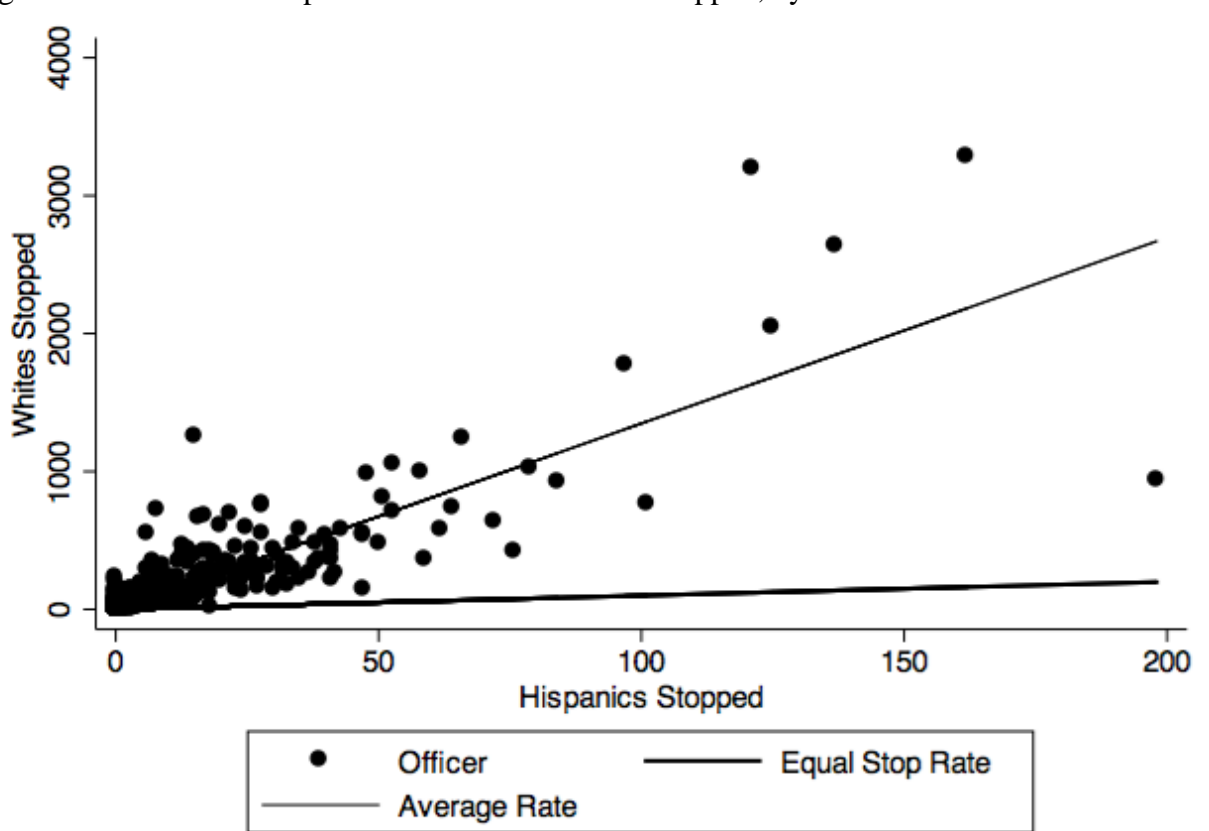
Search Type	Number	% Total	% White	Ratio	
				% Hispanic	Hispanic:White
Total Stops	97,797	-	79.35	5.11	-
Total Searches	8,194	8.38	6.79	9.39	1.38
Consent	4,012	4.10	3.41	4.08	1.20
Search Warrant	10	0.01	0.01	0.00	-
Probable Cause	1,418	1.45	1.12	1.22	1.09
Incident to Arrest	2,382	2.44	1.97	3.20	1.62
Protective Frisk	372	0.38	0.28	0.88	3.14

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

Table 5. Distribution of Officer IDs by Stop

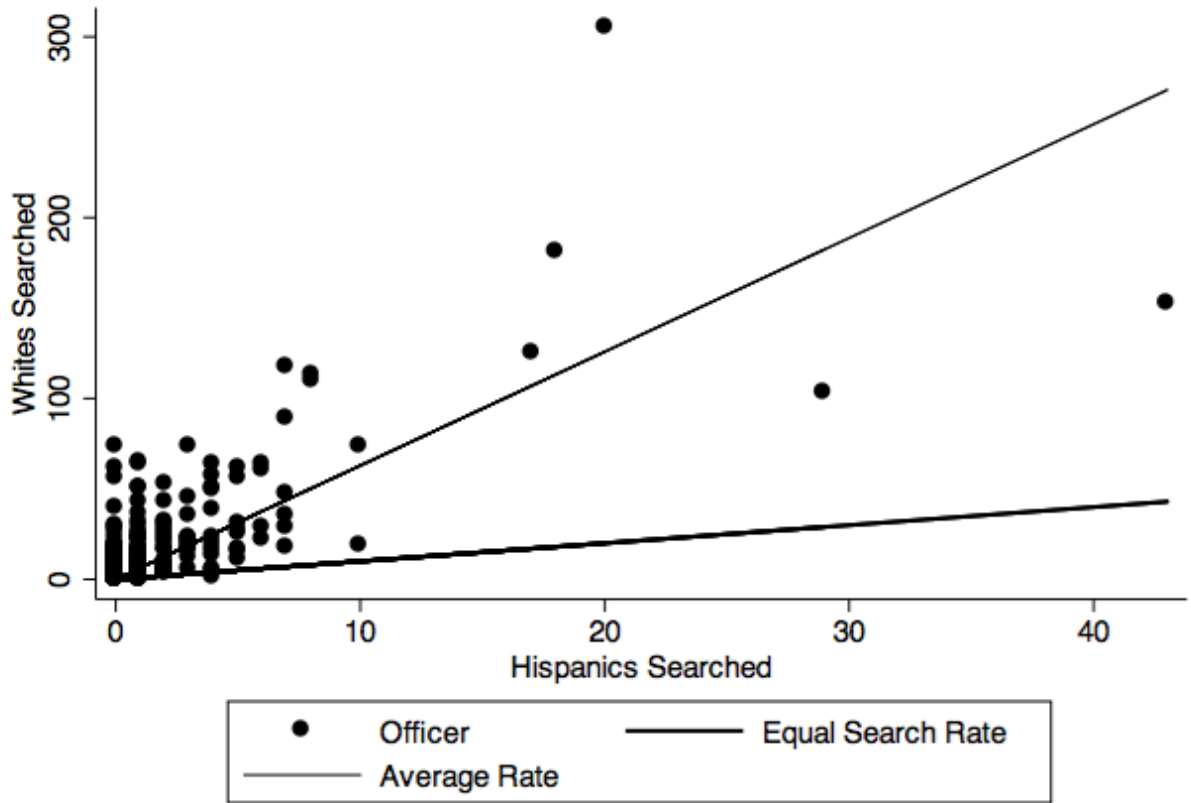
Number of Stops	Officers w/ this many Stops	Percent of Officers	Cumulative Percent	Percent of Stops	Cumulative Percent
1	418	40.94	40.94	0.43	0.43
2 – 10	258	25.27	66.21	1.01	1.44
11 - 100	156	15.28	81.49	6.62	8.06
101 – 1,000	173	16.94	98.43	62.10	70.16
1,001 +	16	1.57	100.00	29.84	100.00
Total	1,021	100	-	100	-

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



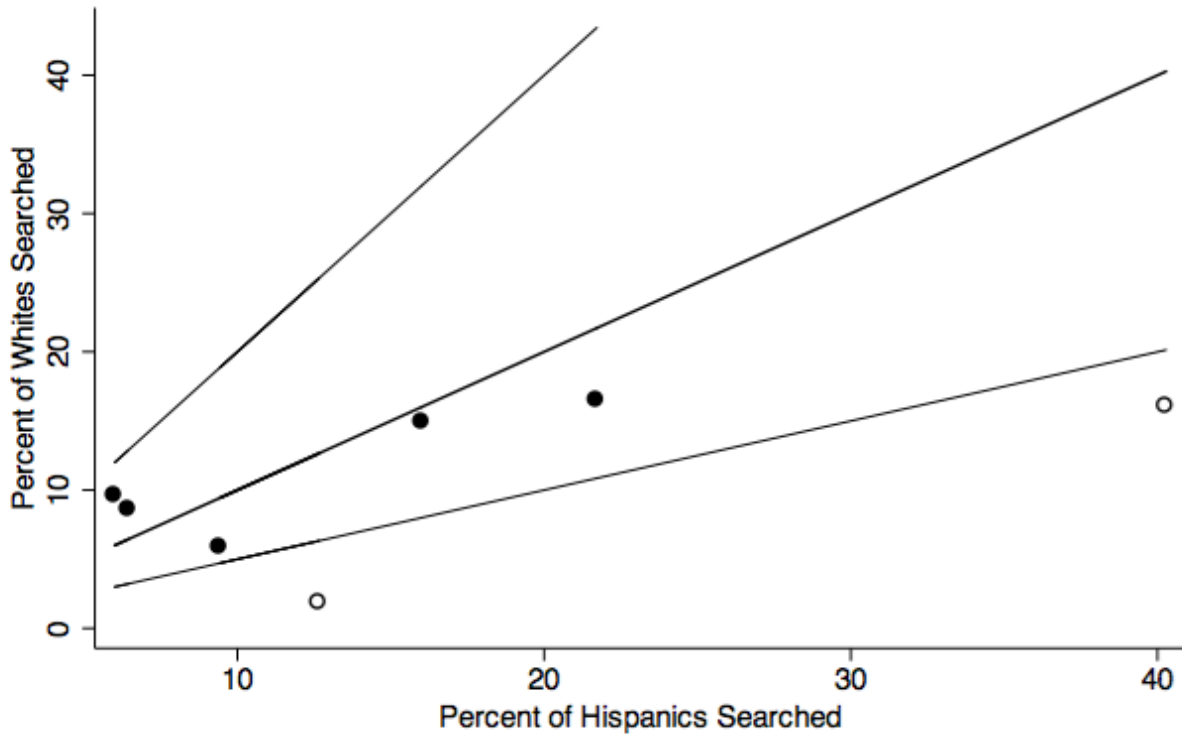
On average, officers stop 13.48 Whites for each Hispanic stopped.

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



On average, officers search 6.29 Whites for each Hispanic searched.

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



Includes 7 officers with a minimum of 50 White stops, 50 Hispanic stops, and a search rate above the department average of 8.38 for either ethnicity. The hollow circles indicate high disparity officers. 0 officers search Whites at more than twice the rate that they search Hispanics. 2 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	5,401	56.25	5.30
Speed Limit	538	59.44	7.43
Stop Light/Sign	298	50.52	2.35
Driving Impaired	132	83.33	9.09
Safe Movement	925	59.07	8.86
Vehicle Equipment	843	54.75	5.10
Vehicle Regulatory	1,107	53.63	4.16
Seat Belt	225	57.66	1.33
Investigation	988	57.13	2.73
Other Vehicle	345	47.65	7.54

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

Purpose	Number	% Total	% White	% Hispanic	Ratio
					Hispanic:White
Total Stops	60,203	-	78.19	6.59	0.08
Total Searches	6,408	10.64	8.39	11.11	1.32
Speed Limit	21,141	3.24	2.30	4.47	1.94
Stop Light/Sign	5,034	8.20	6.01	5.05	0.84
Driving Impaired	747	57.83	59.38	57.89	0.97
Safe Movement	7,061	15.27	12.74	17.03	1.34
Vehicle Equipment	5,524	15.13	12.87	13.95	1.08
Vehicle Regulatory	10,479	11.61	9.11	14.34	1.57
Seat Belt	2,534	8.33	6.51	8.14	1.25
Investigation	4,649	23.45	23.13	12.43	0.54
Other Vehicle	3,034	14.73	11.10	8.77	0.79

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

Purpose	Number	% Total	% White	% Hispanic	Ratio
					Hispanic:White
Total Stops	37,594	-	81.14	2.73	0.03
Total Searches	1,786	4.75	4.41	2.72	0.62
Speed Limit	15,296	1.03	0.86	1.44	1.67
Stop Light/Sign	3,230	3.68	3.37	0.00	-
Driving Impaired	280	42.14	43.78	33.33	0.76
Safe Movement	3,695	6.77	6.49	4.32	0.67
Vehicle Equipment	2,771	8.88	8.91	5.26	0.59
Vehicle Regulatory	7,396	5.79	5.37	3.23	0.60
Seat Belt	1,215	4.61	4.38	0.00	-
Investigation	2,096	14.31	16.65	4.35	0.26

Other Vehicle	1,615	6.93	6.23	2.70	0.43
---------------	-------	------	------	------	------

Table A4. Type of Search by Ethnicity: Men

Search Type	Number	% Total	% White	% Hispanic	Ratio Hispanic:White
Total Stops	60,203	-	78.19	6.59	0.08
Total Searches	6,408	10.64	8.39	11.11	1.32
Consent	3,128	5.20	4.19	4.79	1.14
Search Warrant	8	0.01	0.01	0.00	-
Probable Cause	1,097	1.82	1.36	1.46	1.07
Incident to Arrest	1,854	3.08	2.43	3.86	1.59
Protective Frisk	321	0.53	0.40	1.01	2.53

Table A5. Type of Search by Ethnicity: Women

Search Type	Number	% Total	% White	% Hispanic	Ratio Hispanic:White
Total Stops	37,594	-	81.14	2.73	0.03
Total Searches	1,786	4.75	4.41	2.72	0.62
Consent	884	2.35	2.24	1.36	0.61
Search Warrant	2	0.01	0.00	0.00	-
Probable Cause	321	0.85	0.78	0.29	0.37
Incident to Arrest	528	1.40	1.29	0.68	0.53
Protective Frisk	51	0.14	0.10	0.39	3.90



Figure A1. Stops by Day of the Week

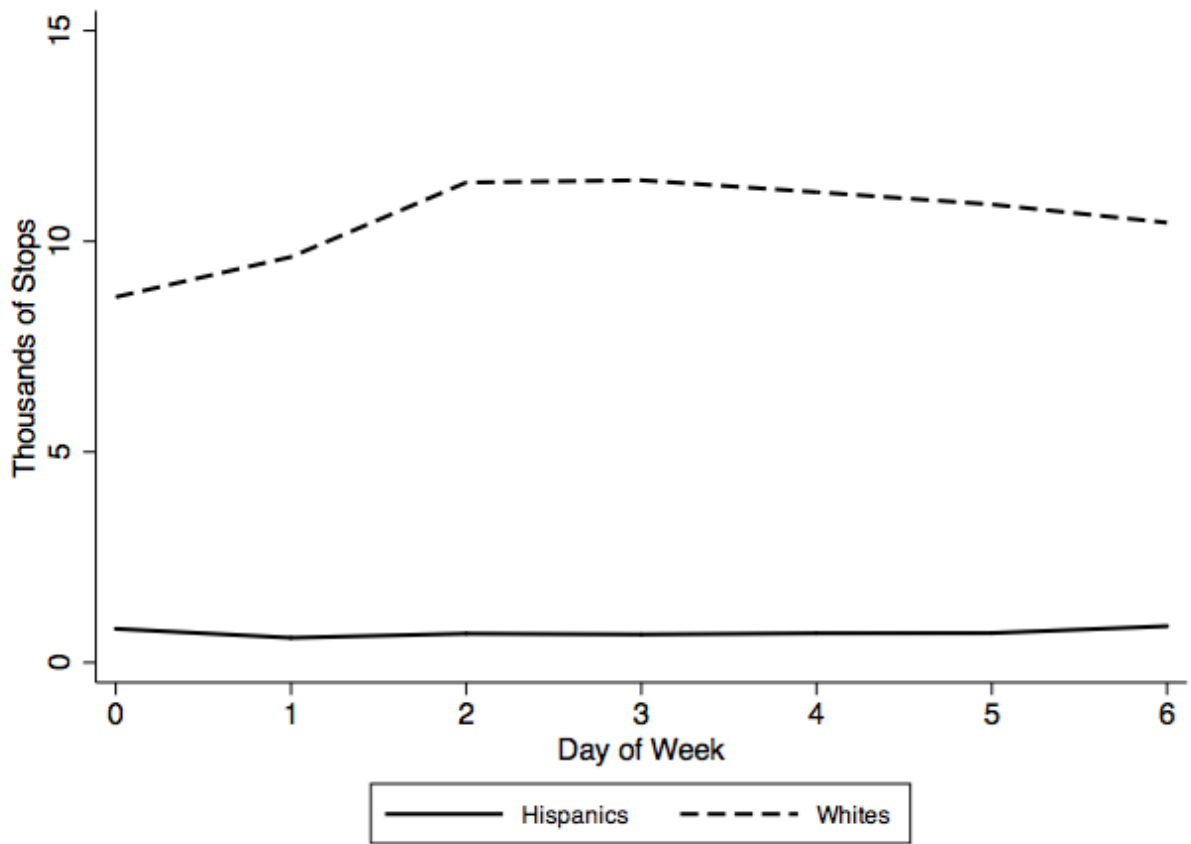


Figure A2. Searches by Day of the Week

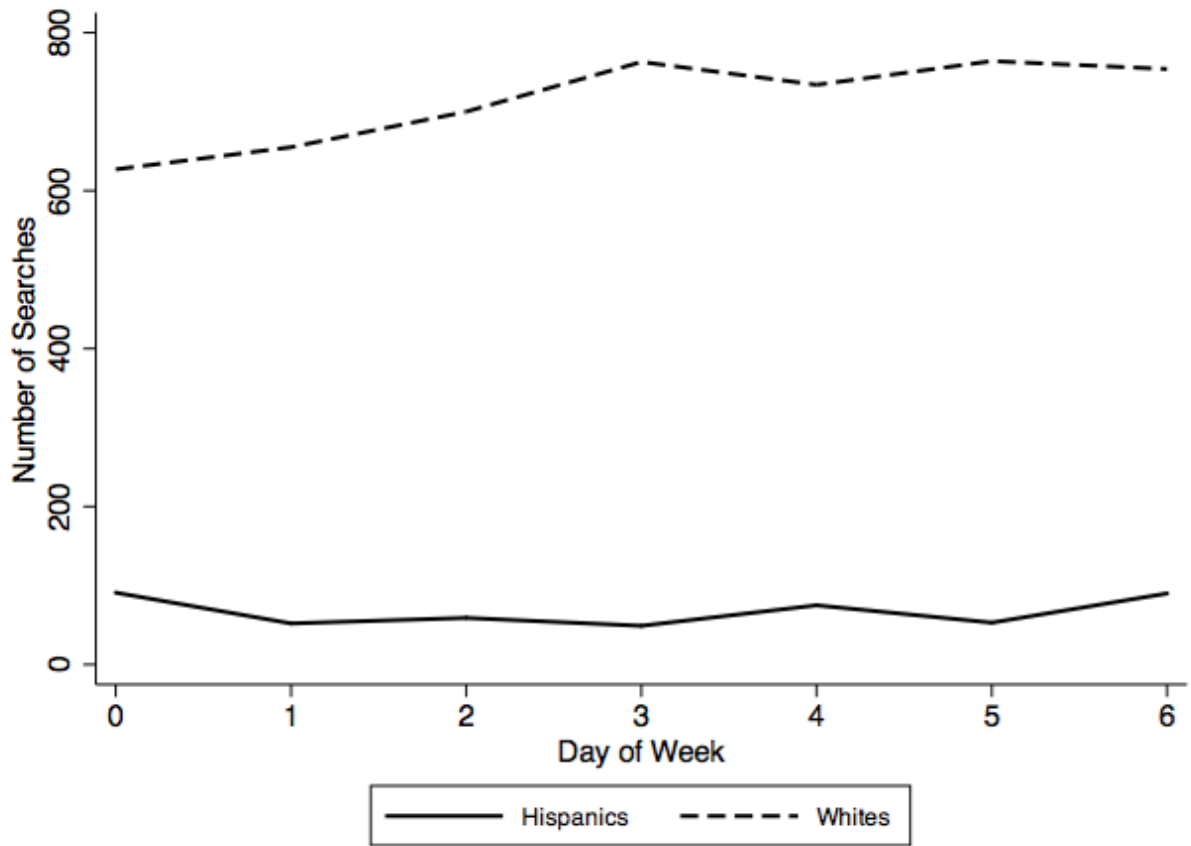
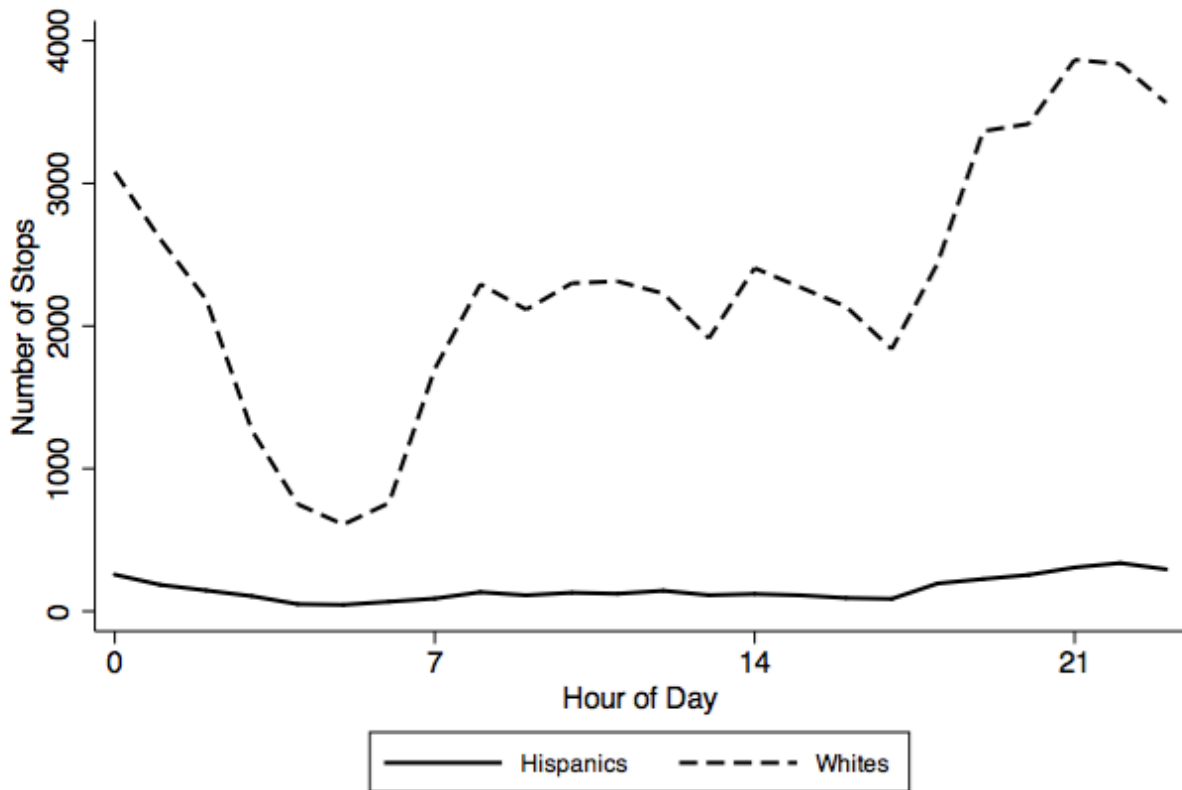
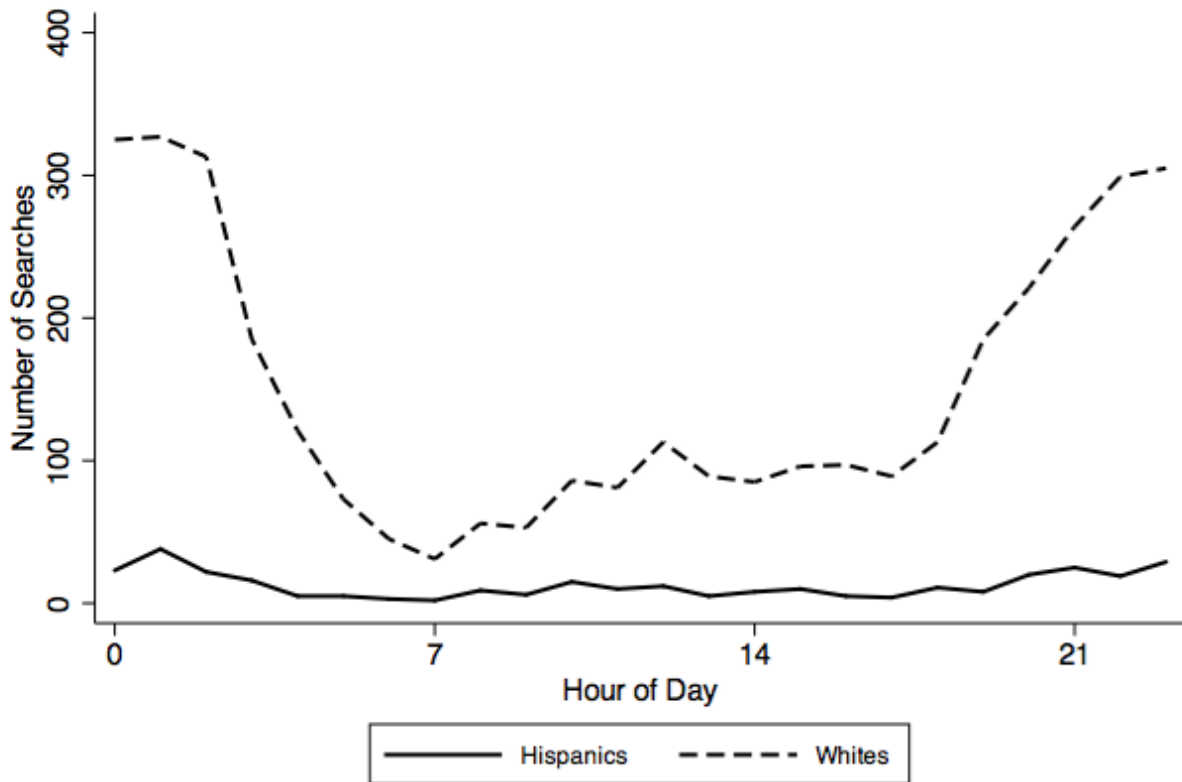


Figure A3. Stops by Hour of the Day



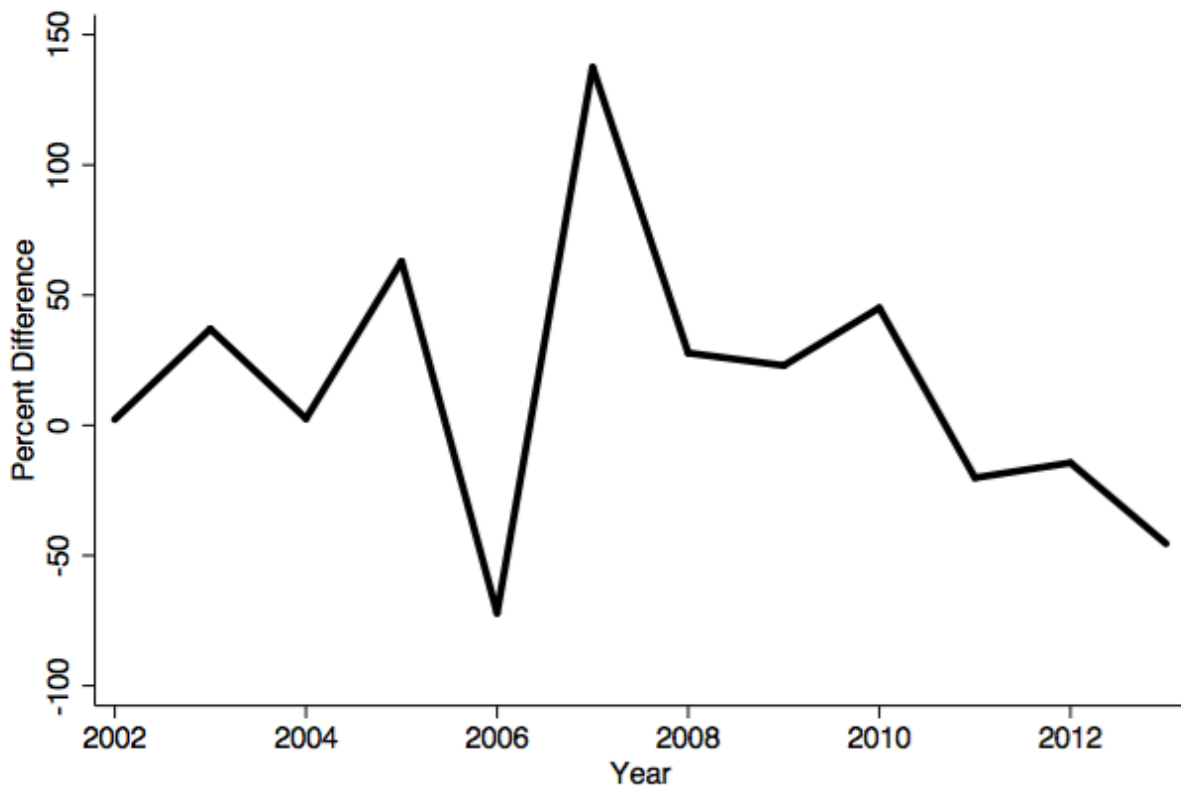
The figure excludes cases where the hour and minute was exactly 0:00. These cases were presumed to be missing data.

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	2,318	28.29	30.06	15.35
No	5,876	71.71	69.94	84.65
Total	8,194	100.00	100.00	100.00

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

Ethnicity	Search Occur	N	Differential Outcomes					
			No Action	Verbal Warning	Written Warning	Citation Issued	Arrest	Total
White	No	68,641	3.32	23.76	3.96	67.90	1.06	100.0
Hispanic	No	4,527	3.09	17.67	3.00	74.57	1.66	100.0
Total	No	89,603	3.72	24.97	3.91	66.16	1.24	100.0
White	Yes	4,997	1.50	12.37	3.74	45.41	36.98	100.0
Hispanic	Yes	469	1.28	8.10	5.12	47.33	38.17	100.0
Total	Yes	8,194	1.45	12.55	3.98	46.64	35.38	100.0