An Empirical Analysis of Racial Differences in Police Use of Force*

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Abstract

This paper explores racial differences in police use of force. On non-lethal uses of force, blacks and Hispanics are more than fifty percent more likely to experience some form of force in interactions with police. Adding controls that account for important context and civilian behavior reduces, but cannot fully explain, these disparities. On the most extreme use of force – officer-involved shootings – we find no racial differences in either the raw data or when contextual factors are taken into account. We argue that the patterns in the data are consistent with a model in which police officers are utility maximizers, a fraction of which have a preference for discrimination, who incur relatively high expected costs of officer-involved shootings.

Keywords: discrimination, decision making, bias, police use of force

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Appendix A: Data Description and Coding of Variables

A. NYPD Stop, Question and Frisk

1. *Civilian Race* - The race variable is taken from the NYPD Stop, Question and Frisk database. We code the race variables such that the five categories – white, black, hispanic, asian, other – alongwith the missing indicator are complete and mutually exclusive. "Black" is coded to include both black and black-hispanic civlians. "Hispanic" civlians includes white-hispanic civilians only. "White" and "Asian" include white civilians and asian civilians respectively. "Other" race categories includes any other races.

2. *Civilian Age* - Age variable is also taken from the NYPD Stop, Question and Frisk database. However, for several observations, ages were incorrectly coded, for example, they were coded as "**". For these observations, we recalculated ages by subtracting date of birth from the date of stop. After recalculating if we ended up with ages less than 10 or greater than 90, we coded them as missing.

3. *Civilian Gender* - Gender variable is taken from the NYPD Stop, Question and Frisk database. It is a dummy variable that is coded as 1 for "male" and 0 for "female". Any "unknown" gender is coded as missing.

4. *Whether the stop occured indoors/outdoors* - This was coded from the question "Was stop inside or outside?" in the NYPD Stop, Question and Frisk database. It is a dummy variable coded as 1 if the stop occured "inside" and 0 if the stop occured "outside".

5. *Whether the stop occured in a high crime or low crime area* - This was coded from the variable "Area has high crime incidence". It is a dummy variable that is coded as 1 if the stop occured in an area of high crime incidence and 0 if the stop occured in an area of low crime incidence.

6. *Whether the stop occured in a high crime or low crime time* - This was coded from the variable "Time of Day fits crime incidence". It is a dummy variable that is coded as 1 if the stop occured at a time of day that fit crime incidence and 0 if it did not fit crime incidence.

7. *Whether the officer was wearing uniform* - This was coded from the question "Was officer in

uniform?". It is a dummy variable that is coded as 1 if the officer was in uniform and 0 if the officer was not in uniform. Any "unknown" observations were coded as missing.

8. *Kind of ID provided* - This was coded from the variable "Stopped Person's Identification Type". A set of four mutually exclusive and exhaustive dummy variables were created based on the response to this variable –

   - Photo ID - Dummy variable coded as 1 if civilian provided Photo ID and coded as 0 if not.

   - Verbal ID - Dummy variable coded as 1 if civilian provided Verbal ID and coded as 0 if not.

   - Refused ID - Dummy variable coded as 1 if civilian refused to provide ID and coded as 0 if civilian did not refuse.

   - Other ID - Dummy variable coded as 1 if civilian provided any other type of ID and coded as 0 if he did not provide other forms of ID.

9. *With others who were stopped* - This was coded from the question "Were other persons stopped, questioned, or frisked?". It is a dummy variable that is coded as 1 if the civilian was in a stop where other civilians were stopped as well, and 0 if other civilians were not stopped with him.

10. *Civilian behavior* - This is a set of variables coded from responses to "Reason for stop" –

    - Carrying suspicious object - Dummy variable coded as 1 if civilian was carrying suspicious object and 0 otherwise.

    - Fit relevant description - Dummy variable coded as 1 if civilian fit a relevant description and 0 otherwise.

    - Preparing for crime - Dummy variable coded as 1 if officers were casing a victim or location and 0 otherwise.

    - Lookout for crime - Dummy variable coded as 1 if suspect was acting as a lookout and 0 otherwise.

- Dressed in criminal attire - Dummy variable coded as 1 if civilian was wearing clothes commonly used in a crime and 0 otherwise.

- Appearance of drug transaction - Dummy variable coded as 1 if civilian was engaged in actions indicative of a drug transaction and 0 otherwise.

- Suspicious movements - Dummy variable coded as 1 if civilian had furtive movements and 0 otherwise.

- Engaging in violent crime - Dummy variable coded as 1 if civilian was engaged in a violent crime and 0 otherwise.

- Concealing suspicious objects - Dummy variable coded as 1 if civilian had a suspicious bulge and 0 otherwise.

- Other suspicious behavior - Dummy variable coded as 1 if there were any other reason that the civilian was stopped. The variable is coded 0 otherwise.

11. *Alternative Outcomes*

- Frisked - This was coded from responses to "Reason for Frisk". It is a dummy variable that is coded as 1 if the officer stated any reason for the civilian to be frisked, and 0 if the officer did not mention any reason for the civilian to be frisked.

- Searched - This was coded from responses to "Basis of Search". It is a dummy variable that is coded as 1 if the officer stated any reasons for the civilian to be searched, and 0 if the officer did not mention any reason for the civilian to be searched.

- Arrested - This variable was coded from the question "Was an arrest made?". It is a dummy variable that is coded as 1 if the officer made an arrest and 0 if the officer did not make any arrests.

- Summonsed - This variable was coded from the question "Was a summons issued?". It is a dummy variable that is coded as 1 if the officer issued a summons and 0 if the officer did not issue any summons.

- Weapon or Contraband Found - This variable was coded from a set of questions that captured information about whether any contraband or weapon was found on the stopped person. It is a dummy variable that was coded as 1 if contraband, pistol, rifle, assault

weapon, knife or cutting instrument, machine gun, or any other type of weapon was found on the civilian. It is coded as 0 if none of the above were found on the civilian.

B. Police Public Contact Survey

1. *Civilian Race* - The race variable is taken from the Police Public Contact Survey. We code the race variables such that the four categories – white, black, hispanic, other – alongwith the missing indicator are complete and mutually exclusive. "Black" is coded to include both black and black-hispanic civlians. "Hispanic" civlians includes white-hispanic civilians and any other civilians who are coded as hispanic with a combination of another race. "White" includes white civilians. "Other" race categories includes any other races.

2. *Civilian Age* - Civilian's age variable is taken from the Police Public Contact Survey. It is a discrete variable that gives the civlian's age in years.

3. *Civilian Gender* - This variable was coded from the Police Public Contact Survey. It is a dummy variable that is coded as 1 if the civilian was male and 2 if the civilian was female.

4. *Civilian Income* - The Police Public Contact Survey gathers information about civilian's income but only presents it as a categorical variable to protect identity. Hence, this variable is categorical with the following categories – "1" for incomes less than \$20,000, "2" for incomes between \$20,000 and \$50,000, and finally "3" for incomes greater than \$50,000.

5. *Civlian employed or not last week* - This variable was coded from responses to the question "Did you have a job or work at a business last week?". It is coded as 1 if the civilian had a job or worked at a business in the previous week, and 0 otherwise.

6. *Population size of civilian's address* - This was coded from the survey variable that gathers information about the population size of the civilian's address. It is a categorical variable coded as "1" if there was no response or the population size was under 100,000. It is coded as "2" if the population size was between 100,000 and 499,999, "3" if the population size was between 500,000 and 999,999, and finally "4" if the population size was greater than 1 million.

7. *Time of encounter* - This was coded from survey variables that gather information about the interaction. Since this question is asked differently in different years, to maintain consistency, we coded it as "1" if the interaction happened between 6 am and 12 noon, "2" if the interaction happened between 12 noon and 6 pm, "3" if the interaction happened during day time but the time is not specifically stated, "4" if the interaction happened during 6 pm and 12 midnight, "5" if the interaction happened during 12 midnight and 6 am and finally "6" if the interaction happened during night time but the time is not specifically stated.

8. *Officer Race* - Officer race was coded from responses to questions about the race of the police officer or majority of police officers present during the interaction. It is represented by the following set of race dummy variables – black, white, hispanic, other, or unknown. "Black" is coded as 1 if the police officer was black or all/most of the police officers present were black. "White" is coded as 1 if the police officer was white or all/most of the police officers present were white. "Other" is coded as 1 if the police officer was of any other race or all/most of the police officers present were of any other race. For 2011, variables were coded slightly differently. There was a "hispanic" race included that is 1 if one or more of the officers were of hispanic origin. Similarly, for 2011, "black", "white" or "other" races were coded as 1 if one or more of the officers present were black, white or of any other race and 0 otherwise.

9. *Type of Incident* - This is a categorical variable coded as "1" for a street stop, "2" for a traffic stop and "3" for any other stop.

10. *Civilian Behavior* - This is a dummy variable coded as 1 if any of the following variables were coded as 1 and 0 if all the following variables were coded as 0.

   - Disobeyed - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during this contact, did you disobey or interfere with the officer(s)?". It is coded as 0 if the civilian said "No" to the question.

   - Tried to get away - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during this contact, did you try to get away?". It is coded as 0 if the civilian said "No" to the question.

   - Hit officer - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during

this contact, did you push, grab or hit the police officer(s)?". It is coded as 0 if the civilian said "No" to the question.

- Resisted - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during this contact, did you resist being handcuffed arrested, or searched?". It is coded as 0 if the civilian said "No" to the question.

- Complained - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during this contact, did you complain to the officer(s)?". It is coded as 0 if the civilian said "No" to the question.

- Argued - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during this contact, did you argue with the officer(s)?". It is coded as 0 if the civilian said "No" to the question.

- Threatened officer - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during this contact, did you curse at, insult or verbally threaten the police officer(s)?". It is coded as 0 if the civilian said "No" to the question.

- Used physical force - Dummy variable coded as 1 if the civilian said "Yes" to "At any time during this contact, did you physically do anything else?". It is coded as 0 if the civilian said "No" to the question.

11. *Alternative Outcomes* -

- Civilian searched - This variable coded from responses to questions about whether the civilian was actually searched, frisked or patted down during the contact. It is coded as 1 if the civilian was searched, frisked or patted down and 0 otherwise.

- Civilian arrested - This variable is coded from responses to questions about whether the civilian was arrested during the contact. It is coded as 1 if the civilian was arrested and 0 otherwise.

- Civilian guilty of carrying drugs, alcohol or weapon - This variable is coded from responses to questions about whether the civilian was guilty of carrying any illegal items like weapons, drugs, or an open container of alcohol. It is coded as 1 if the civilian was guilty and 0 otherwise.

Appendix B: Constructing a Database on Officer-Involved Shootings

Variable Construction - Variables were constructed from police reports and internet articles. In all cases, information from police reports were given precedence over internet articles if there were any discrepancies. For all variables explained below, if a variable was missing information we coded it with a missing indicator .

1. Unique Identification Number - The unique identifier used to number officer reports or shooting incidents.

2. Date - Date of shooting (Format - MM/DD/YY)

3. Time - Time of shooting (Format - HHMM)

4. Location Address - Detailed address of shooting

5. Latitude - Latitude of shooting location. Unless explicitly mentioned in the excel reports, these were obtained by overlapping the detailed address on google maps.

6. Longitude - Longitude of shooting location. Unless explicitly mentioned in the excel reports, these were obtained by overlapping the detailed address on google maps.

7. Premise Category - Location category coded from officer reports and excel workbooks. Possible categories are

   (a) Residence

   (b) Street

   (c) Business

   (d) Yard/lot

   (e) Park

   (f) School

   (g) Government property (e.g. police station)

   (h) Other

8. Inside/Outside - Location category coded whether being inside or outside an enclosed space.

9. Precinct/Reporting District - Precinct in which shooting took place. Usually also reported as sector or subsector in officer reports.

10. Suspect Name - Name of suspect involved in shooting

11. Suspect Injury - Coded as

    (a) Deceased

    (b) Shoot and Miss

    (c) Injured

    (d) Unknown

    (e) None

12. Suspect Weapon - Weapon used by/found on the subject during the shooting.

13. Suspect Race - Coded as White, Black, Hispanic or Other

14. Suspect Sex - Coded as Male or Female

15. Suspect Age - Calculated as fractions at the time of the incident. For instance, a suspect who is 24 years and 6 months old at the time of the shooting incident has age equal to 24.5. In case only years were provided and months werent, we took an expected age based on year, for example, somebody who could be 24 or 25 years old was given 24.5.

16. Number of officers present when shots fired - All officers who were present during the shooting but didnt shoot at the suspect.

17. Number of officers shooting - All officers who shot at the suspect.

18. Officer(s) Name - Names of all officers involved in shooting. Multiple names should be separated by commas to keep observations at the suspect level.

19. Officer(s) Race - Races of all officers involved in shooting. Races are coded as White, Black, Hispanic and Other. Multiple officers should be separated by commas to keep observations at the suspect level.

20. Officer(s) Sex - Sex of all officers involved in shooting. Sex is coded as Male or Female. Multiple officers should be separated by commas to keep observations at the suspect level.

21. Officer(s) Age - Ages of all officers involved in shooting calculated as fractions at the time of the incident. For instance, an officer who is 24 years and 3 months old at the time of the shooting incident has age equal to 24.25. In case only years were provided and months werent, we took an expected age based on year, for example, somebody who could be 24 or 25 years old was given 24.5. Multiple officers should be separated by commas to keep observations at the suspect level.

22. Officer(s) Rank - Ranks of all officers involved in shooting at the time of the shooting. Multiple officers should be separated by commas to keep observations at the suspect level.

23. Officer(s) Tenure -Tenure of all officers involved at the time of the incident (calculated as fractions at the time of the incident). This includes full-time concurrent and law enforcement tenure of officers across all counties they have ever served. Multiple officers should be separated by commas to keep observations at the suspect level.

24. Officer(s) PD Jurisdiction - Jurisdiction of all officers involved in shooting. This is the handling unit or the jurisdiction that the officer answers to or is a part of. Multiple officers should be separated by commas to keep observations at the suspect level.

25. Officer(s) Injury - Injuries of all officers involved in shooting. These are coded from categories

    (a) Deceased
    (b) Shoot and Miss
    (c) Injured
    (d) Unknown
    (e) None

    Multiple officers should be separated by commas to keep observations at the suspect level.

26. The next 5 variables are mutually exclusive and exhaustive. This implies that only one of them can be 1 in a given shooting while the rest are 0s. All of them cannot be 0s for a given shooting. Earlier variables take precedence over later variables.

(a) Suspect Fired or Attacked - Coded as 1 if the suspect fired or attacked the officers. If the suspect fired or attacked a civilian (or shot warning shots in the air) but did it in view of the officers, the variable is still coded as 1. Otherwise it is coded as 0.

(b) Suspect Drew or Revealed - Coded as 1 if the suspect drew his weapon or revealed his weapon in front of the officers. If a suspect fired his weapon and hence revealed his weapon, only suspect fired or attacked is coded as 1 and suspect drew or revealed is coded as 0. If the variable is not coded as 1, it should be coded as 0.

(c) Suspect Attempted Draw - Coded as 1 if the suspect attempted to draw his weapon. Otherwise, it should be coded as 0. Similar to variable above, if any of the aforementioned variables were 1, then this would be coded as 0.

(d) Suspect Appeared to Have - Coded as 1 if the suspect appeared to have a weapon as witnessed by the officers. Otherwise, it is coded as 0. Similar to variable above, if any of the aforementioned variables were 1, then this would be coded as 0.

(e) No Weapon or Attack - Coded as 1 if the suspect did not have any weapon or did not attack. Otherwise, it is coded as 0. Similar to variable above, if any of the aforementioned variables were 1, then this would be coded as 0.

27. Officer or Suspect attacked first - Coded as O if officer attacked the suspect first and coded as S if suspect attacked the officer first. If the suspect resisted arrest but didnt explicitly use force against the force, we do not take it as the suspect attacking the officer first. In case the suspect attempts to flee but does so in the direction of the officers, the suspect is considered to be attacking first.

28. Officer verbal warning - Coded as 1 if any officer issued any verbal warnings. Coded as 0 if the officer did not issue any verbal warnings. If the report does not explicitly mention any verbal warnings, code this variable as 0.

29. Officer under-cover - Coded as 1 if the officer(s) was under-cover. Coded as 0 if he was not. If the report does not explicitly mention officers being under-cover, then code this variable as 0.

30. Officer on-duty - Coded as 1 if officer(s) was on-duty. Coded as 0 if officer was off-duty.

31. Officer, involved in previous shootings - Coded as 1 if officer was involved in previous shootings and 0 if he was not. Multiple officers are separated by commas.

32. Officer, number of shootings involved in previously - Coded as the number of shootings every officer (who was involved in the shooting) was involved in previously. Multiple officers are separated by commas.

33. Number of shots: officer - Number of shots fired by the officer at the suspect. Multiple officers separated by commas.

34. Number of shots: suspect - Number of shots fired by the suspect at the officer.

35. Suspect fled - Coded as 1 even if the report suggest that the suspect fled or attempted to flee. Coded as 0 otherwise.

36. Suspect Mental Illness - Coded as 1 if suspect was suffering from a mental illness. Coded as 0 otherwise. Since this is rarely mentioned, variable is coded as 0 unless explicitly mentioned in the reports.

37. Suspect on Drugs/Alcohol - Coded as 1 if suspect was under the influence of drugs or alcohol. Coded as 0 otherwise. Since this is rarely mentioned, variable is coded as 0 unless explicitly mentioned in the reports.

38. Type of Substance - If the answer to the previous question is 1, then mention what substance suspect was under the influence of here. Otherwise code it as missing.

39. Suspect on Parole - Coded as 1 if the suspect was on parole. Coded as 0 otherwise. Since this is rarely mentioned, variable is coded as 0 unless explicitly mentioned in the reports.

40. Suspect on Probation - Coded as 1 if the suspect was on probation. Coded as 0 otherwise. Since this is rarely mentioned, variable is coded as 0 unless explicitly mentioned in the reports. If the suspect was under arrest and was involved in a shooting on his way to prison, then this variable is still 0.

41. Officer, force within policy - This variable is related to consequences the officer faced after the shooting and relates to whether officers use of force was justified or not. It is coded as 1

if the officers use of force was justified to be within policy. It is coded as 0 otherwise.

42. Officer, tactics within policy - This variable is related to consequences the officer faced after the shooting and relates to whether officers use of force was justified or not. It is coded as 1 if the officers tactics was justified to be within policy. It is coded as 0 otherwise.

43. Officer, training - This variable is related to consequences the officer faced after the shooting. It is coded as 1 if the officer was put under training after the shooting. It is coded as 0 otherwise.

44. Officer, discipline - This variable is related to consequences the officer faced after the shooting. It is coded as 1 if the officer was put under disciplinary measures after the shooting. It is coded as 0 otherwise. If the officer was put under probation after the shooting, this variable is coded as 1.

45. Officer Suspended - This variable is related to consequences the officer faced after the shooting. It is coded as 1 if the officer was suspended after the shooting. It is coded as 0 otherwise.

46. Officer Terminated - This variable is related to consequences the officer faced after the shooting. It is coded as 1 if the officers employment was terminated after the shooting. It is coded as 0 otherwise.

47. The next 9 variables are related to why the officers were in the crime scene in the first place. If there are multiple reasons for why a cop was at the crime scene, then several of the variables below can be coded as 1 i.e. they are NOT mutually exclusive and exhaustive. -

    (a) Respond Robbery - Coded as 1 if the officers were responding to a robbery. Coded as 0 otherwise.

    (b) Respond Violent - Coded as 1 if the officers were responding to a violent activity (e.g. a fight, a murder, a kidnapping, a hostage situation). Coded as 0 otherwise.

    (c) Respond Auto - Coded as 1 if the officers were responding to a situation that involved an automobile. Coded as 0 otherwise.

    (d) Respond Drugs - Coded as 1 if the officers were conducting a drug raid. Coded as 0 otherwise.

(e) Respond Warrant - Coded as 1 if the officers had a warrant and were at the crime scene to arrest a suspect or conduct search under warrant. Coded as 0 otherwise.

(f) Respond Suspicious - Coded as 1 if the officers were responding to a suspect engaging in suspicious activity. Coded as 0 otherwise.

(g) Respond as Victim - Coded as 1 if the officer was a victim and was responding to the suspect. For example, if the officers home was being robbed or the officer was under attack while off-duty, this variable is coded as 1. Coded as 0 otherwise.

(h) Respond Suicide - Coded as 1 if the officer was responding to a suicide. Coded as 0 otherwise.

(i) Respond Other - Coded as 1 if the reason to be at the crime scene does not fall under any of the aforementioned categories. Coded as 0 otherwise.

(j) Reason Officer on Scene - If respond other is coded as 1, then the details of the reason should be mentioned here. Otherwise, it is coded as missing.

48. Grand Jury Verdict - Contains links to the grand jury verdict. Coded as True bill, No Bill or Pending from the grand jury verdict for Dallas.

49. Online Source 1 - Link to any online source that was referenced for shooting related information.

50. Online Source 2 - Link to any online source that was referenced for shooting related information.

51. Online Source 3 - Link to any online source that was referenced for shooting related information.

52. EXTRA - Any other information that is relevant but does not fit into any other columns must be entered here.

Appendix C: A Note on Categorical Discrimination

Individuals sort information with the aid of categories. Fryer and Jackson (2008) provide a model in which the routine sorting of information into a discrete set of categories in a way that maximizes cognitive efficiency can lead to biases in decision making.[1] Consider the following thought experiment. Imagine a population of employers and a population of workers. The population of workers consists of 90 percent W workers and 10 percent B workers. Thus, the B workers are the minority group. Workers come in two human capital levels: high and low. So, overall, workers come in four flavors: B-high, B-low, W-high, and W-low. Black and white workers are both just as likely to be of high human capital levels as low. We can represent a worker's type by a vector in $(0,1)^2$, where $(0,0)$ represents B-low, $(0,1)$ represents B-high, $(1,0)$ represents W-low, and $(1,1)$ represents W-high.

Let us suppose that an employer has fewer categories available in her memory than there are types of people in the world, and start by examining the case where the employer has three categories available. Suppose also that the employer has interacted with workers in the past roughly in proportion to their presence in the population. How might the employer sort the past types that s/he has interacted with into the categories? Fryer and Jackson (2008) suppose that this is done in a way so that the objects (experiences with types of past workers in this case) in the categories are as similar as possible. Specifically, objects are sorted to minimize the sum across categories of the total variation about the mean from each category.

Now, consider a case where the employer has previously interacted with 100 workers in proportion to their presence in the population. So the employer has interacted with 5 workers of type $(0,0)$; 5 of type $(0,1)$; 45 of type $(1,0)$ and 45 of type $(1,1)$. Let us assign these to three categories. The most obvious way, and the unique way to minimize the sum across categories of the total variation about the mean from each category, is to put all of the type $(1,1)$'s in one category, all of the type $(1,0)$'s in another category, and all of $(0,)$'s in the third category. This means that the white workers end up perfectly sorted, but the black workers end up only sorted by race and not by their human capital level.

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[1]There is a rich history in psychology investigating how categories effect decision making. See Allport (1954) or Fiske (1998).

And, perhaps more important for our particular application, more experience with a certain race allows one to make finer distinctions among them. This is consistent both with the model and with an impressive literature using lab experiments (see Sporer 2001 for a nice review).

One partial test of the categorization theory of discrimination is to investigate whether black police officers (who presumably make finer distinctions in own race interactions) treat black suspects differently than white officers treat black suspects. Consistent with the example above, if black police officers have had more interactions with blacks than white officers then they will sort them more finely and be able to make more nuanced distinctions between black suspects who pose danger and those who may not. In fact, Goff et al. (2014) argue – using 176 white male police officers from large urban areas – that white officers over estimate the age of young black males and more generally categorize them more coarsely. Thus, under this theory – all else equal – black officers will treat black suspects more fairly than white officers.

The data, however, seem to contradict a key prediction of the categorization theory – there is no evidence that black officers employ different levels of force on black civilians relative to white officers. On non-lethal uses of force, black officers are no less likely to employ higher level uses of force on black suspects – all else equal – than white officers. The black coefficient on racial differences in at least kicking, using a pepper spray spray or baton is -0.001 (0.003). The same coefficient on whether or not a white officer kicks a suspect or uses a pepper spray or baton is 0.000 (0.001). And, in officer-involved shootings, the fraction of black suspects that are unarmed, conditional upon an officer discharging their weapon, is 25.8 percent when the officer is black and 19 percent when the officer is white. The p-value on the difference is 0.115.

Appendix Table 1
Data Collection

Dataset	Collection	Year	Variables
NYC's "Stop, Question and Frisk"	Record each encounter where an officer stops a pedestrian, asks them questions, and frisks or searches them	2003-2013	Stop characteristics, civilian demographics, officer characteristics, encounter characteristics, post-encounter characteristics, and use of force
Police Public Contact Survey	Survey interviews a nationally representative sample of residents aged 16 or older on their "contacts with police" during the year	1996-2011 with a gap of 3 years between any 2 surveys.	Civilian demographics, civilian behavior contact characteristics, officer demographics, contact outcome, and use of force
Officer Involved Shootings	Event summaries from all incidents in in which officers discharged their firearms at civilians. Data was collected from Austin, Dallas, six large Florida counties, Houston, and Los Angeles	2000-2015 depending on location	Incident location and date, civilian demographics, officer demographics, civilian and officer injuries, civilian weapon, officer duty status, encounter characteristics
Houston Police Arrest Data	Event summaries from a random draw of arrests in which officers may have been justified in using lethal force but did not. Arrest data was taken for the following offenses, from 2000 - 2015: aggravated assault on a peace officer, attempted capital murder of a peace officer, resisting arrest, evading arrest, and interfering in an arrest. Data was collected from the Houston Police Department.	2000 - 2015	Incident location and date, civilian demographics, officer demographics, civilian and officer injuries, civilian weapon, officer duty status, encounter characteristics

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Appendix Table 2A

Racial Differences in Non-Lethal Use of Force

At Least Hands, NYC Stop and Frisk

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	(1)	(2)	(3)	(4)	(5)
Black	0.064***	0.057***	0.074***	0.053***	0.022***
	(0.014)	(0.015)	(0.014)	(0.012)	(0.004)
Hispanic	0.069***	0.062***	0.073***	0.059***	0.015***
	(0.015)	(0.015)	(0.015)	(0.013)	(0.003)
Asian	0.006	0.000	0.008	0.007	−0.006
	(0.015)	(0.016)	(0.017)	(0.015)	(0.004)
Other race	0.048***	0.042***	0.053***	0.043***	0.006*
	(0.013)	(0.012)	(0.012)	(0.010)	(0.004)
Constant	0.153***				
	(0.009)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	4,927,467	4,927,467	4,927,467	4,927,467	4,927,467

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported using at least hands or a more severe force on a civilian during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 2B
Racial Differences in Non-Lethal Use of Force
At Least Pushing to Wall, NYC Stop and Frisk

	(1)	(2)	(3)	(4)	(5)
Black	0.011**	0.009*	0.017***	0.011***	0.009***
	(0.005)	(0.005)	(0.005)	(0.004)	(0.002)
Hispanic	0.013***	0.011**	0.017***	0.014***	0.004***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.001)
Asian	−0.006	−0.008	−0.006	−0.005	−0.002
	(0.004)	(0.005)	(0.005)	(0.004)	(0.001)
Other race	0.007	0.007	0.011***	0.009***	0.001
	(0.004)	(0.004)	(0.004)	(0.003)	(0.002)
Constant	0.052***				
	(0.003)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	4,152,485	4,152,485	4,152,485	4,152,485	4,152,485

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported at least pushing a civilian to a wall or using a more severe force during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 2C
Racial Differences in Non-Lethal Use of Force
At Least Using Handcuffs, NYC Stop and Frisk

	(1)	(2)	(3)	(4)	(5)
Black	0.005**	0.005**	0.008***	0.005***	0.004***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
Hispanic	0.003	0.002	0.004**	0.003*	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
Asian	−0.001	−0.002	−0.001	−0.001	0.001
	(0.002)	(0.003)	(0.003)	(0.002)	(0.001)
Other race	0.004*	0.004**	0.005***	0.004***	0.001
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Constant	0.026***				
	(0.002)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	4,017,369	4,017,369	4,017,369	4,017,369	4,017,369

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported at least using handcuffs or a more severe force on a civilian during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 2D
Racial Differences in Non-Lethal Use of Force
At Least Drawing a Weapon (*100), NYC Stop and Frisk

	(1)	(2)	(3)	(4)	(5)
Black	0.268**	0.222*	0.477***	0.326***	0.251***
	(0.121)	(0.129)	(0.118)	(0.102)	(0.056)
Hispanic	0.164*	0.111	0.262**	0.200**	0.063
	(0.087)	(0.096)	(0.101)	(0.087)	(0.047)
Asian	−0.068	−0.112	−0.073	−0.039	0.042
	(0.128)	(0.140)	(0.157)	(0.133)	(0.062)
Other race	0.233**	0.187*	0.294***	0.265***	0.016
	(0.112)	(0.106)	(0.102)	(0.093)	(0.077)
Constant	1.278***				
	(0.086)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	3,957,285	3,957,285	3,957,285	3,957,285	3,957,285

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported at least drawing a weapon on a civilian or using a more severe force (*100) during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 2E
Racial Differences in Non-Lethal Use of Force
At Least Pushing to Ground (*100), NYC Stop and Frisk

	(1)	(2)	(3)	(4)	(5)
Black	0.245**	0.202*	0.422***	0.284***	0.211***
	(0.109)	(0.117)	(0.109)	(0.095)	(0.049)
Hispanic	0.162**	0.113	0.247**	0.187**	0.052
	(0.081)	(0.089)	(0.094)	(0.082)	(0.041)
Asian	−0.055	−0.097	−0.051	−0.023	0.031
	(0.117)	(0.128)	(0.142)	(0.123)	(0.052)
Other race	0.180*	0.164	0.269***	0.242***	0.017
	(0.102)	(0.101)	(0.097)	(0.090)	(0.073)
Constant	1.110***				
	(0.079)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	3,949,925	3,949,925	3,949,925	3,949,925	3,949,925

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported at least pushing a civilian to the ground or using a more severe force (*100) during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 2F
Racial Differences in Non-Lethal Use of Force
At Least Pointing a Weapon (*100), NYC Stop and Frisk

	(1)	(2)	(3)	(4)	(5)
Black	0.096**	0.085*	0.184***	0.132***	0.098***
	(0.045)	(0.046)	(0.042)	(0.036)	(0.024)
Hispanic	0.006	−0.010	0.046	0.026	−0.004
	(0.034)	(0.036)	(0.036)	(0.030)	(0.022)
Asian	−0.045	−0.056	−0.053	−0.044	−0.030
	(0.048)	(0.050)	(0.057)	(0.050)	(0.033)
Other race	0.093**	0.078*	0.108**	0.100**	0.019
	(0.043)	(0.043)	(0.044)	(0.041)	(0.037)
Constant	0.439***				
	(0.035)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	3,918,347	3,918,347	3,918,347	3,918,347	3,918,347

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported at least pointing a weapon at a civilian or using a more severe force (*100) during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 2G
Racial Differences in Non-Lethal Use of Force
At Least Using Pepper Spray or Baton (*100), NYC Stop and Frisk

	(1)	(2)	(3)	(4)	(5)
Black	0.014**	0.013**	0.013***	0.008*	0.010**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)
Hispanic	−0.000	−0.001	−0.001	−0.003	−0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Asian	−0.016**	−0.016**	−0.015**	−0.015**	−0.009
	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)
Other race	0.008	0.003	0.001	−0.000	−0.004
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)
Constant	0.037***				
	(0.005)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	3,900,587	3,900,587	3,900,587	3,900,587	3,900,587

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported at least using a pepper spray or a baton on a civilian or using a more severe force (*100) during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 3
Racial Differences in Non-Lethal Use of Force
Other Force, NYC Stop and Frisk

	(1)	(2)	(3)	(4)	(5)
Black	−0.002*	−0.002*	−0.002*	−0.001	−0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
Hispanic	−0.001	−0.001	−0.001	−0.001	−0.001*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
Asian	−0.001	−0.001	−0.001	−0.001	−0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
Other race	0.009***	0.005***	0.004***	0.004***	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.013***				
	(0.001)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Precinct and Year FE					✓
Observations	4,982,426	4,982,426	4,982,426	4,982,426	4,982,426

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police used other force during a stop and frisk interaction. The omitted race is white, and the omitted ID type is other. The first column includes solely racial group dummies. The second column adds controls for gender and a quadratic in age. The third column adds controls for whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, and whether others were stopped during the interaction. The fourth column adds controls for civilian behavior. The fifth column adds precinct and year fixed effects. Each column includes missings in all variables. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 4A
Racial Differences in Non-Lethal Use of Force
At Least Grab, PPCS

	(1)	(2)	(3)	(4)	(5)
Black	0.019***	0.016***	0.016***	0.014***	0.014***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Hispanic	0.013***	0.007***	0.007***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Other race	0.000	−0.003	−0.003	−0.004*	−0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.008***				
	(0.000)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Year					✓
Observations	48,498	48,498	48,498	48,498	48,498

Notes: This table reports OLS estimates. The sample consists of all Police Public Contact Survey respondents from 1996 - 2011 with non-missing use of force data. The dependent variable is an indicator for whether the survey respondent reported an officer grabbing him/her or using a more severe force in a contact with the police. The omitted race is white. Each column corresponds to a different empirical specification. The first column includes solely racial dummies. The second column adds civilian gender, work, income, population size of civilian's address and a quadratic in age. The third column adds controls for contact time, contact type and officer race. The fourth column adds a civilian behavior dummy. The fifth column adds a control for year. Each column includes missing in all variables. Standard errors are robust and are reported in parentheses. Each column includes missings in all variables. Robust standard errors are reported in parentheses.

Appendix Table 4B
Racial Differences in Non-Lethal Use of Force
At Least use Handcuffs, PPCS

	(1)	(2)	(3)	(4)	(5)
Black	0.015***	0.013***	0.013***	0.012***	0.012***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Hispanic	0.010***	0.006***	0.006***	0.006***	0.006***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Other race	−0.000	−0.003*	−0.003	−0.003*	−0.003*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.005***				
	(0.000)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Year					✓
Observations	48,300	48,300	48,300	48,300	48,300

Notes: This table reports OLS estimates. The sample consists of all Police Public Contact Survey respondents from 1996 - 2011 with non-missing use of force data. The dependent variable is an indicator for whether the survey respondent reported an officer handcuffing him/her or using a more severe force in a contact with the police. The omitted race is white. Each column corresponds to a different empirical specification. The first column includes solely racial dummies. The second column adds civilian gender, work, income, population size of civilian's address and a quadratic in age. The third column adds controls for contact time, contact type and officer race. The fourth column adds a civilian behavior dummy. The fifth column adds a control for year. Each column includes missing in all variables. Standard errors are robust and are reported in parentheses. Each column includes missings in all variables. Robust standard errors are reported in parentheses.

Appendix Table 4C
Racial Differences in Non-Lethal Use of Force
At Least Point a Gun, PPCS

	(1)	(2)	(3)	(4)	(5)
Black	0.009***	0.008***	0.008***	0.008***	0.008***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Hispanic	0.004***	0.002*	0.002*	0.002**	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Other race	−0.000	−0.001	−0.001	−0.002	−0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.002***				
	(0.000)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Year					✓
Observations	48,103	48,103	48,103	48,103	48,103

Notes: This table reports OLS estimates. The sample consists of all Police Public Contact Survey respondents from 1996 - 2011 with non-missing use of force data. The dependent variable is an indicator for whether the survey respondent reported an officer pointing a gun or using a more severe force in a contact with the police. The omitted race is white. Each column corresponds to a different empirical specification. The first column includes solely racial dummies. The second column adds civilian gender, work, income, population size of civilian's address and a quadratic in age. The third column adds controls for contact time, contact type and officer race. The fourth column adds a civilian behavior dummy. The fifth column adds a control for year. Each column includes missing in all variables. Standard errors are robust and are reported in parentheses. Each column includes missings in all variables. Robust standard errors are reported in parentheses.

Appendix Table 4D
Racial Differences in Non-Lethal Use of Force
At Least Kick, use a Stun Gun or Pepper Spray, PPCS

	(1)	(2)	(3)	(4)	(5)
Black	0.002**	0.002**	0.002**	0.001*	0.001*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Hispanic	0.001*	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Other race	−0.001***	−0.002***	−0.002***	−0.002***	−0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.001***				
	(0.000)				
No Controls	✓				
Baseline Characteristics		✓	✓	✓	✓
Encounter Characteristics			✓	✓	✓
Civilian Behavior				✓	✓
Year					✓
Observations	48,007	48,007	48,007	48,007	48,007

Notes: This table reports OLS estimates. The sample consists of all Police Public Contact Survey respondents from 1996 - 2011 with non-missing use of force data. The dependent variable is an indicator for whether the survey respondent reported an officer kicking or using a stun gun or pepper spray in a contact with the police. The omitted race is white. Each column corresponds to a different empirical specification. The first column includes solely racial dummies. The second column adds civilian gender, work, income, population size of civilian's address and a quadratic in age. The third column adds controls for contact time, contact type and officer race. The fourth column adds a civilian behavior dummy. The fifth column adds a control for year. Each column includes missing in all variables. Standard errors are robust and are reported in parentheses. Each column includes missings in all variables. Robust standard errors are reported in parentheses.

Analysis of Subsamples, Extensive Margin, Officer Involved Shootings

	Coefficient on Black	Coefficient on Hisp.	Observations
Full Sample	−0.014	0.008	1,531
Panel A: Number of Officers			
2+ Officers	0.001	0.038	579
	(0.024)	(0.026)	
1 Officer	−0.006	0.021	618
	(0.038)	(0.042)	
p-value	0.857	0.710	
Panel B: Civilian Attack			
Civlian Attacked/Drew	−0.020	−0.017	791
	(0.025)	(0.026)	
Appeared to Draw/No Attack	0.043	0.067	740
	(0.058)	(0.062)	
p-value	0.293	0.198	
Panel C: Officer Duty			
On-Duty Officer	−0.007	0.009	1,006
	(0.028)	(0.030)	
Off-Duty Officer	−0.095	−0.046	220
	(0.070)	(0.073)	
p-value	0.195	0.428	
Panel D: Majority Officer Unit			
White/Asian/Other	−0.051	0.006	427
	(0.035)	(0.039)	
Black/Hispanic	−0.001	0.031	549
	(0.040)	(0.043)	
p-value	0.328	0.654	

Notes: This table reports OLS estimates. The sample consists of all officer involved shootings in Houston from 2000 - 2015, plus a random draw of all arrests for the following offenses, from 2000 - 2015: aggravated assault on a peace officer, attempted capital murder of a peace officer, resisting arrest, evading arrest, and interfering in an arrest. The dependent variable is whether the officer fired his gun during the encounter, with each panel presenting results from the indicated subgroups. We control for civilian gender, a quadratic in age, officer demographics, encounter characteristics, weapon that the civilian was carrying and missings in all variables (i.e. all variables included in the final row of Table 5). Year fixed effects are included in all regressions. Robust standard errors are reported in parentheses.

Analysis of Risk Sets, Houston Police Arrest Data

	Coefficient on Black	Coefficient on Hisp.	Observations
Full Sample	−0.014	0.008	1,531
Resist/Interfere Arrest	−0.034	−0.022	748
	(0.030)	(0.030)	
Evade Arrest	0.000	0.048	988
	(0.033)	(0.035)	
Assault	−0.005	−0.038	588
	(0.024)	(0.027)	
Aggravated Assault/Attempted Murder	0.017	0.012	587
	(0.033)	(0.037)	
p-value	0.557	0.098	

Notes: This table reports OLS estimates. The sample consists of all officer involved shootings in Houston from 2000 - 2015, plus a random draw of all arrests for the following offenses, from 2000 - 2015: aggravated assault on a peace officer, attempted capital murder of a peace officer, resisting arrest, evading arrest, and interfering in an arrest. The dependent variable is whether the officer fired his gun during the encounter, with each panel presenting results from the indicated subgroups. We control for civilian gender, a quadratic in age, officer demographics, encounter characteristics, weapon that the civilian was carrying and missings in all variables (i.e. all variables included in the final row of Table 5). Year fixed effects are included in all regressions. Robust standard errors are reported in parentheses.

Analysis of Subsamples, Officer Involved Shootings, Intensive Margin

	Black	Hispanic	Observations
Full Sample	−0.095***	−0.088*	1,332
Panel A: Number of Officers			
2+ Officers	−0.149**	−0.119**	374
	(0.051)	(0.050)	
1 Officer	−0.076**	−0.073*	917
	(0.026)	(0.038)	
p-value	0.253	0.281	
Panel B: Civilian Attack			
Civilian Attacked/Drew	−0.105***	−0.097*	1,069
	(0.020)	(0.043)	
Appeared to Draw/No Attack	−0.038	−0.023	263
	(0.033)	(0.023)	
p-value	0.122	0.112	
Panel C: Officer Duty			
On-Duty Officer	−0.086***	−0.073	1,130
	(0.019)	(0.041)	
Off-Duty Officer	−0.137**	−0.067	183
	(0.045)	(0.081)	
p-value	0.268	0.945	
Panel D: Majority Officer Unit			
White/Asian/Other	−0.094**	−0.111*	608
	(0.037)	(0.054)	
Black/Hispanic	−0.095	−0.061	510
	(0.052)	(0.045)	
p-value	0.983	0.321	
Panel E: Call Type			
Violent Crime	−0.130**	−0.146	383
	(0.049)	(0.066)	
Robbery	−0.018	−0.070	263
	(0.105)	(0.112)	
Auto Crime	0.006	0.015	233
	(0.061)	(0.063)	
Routine Call	−0.278**	−0.175**	159
	(0.112)	(0.071)	
p-value	0.002	0.205	
Panel F: City			
Los Angeles	−0.031	0.001	194
	(0.096)	(0.084)	
Florida	−0.101**	−0.058	362

	(0.051)	(0.085)	
Houston	−0.129**	−0.146**	507
	(0.065)	(0.070)	
Dallas/Austin	−0.104	−0.144**	269
	(0.072)	(0.073)	
p-value	0.832	0.394	

Notes: This table reports OLS estimates. The sample consists of officer involved shootings from Dallas, Austin, six Florida counties, Houston and Los Angeles between 2000 to 2015 where reported subgroup variables were non-missing. The dependent variable is based on who attacked first. It is coded as 1 if the officer attacked the civilian first and 0 if the civilian attacked the officer first. We control for civilian gender, a quadratic in age, officer demographics, encounter characteristics, weapon that the civilian was carrying and missings in all variables (i.e. all variables included in the final row of Table 6). City and year fixed effects are included in all regressions. Standard errors are clusteed at the police department level and reported in parentheses.

Appendix Table 8A
Racial Differences in Non-Lethal Use of Force, NYC Stop Question and Frisk

	White Mean	Black	Hispanic	Asian	Other Race
	(1)	(2)	(3)	(4)	(5)
At Most Hands	0.134	0.021***	0.015***	−0.005	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,820,923		
At Most Pushing to Wall	0.144	0.022***	0.015***	−0.006	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,875,877		
At Most Using Handcuffs	0.149	0.022***	0.015***	−0.005	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,909,257		
At Most Drawing a Weapon	0.150	0.022***	0.015***	−0.005	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,913,456		
At Most Pushing to Ground	0.152	0.022***	0.015***	−0.005	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,923,239		
At Most Pointing a Weapon	0.153	0.022***	0.015***	−0.005	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,927,057		
At Most Using Pepper Spray/Baton	0.153	0.022***	0.015***	−0.006	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,927,467		

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for whether the police reported using at most a specific intensity of force during a stop and frisk interaction and is reported in the first column. Column (1) displays the fraction of white civilians who had at most a specific level of force used against them. Column (2) displays coefficient for black civilians versus white civilians. Columns (3) - (5), similarly, display coefficients for hispanic, asian or other race civlians versus white civilians. We control for gender, a quadratic in age, civilian behavior, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, whether others were stopped during the interaction, and missings in all variables. Precinct and year fixed effects were included in all regressions. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 8B
Racial Differences in Non-Lethal Use of Force, NYC Stop Question and Frisk

	White Mean (1)	Black (2)	Hispanic (3)	Asian (4)	Other Race (5)
Min. Hands	0.134	0.021***	0.015***	−0.005	0.006*
		(0.004)	(0.003)	(0.004)	(0.004)
N			4,820,923		
Min. Pushing to Wall	0.013	0.001***	0.001**	−0.001**	−0.000
		(0.000)	(0.000)	(0.000)	(0.001)
N			3,953,796		
Min. Using Handcuffs	0.008	0.001**	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,932,222		
Min. Drawing a Weapon	0.001	0.000	−0.000	−0.000	−0.000*
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,903,041		
Min. Pushing to Ground	0.002	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,908,625		
Min. Pointing a Weapon	0.001	0.000	−0.000	−0.000**	0.000
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,902,660		
Min. Using Pepper Spray/Baton	0.000	0.000	−0.000	−0.000	−0.000
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,899,252		

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for the minimum intensity of force used during a stop and frisk interaction and is reported in the first column. Column (1) displays the fraction of white civilians with a minimum level of force used against them. Column (2) displays the coefficient for black civlians versus white civilians. Columns (3) - (5), similarly, display coefficients for hispanic, asian or other race civlians versus white civilians. We control for gender, a quadratic in age, civilian behavior, whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, whether others were stopped during the interaction, and missings in all variables. Precinct and year fixed effects were included in all regressions. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 8C
Racial Differences in Non-Lethal Use of Force, NYC Stop Question and Frisk

	White Mean (1)	Black (2)	Hispanic (3)	Asian (4)	Other Race (5)
Max. Hands	0.112	0.017***	0.013***	−0.004	0.006*
		(0.004)	(0.003)	(0.003)	(0.003)
N			4,673,824		
Max. Pushing to Wall	0.027	0.005***	0.004***	−0.002**	0.000
		(0.001)	(0.001)	(0.001)	(0.001)
N			4,033,958		
Max. Using Handcuffs	0.013	0.002***	−0.000	0.000	0.000
		(0.000)	(0.000)	(0.001)	(0.001)
N			3,958,926		
Max. Drawing a Weapon	0.002	0.000***	0.000	0.000	−0.000
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,906,202		
Max. Pushing to Ground	0.007	0.001***	0.001*	0.001	−0.000
		(0.000)	(0.000)	(0.000)	(0.001)
N			3,930,420		
Max. Pointing a Weapon	0.004	0.001***	0.000	−0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,916,602		
Max. Using Pepper Spray/Baton	0.000	0.000**	−0.000	−0.000	−0.000
		(0.000)	(0.000)	(0.000)	(0.000)
N			3,900,587		

Notes: This table reports OLS estimates. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. The dependent variable is an indicator for the maximum intensity of force used during a stop and frisk interaction and is reported in the first column. Column (1) displays the fraction of white civilians with a maximum level of force used against them. Column (2) displays coefficient for black civilians versus white civilians. Columns (3) - (5), similarly, display coefficients for hispanic, asian or other race civilians versus white civilians. We control for gender, a quadratic in age, civilian behavior, whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, whether others were stopped during the interaction, and missings in all variables. Precinct and year fixed effects were included in all regressions. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 9
Racial Differences in Non-Lethal Use of Force, NYC Stop and Frisk
Clustering Standard Errors at Different Levels

	White Mean (1)	Black (2)	Hispanic (3)	Asian (4)	Other Race (5)	Observations (6)
Clustering at						
Precinct	0.153	1.173***	1.120***	0.951	1.057**	4,927,467
		(0.034)	(0.026)	(0.033)	(0.028)	
Precinct*Time of Day	0.153	1.173***	1.120***	0.951*	1.057**	4,924,303
		(0.030)	(0.023)	(0.027)	(0.025)	
Block	0.150	1.149***	1.108***	0.957***	1.044***	3,973,092
		(0.011)	(0.010)	(0.013)	(0.013)	
Block*Time of Day	0.150	1.149***	1.108***	0.957***	1.045***	3,970,568
		(0.010)	(0.009)	(0.012)	(0.013)	

Notes: This table reports odds ratios by running logistic regressions. The sample consists of all NYC stop and frisks from 2003-2013 with non-missing use of force data. Rows represent different levels at which standard errors were clustered. The dependent variable is an indicator for whether the police reported using any force during a stop and frisk interaction. Column (1) displays the fraction of white civilians who have any force used against them. Column (2) displays odds ratios for black civlians versus white civlians. Columns (3) - (5), similarly, display odds ratios for hispanic, asian or other race civlians versus white civilians. We control for gender, a quadratic in age, civilian behavior, whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, whether others were stopped during the interaction, and missings in all variables. Precinct and year fixed effects were included in all regressions. Standard errors clustered at different levels are reported in parentheses.

Appendix Table 10A
Any Use of Force, NYC Stop Question and Frisk
Based on Fraction High School Graduates Terciles

| | Variance | | |
| | Tercile 1 | Tercile 2 | Tercile 3 |
	(1)	(2)	(3)
Mean Tercile 1	1.211***	1.099*	1.177***
	(0.051)	(0.053)	(0.058)
N	798,326	853,852	622,884
Mean Tercile 2	1.057	1.245***	1.158***
	(0.124)	(0.073)	(0.060)
N	543,268	637,205	433,252
Mean Tercile 3	1.173***	1.193***	1.230***
	(0.056)	(0.038)	(0.051)
N	381,172	308,831	340,994

Notes: This table reports odds ratios of subsamples based on the fraction of high school graduates in precincts. Precinct fractions of high school graduates are calculated by collapsing data across census tracts received from the American Community Survey 2007-2011. For the rows, we take the tract's white population demographic minus the black population demographic and collapse the means of the differences over precinct. We then take terciles in differences. For the columns, we keep the mean tercile constant and make terciles of difference in variances of the precinct demographic. The sample consists of all NYC stop and frisks from 2003-2013 in which use of force and reported subgroup variables were non-missing. The dependent variable is whether any force was used during a stop and frisk interaction, with each panel presenting results from the indicated subgroups. We control for gender, a quadratic in age, civilian behavior, whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, whether others were stopped during the interaction, and missings in all variables. Precinct and year fixed effects were included in all regressions. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 10B
Any Use of Force, NYC Stop Question and Frisk
Based on Median Income Terciles

| | Variance | | |
| | Tercile 1 | Tercile 2 | Tercile 3 |
	(1)	(2)	(3)
Mean Tercile 1	1.205***	1.133*	1.199***
	(0.057)	(0.086)	(0.083)
N	696,941	605,983	638,740
Mean Tercile 2	1.056	1.217***	1.107***
	(0.086)	(0.036)	(0.019)
N	678,401	499,777	571,959
Mean Tercile 3	1.227***	1.222***	1.414***
	(0.068)	(0.046)	(0.123)
N	416,099	402,730	409,154

Notes: This table reports odds ratios of subsamples based on the median household income in precincts. Precinct median household income is calculated by collapsing data across census tracts received from the American Community Survey 2007-2011. For the rows, we take the tract's white population demographic minus the black population demographic and collapse the means of the differences over precinct. We then take terciles in differences. For the columns, we keep the mean tercile constant and make terciles of difference in variances of the precinct demographic. The sample consists of all NYC stop and frisks from 2003-2013 in which use of force and reported subgroup variables were non-missing. The dependent variable is whether any force was used during a stop and frisk interaction, with each panel presenting results from the indicated subgroups. We control for gender, a quadratic in age, civilian behavior, whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, whether others were stopped during the interaction, and missings in all variables. Precinct and year fixed effects were included in all regressions. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 10C
Any Use of Force, NYC Stop Question and Frisk
Based on Fraction Unemployed Terciles

		Variance	
	Tercile 1	Tercile 2	Tercile 3
	(1)	(2)	(3)
Mean Tercile 1	1.016	1.215***	1.166***
	(0.089)	(0.043)	(0.053)
N	545,204	579,193	490,207
Mean Tercile 2	1.181***	1.122*	1.159
	(0.051)	(0.066)	(0.106)
N	711,259	675,538	546,482
Mean Tercile 3	1.300***	1.318***	1.057
	(0.056)	(0.097)	(0.064)
N	477,879	497,303	396,719

Notes: This table reports odds ratios of subsamples based on the fraction of unemployed in precincts. Precinct fractions of unemployment are calculated by collapsing data across census tracts received from the American Community Survey 2007-2011. For the rows, we take the tract's white population demographic minus the black population demographic and collapse the means of the differences over precinct. We then take terciles in differences. For the columns, we keep the mean tercile constant and make terciles of difference in variances of the precinct demographic. The sample consists of all NYC stop and frisks from 2003-2013 in which use of force and reported subgroup variables were non-missing. The dependent variable is whether any force was used during a stop and frisk interaction, with each panel presenting results from the indicated subgroups. We control for gender, a quadratic in age, civilian behavior, whether the stop was indoors or outdoors, whether the stop took place during the daytime, whether the stop took place in a high crime area or during a high crime time, whether the officer was in uniform, civilian ID type, whether others were stopped during the interaction, and missings in all variables. Precinct and year fixed effects were included in all regressions. Standard errors clustered at the precinct level are reported in parentheses.

Appendix Table 11
Analysis of Subsamples, Any Use of Force, Police Public Contact Survey

	White Mean	Coefficient on Black	Coefficient on Hispanic	Observations
Panel A: At least Grab				
Black/Hispanic Officer	0.011	0.009	0.031**	2,352
		(0.007)	(0.013)	
White Officer	0.008	0.011***	0.006**	20,711
		(0.003)	(0.003)	
p-value		0.800	0.061	
Panel B: At least Use Handcuffs				
Black/Hispanic Officer	0.007	0.008	0.023**	2,340
		(0.006)	(0.011)	
White Officer	0.004	0.010***	0.005**	20,626
		(0.003)	(0.002)	
p-value		0.795	0.126	
Panel C: At least Point Weapon				
Black/Hispanic Officer	0.003	0.003	0.009	2,319
		(0.004)	(0.007)	
White Officer	0.001	0.003*	0.000	20,539
		(0.002)	(0.001)	
p-value		0.935	0.237	
Panel D: At least Kick/Spray/Baton				
Black/Hispanic Officer	0.002	−0.001	0.003	2,313
		(0.003)	(0.004)	
White Officer	0.001	0.000	0.000	20,516
		(0.001)	(0.001)	
p-value		0.647	0.457	

Notes: This table reports OLS estimates. The sample consists of all Police Public Contact Survey respondents between 1996 to 2011 in which use of force and reported subgroup variables were non-missing. The dependent variable is displayed in panel titles, with each panel's rows presenting results from the indicated subgroups. We control for civilian gender, a quadratic in age, work, income, population size of civilian's address, civilian behavior, contact time, contact type, officer race, year of survey and missings in all variables. Standard errors are robust and reported in parentheses.

Appendix Table 12
Racial Differences in Lethal Use of Force
Intensive Margin, Officer Involved Shootings, Alternatively Coded Data

	Non-Black/Non-Hispanic Mean	Black	Hispanic
	(1)	(2)	(3)
No Controls	0.565	0.979	0.882
		(0.168)	(0.141)
+ Suspect Demographics		0.893	0.788
		(0.121)	(0.160)
+ Officer Demographics		0.833	0.743
		(0.111)	(0.142)
+ Encounter Characteristics		0.824	0.742
		(0.123)	(0.158)
+ Suspect Weapon		0.835	0.716*
		(0.120)	(0.138)
+ Fixed Effects		0.817	0.692*
		(0.117)	(0.137)
Observations		1,215	

Notes: This table reports odds ratios by running logistic regressions. The sample consists of officer involved shootings from Dallas, Austin, six Florida counties, Houston and Los Angeles between 2000 to 2015. The dependent variable is based on who attacked first. It is coded as 1 if the officer attacked the suspect first and 0 if the suspect attacked the officer first. The omitted race is non-blacks and non-hispanics. The first column gives the unconditional average of contacts that resulted in an officer firing his gun. The second column reports logistic estimates for black civilians. Each row corresponds to a different empirical specification. The first row includes solely racial dummies. The second row adds civilian gender and a quadratic in age. The third row adds controls for the split of races of officers present at the scene, whether any female officers were present, whether multiple officers were present and the average tenure of officers at the scene. The fourth row adds controls for the reason the officers were responding at the scene, whether the encounter happened during day time, and whether the civilian attacked or drew a weapon. The fifth row adds controls for the type of weapon the civilian was carrying. The sixth row adds city and year fixed effects. Each row includes missing in all variables. Standard errors are clustered at the police department level and are reported in parentheses.

Appendix Table 13
Racial Differences in Lethal Use of Force
Extensive Margin, Officer Involved Shootings, Alternatively Coded Data

	Approx OIS With Narratives			Taser W/O Narratives		Full Sample W/O Narratives	
	Non-Black/ Non-Hispanic Mean	Black	Hispanic	Non-Black Mean	Black	Non-Black Mean	Black
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
No Controls	0.432	0.745	0.851	0.165	0.650***	0.133	0.684***
		(0.138)	(0.168)		(0.068)		(0.070)
+ Suspect Demographics		0.775	0.909		0.664***		0.697***
		(0.150)	(0.168)		(0.070)		(0.072)
+ Officer Demographics		0.769	0.939		0.836		0.782**
		(0.189)	(0.243)		(0.111)		(0.090)
+ Encounter Characteristics		0.827	0.789		0.768		0.827
		(0.290)	(0.296)		(0.123)		(0.127)
+ Suspect Weapon		0.882	0.966		–		–
		(0.496)	(0.575)		(-)		(-)
+ Year		0.989	1.428		0.759*		0.817
		(0.754)	(1.126)		(0.122)		(0.126)
Observations		1,487			4,967		5,991

Notes: This table reports odds ratios by running logistic regressions. The sample for each regression is displayed in the top row. For columns (1)-(3), the sample consists of all officer involved shootings in Houston from 2000 - 2015, plus a random draw of all arrests for the following offenses, from 2000 - 2015: aggravated assault on a peace officer, attempted capital murder of a peace officer, resisting arrest, evading arrest, and interfering in an arrest. These arrests contain narratives from police reports. For columns (4)-(5), the sample consists of all officer involved shootings in Houston from 2000 - 2015, plus a sample of arrests where tasers were used?. These arrests do not contain narratives from police reports. For columns (6)-(7), the sample combines all officer involved shootings in Houston from 2000 - 2015, plus a random draw of all arrests for the following offenses, from 2000 - 2015: aggravated assault on a peace officer, attempted capital murder of a peace officer, resisting arrest, evading arrest, and interfering in an arrest, plus arrests where tasers were used. These arrests do not contain narratives from police reports. Data without narratives have no information on officer duty, civilian's attack on officer and civilian weapon. The dependent variable is whether the officer fired his gun during the encounter. The omitted race is non-blacks (with the exception of the sample with narratives where the omitted race is non-black/non-Hispanic). The first column for each sample gives the unconditional average of contacts that resulted in an officer firing his gun. The second column for each sample reports logistic estimates for black civilians. Each row corresponds to a different empirical specification. The first row includes solely racial dummies. The second row adds civilian gender and a quadratic in age. The third row adds controls for the split of races of officers present at the scene, whether any female officers were present, whether multiple officers were present and the average tenure of officers at the scene. The fourth row adds controls for the reason the officers were responding at the scene, whether the encounter happened during day time, and whether the civilian attacked or drew a weapon. The fifth row adds controls for the type of weapon the civilian was carrying. The sixth row adds year fixed effects for columns (1)-(3). It adds year as a categorical variable for columns (4)-(7). Each row includes missing in all variables. For arrest data without narratives missing indicators for officer gender, officer tenure, and number of officers on the scene were removed to minimize loss of observations in logistic regressions. For all regression, missing indicator for response reason was removed for the same reason. Standard errors are robust and are reported in parentheses.

Appendix Table 14
Summary Statistics for Officer Involved Shootings Locations

	National Average	Houston	Austin	Dallas	Los Angeles County
	(1)	(2)	(3)	(4)	(5)
Median Age of Males	36.11	31.60	31.20	32.20	33.40
Median Age of Females	38.56	33.50	32.00	34.20	35.70
Median Houshold Income	52282.85	53799.00	56756.00	53468.00	56266.00
Fraction Black	0.11	0.19	0.08	0.17	0.09
Fraction White	0.77	0.61	0.71	0.64	0.52
Fraction High School Graduates (White)	0.88	0.80	0.91	0.84	0.79
Fraction High School Graduates (Black)	0.83	0.86	0.88	0.87	0.87
Fraction Unemployed (White)	0.07	0.06	0.06	0.06	0.09
Fraction Unemployed (Black)	0.14	0.12	0.13	0.13	0.15
Violent Crime Rate	3.68	9.63	3.63	6.64	0.53
Murder and Non-negligient Manslaughter Rate	0.05	0.10	0.03	0.11	0.01
Robbery Rate	1.09	4.54	0.89	3.35	0.14
Aggravated Assault Rate	2.29	4.71	2.46	2.74	0.37
Motor Vehicle Theft Rate	2.21	6.23	2.52	5.88	0.35

Notes: This table reports summary statistics. The first column displays summary statistics. The second column displays the national average of statistics. The second column displays statistics from Houston, Texas. The third column displays statistics from Austin, Texas. The fourth column displays statistics from Dallas/Fort Worth/Arlington, Texas for demographics. It displays statistics from Dallas, Texas only for crime variables. The fifth column displays statistics from Los Angeles County, California. Crime Rates are calculated per 1000 inhabitants.

Appendix Table 14

Summary Statistics for Officer Involved Shootings Locations

	National Average	Florida Counties					
		Brevard	Duval	Lee	Orange	Palm Beach	Pinellas
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Median Age of Males	36.11	43.80	34.10	43.40	32.50	41.60	44.50
Median Age of Females	38.56	46.20	36.70	46.40	34.60	45.00	47.30
Median Houshold Income	52282.85	50068.00	49964.00	49444.00	49731.00	52951.00	45891.00
Fraction Black	0.11	0.10	0.29	0.08	0.20	0.17	0.10
Fraction White	0.77	0.84	0.62	0.84	0.65	0.76	0.84
Fraction High School Graduates (White)	0.88	0.92	0.90	0.89	0.90	0.90	0.90
Fraction High School Graduates (Black)	0.83	0.79	0.83	0.73	0.81	0.75	0.77
Fraction Unemployed (White)	0.07	0.10	0.08	0.11	0.09	0.09	0.08
Fraction Unemployed (Black)	0.14	0.14	0.15	0.20	0.14	0.17	0.13
Violent Crime Rate	3.68	1.62	6.20	1.85	4.28	1.47	1.09
Murder and Non-negligient Manslaughter Rate	0.05	0.01	0.11	0.02	0.04	0.02	0.01
Robbery Rate	1.09	0.22	1.68	0.53	1.16	0.36	0.15
Aggravated Assault Rate	2.29	1.19	3.87	1.16	2.72	0.94	0.80
Motor Vehicle Theft Rate	2.21	0.36	1.86	0.74	1.63	0.79	0.29

Notes: This table reports summary statistics. The first column displays the national average of statistics. The second column displays statistics from Brevard County, Florida. The third column displays statistics from Duval County, Florida for demographics. It displays statistics from Jacksonville, Florida for crime variables. The fourth column displays statistics from Lee County, Florida. The fifth column displays statistics from Orange County, Florida. The sixth column displays statistics from Palm Beach County, Florida. The seventh column displays statistics from Pinellas County, Florida. Crime rates are calculated per 1000 inhabitants.