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RACE, ARRESTS, AND POLICE USE OF FORCE

Center For
POLICING EQUITY
LEADERSHIP IN EQUITY THROUGH EXCELLENCE IN RESEARCH

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Executive Summary

Despite the importance of understanding how race intersects with police use of force, little research has used police administrative data to investigate whether or not disparities exist. Because the dominant narrative around race and law enforcement is that crime rates drive police behavior, we used data from the National Justice Database—the Center for Policing Equity's project to provide national-level data and analyses on police behavior—to investigate racial disparities in use of force benchmarking against demographics of local arrest rates. Even though this is a conservative estimate of bias, the analyses of 12 law enforcement departments from geographically and demographically diverse locations revealed that racial disparities in police use of force persist even when controlling for racial distribution of local arrest rates. Additionally, multiple participating departments still demonstrated racial disparities when force incidents were benchmarked exclusively against Part I violent arrests, such that Black residents were still more likely than Whites to be targeted for force. This method is very likely prone to underestimate racial disparities because African Americans are overrepresented in violent crime arrests but Part I violent crimes constitute only 1/24th of all arrests nationally (BJS, 2012), and previous research has found arrests for violent crimes to involve police use of force only 1.3 times as often as arrests for all other crimes (Worden, 1995). These disparities were robust across multiple categories of force (hand weapon, OC spray, and Tasers).

In addition to these findings and consistent with previous literature, Taser usage represented a large percentage of departments' use of force. Specifically, residents who were targeted for force were far more likely to be targeted by Tasers than by deadly weapons. While previous research has demonstrated the stark rise of Taser usage (Taylor et al., 2011) and its potential to reduce injuries (Alpert et al., 2011), the relatively high incidence of Taser usage relative to all other categories (it was the second most common category across all departments trailing only hand/body weapons) deserves significantly more public and scholarly attention given that Tasers are also the category closest to use of deadly force in most use of force continuums. It is important to be cautious about overgeneralizing these results because of the relatively small number of departments and because we do not know very much about what residents did during the interactions that turned forceful. However, the narrative that crime is the primary driver of racial disparities is not supported within the context of these departments. This suggests that scholars and practitioners should look at racial disparities in other situational factors (e.g., resistance, drug and alcohol use, and officer perceptions of dangerousness) to determine whether or not they explain racial disparities in force.

Introduction

What does equitable use of force look like? Despite an elaborated literature on how to assess racial bias in police stops, there has been relatively little research on the appropriate distribution of coercive force by law enforcement (Bayley, 1994). Rather, scholarly attention on use of force has mostly focused on issues of measurement, identifying rates of police brutality, or on violent officer psychological profiles (Alpert & Dunham, 2004; Muir, 1979; Terrill & Mastrofski, 2002). While previous research consistently identifies racial disparities in the application of force (e.g., Walker, Spohn, & DeLone, 1996; Worden, 1995), this limited literature has yet to create a consensus either with regard to how use of force should be measured or how bias should be assessed. This means that public discourse around police use of force remains largely untouched by empirical insights.

As a result, to the degree that there is a dominant narrative among police executives about racial disparities in use of force, it is the same as the dominant narrative around racial disparities in policing in general: They are unfortunate, they are unintentional, and they stem mostly from racial disparities in crime rates. This narrative is best exemplified by the words of Chief Ed Flynn of the Milwaukee Police Department who claimed that, “If I draw an ellipse over our poorest neighborhoods and then find an ellipse and draw it where most of our 911 calls are, and then draw the ellipse over where most of our crime victims are... it's the same neighborhoods and the same zip codes” (Teich, 2013). The extension of this argument is that police use force proportionally to the incidence of criminality within a population. Similarly, Bernard Parks, the former chief of the Los Angeles Police Department was on record as commenting that, “It's not the fault of the police when they stop minority males or put them in jail. It's the fault of the minority males for committing the crime. In my mind, it is not a great revelation that, if officers are looking for criminal activity, they're going to look at the kind of people who are listed on crime reports” (Glaser, 2014, pg. 96). How, then, could we test that hypothesis?

Unfortunately, there is no way to take a true measure of criminality within a population, and the nearest approximation is problematic. Arrest data, which provide the closest estimate of criminal activity within a population (short of direct observation), are compromised by the very nature of who makes arrests. That is, because police arrest people and our concern is with the possibility that police behave in a biased manner when applying force, there is the strong likelihood that arrest data would be biased in the same manner as use of force data. Benchmarking use of force data to arrest data likely underestimates the level of bias that may exist in police use of force. This discourages scientists from benchmarking police outcomes by arrest rates.

If, however, a department were to demonstrate racial disparities in the application of force even controlling for arrest rates, this would provide reason for pause. If that pattern held for a

plurality of departments, it would also cast doubt on the prospect that disparities in criminal behavior explain disparities in force. In this light, benchmarking police use of force to arrest rates may prove a usefully conservative (prone to false negatives, if anything) test of departmental bias despite the problem of endogeneity. The current report examines racial disparities in use of force across 12 departments participating in the National Justice Database—the Center for Policing Equity's project to provide national-level data and analyses on police behavior.

Conceptual Problems with Measuring Police Use of Force

As Terrill and Mastrofski note, there are (broadly) three conceptual problems with measuring police use of force: measuring "excessive" force versus all force, measuring force dichotomously, and measuring force incidents as static rather than dynamic. The first critique stems from the fact that many who investigate police use of force are particularly concerned with its abuses. As a result, they focus on the rare cases where force is used unwarrantedly or far out of proportion to what resident resistance and criminal activity requires. Investigating a rare subset of a rare behavior is still important, but without the broader universe of data for all use of force incidents, this research fails to provide a representative picture of how public safety officials use coercive force. For instance, "less lethal" force such as Tasers may be far more common than lethal force and have a relatively larger impact (Taylor et al., 2011), but will be overlooked if the focus is on lethal force. Accordingly, Terrill & Mastrofski, among others, have encouraged researchers to examine the full range of force options, and not just lethal or excessive uses. In response to this critique, the present analyses include all use of force data provided by participating departments.

The second critique rightly points out that there is a great difference between being physically restrained by an officer's hands and having a baton strike one's knees. However, in part because administrative data are so inconsistently archived, previous researchers have sometimes been forced to analyze merely the presence or absence of force. Such an approach erases the differences between different levels of severity on the use of force continuum. In response to this critique, the present report includes two sections that examine severity in the use of force. The first details racial disparities at each level of force. The second creates a weighted use of force score with more severe force on the continuum being weighted more heavily than less severe force.

Finally, as previous scholars have noted (Alpert & Dunham, 2004; Bayley, 1994; Worden, 1995), a thorough understanding of police use of force is not possible without a thorough account of the interaction that produced it. That is, without understanding the relative timing of a resident's and officer's behavior, it is possible to misunderstand the justification for applying force. For instance, arresting someone simply for jaywalking would not seem to warrant the use of a Taser. The situation is far different if the jaywalking individual produces a weapon and makes threats. Sadly, these data are not often captured in use of force forms. When they are, it is often in the context of a narrative that is time-intensive to extract. This is why some of the most rigorous previous research on force has relied on direct observations of police encounters. Because the purpose of the National Justice Database is to provide a scalable approach to issues of equity in policing, using observational data is not feasible and the present research will not account for the dynamic nature of these interactions.

However, as important as it is to note what specific factors lead to force, observational data do not take the place of arrest data. In other words, while factors such as challenging an officer, drug or alcohol use, or time of day may exacerbate the likelihood that force will be used, they do not remove the role of a resident's criminal behavior in an officer's likelihood of using force. Across the limited literature, officers use force when making arrests between 15 and 20% of the time as opposed to the 1 to 2% of police contacts overall that result in the application of force (Smith et al., 2009). Likewise, racial disparities in situational factors have not often been privileged in the scholarly or practitioner discussions of racial disparities in police outcomes, including force. Therefore, while the present research will not address the important dynamic elements of use of force incidents, it will serve as a conservative estimate of bias in use of force as well as a useful test of the validity of the dominant narrative.

Organization of the Report

To test the hypothesis that racial disparities in crime (indexed by arrest rates) explain racial disparities in police use of force, this report is organized in four sections. The first is an analysis of overall use of force rates. The subsequent three sections test for racial disparities in different ways. The first of these presents an analysis of overall racial disparities in *rates* of use of force. The second presents an analysis of use of force disparities within each standardized category of use of force *severity*. And the third presents an analysis of a weighted use of force *score*. Within each section we present analyses of racial disparities benchmarked against 1) the demographics of each jurisdiction, 2) the demographics of arrest rates for all offenses in each jurisdiction, and 3) the demographics of the arrest rates for Part I violent offenses in each jurisdiction. Finally, within each section, we also reveal the percentage of participating departments that demonstrate racial disparities in use of force when controlling for violent crime arrest rates.

Although use of force incidents are as much as 20 times more likely in arrest scenarios than in non-arrest scenarios (Smith et al., 2009), previous research has not demonstrated that arrests for violent crime are drastically more likely to result in the use of force. For instance, Worden (1995) found that arrests for violent crimes are roughly 1.3 times more likely to result in force than are arrests for non-violent crimes. The Bureau of Justice Statistics Violent Crime Index reveals that violent crime accounts for roughly 1/24th of all crimes. Therefore, we include an analysis of use of force benchmarked on violent crime not because violent crime is peculiarly likely to produce more force, and not because violent crime is an importantly large percentage of crimes. Rather, it is included to provide the strongest and most conservative test of the “crime produces disparities” hypothesis. This is why we also include an analysis of the distribution of departments that demonstrate racial disparities in force that are robust to this benchmark.

Agency Characteristics

The 12 agencies that contributed data to our use of force dataset serve populations ranging from under 100,000 to over 1 million, with a median size of roughly 600,000 residents. The dataset also includes one large transit system serving several million potential riders. The agencies are geographically diverse, spanning the Mid-Atlantic, Midwest, South, and West. Their populations range from predominantly White (6 agencies) to predominantly Black or Latino (1 agency) to more racially and ethnically diverse (meaning that no single racial/ethnic group comprises 50% or more of the population, 5 agencies). According to Uniform Crime Report data, annual violent crime rates in these communities ranged from under 500 to over 2000 per 100,000 residents, and annual property crime rates ranged from under 5,000 to nearly 10,000 per 100,000 residents.

Data Sharing, Reporting, and Standardization

Although one agency participating in the larger Justice Database project was unwilling to share use of force data, and another agency did not share information on level of force used, most agencies provided use of force datasets that spanned a range of incident types from lethal force to less lethal force to hands and body weapons.

DATA STRUCTURE

The agencies' datasets varied considerably in their structure. In some agencies, an event involving a single citizen and multiple officers was recorded as multiple incidents. In others, an event involving a single officer and multiple citizens was recorded as multiple incidents. In addition, quirks with data extraction sometimes led to incidents involving multiple types of force (e.g., physical restraint and a canine bite) generating multiple rows of data. To facilitate comparisons across agencies and benchmarking to population size and arrest counts, we standardized all datasets so that each citizen involved in an event generated a new incident, whereas multiple officers and types of force did not.[1] We also excluded all data for incidents occurring in years for which we did not have a full year of data (e.g., Oct-Dec 2013 or Jan-March 2016).

After restructuring the data as described, our resulting dataset contained 19,269 incidents occurring across 30 department-years. Each agency contributed between 1 and 6 years of data to the dataset. All data were collected between 2010 and 2015. The top portion of Table 1 provides information on the approximate population size of each agency, along with the number of years of data the agency provided and the total number of incidents recorded during those years.

[1] For one agency, we were unable to distinguish multiple citizens involved in a given incident from multiple officers using force on the same citizen; for this agency, we excluded potentially duplicate observations, which affected 8% of all use of force incidents for that agency.

LEVEL OF FORCE

Another source of variation was in the categorization of force, and the universe of incident types included in the dataset. All agencies that provided information on level of force included separate categories for lethal force, OC Spray, and bodily contact. Most agencies also had categories for less lethal force, batons or similar weapons, and canine use. Some agencies recorded instances where force was threatened but not used, including verbal commands and drawing or pointing a firearm or ECD.

Some agencies recorded only the highest level of force used, while others listed multiple specific types of force used in each incident. To standardize level of force across agencies, we developed a ranking of levels of force and then classified each incident by the highest level of force used. Our severity scale consisted of six categories - lethal, less lethal or Taser, canine, OC spray, weapon, and hands or body - and excluded incidents that involved only the threat of force, which we refer to as officer presence. We also excluded a very small number of incidents that specified vehicles as weapons used (e.g., PIT).

The bottom portion of Table 1 summarizes the distributions of recorded incidents across these six categories, as well as the officer presence and vehicle groups that were excluded from further analysis. Results are presented separately for each agency to show how data reporting varied across the agencies. In 6 departments, hands and body was the most common type of force used. In 2 departments, officer presence was most common. In 2 additional departments, less lethal or Taser use was most common. In 1 department, hands and body and less lethal or Taser incidents were equally common, each comprising 44% of recorded use of force incidents.

Removing the officer presence and vehicle categories reduced the number of incidents in our dataset from 19,269 to 14,731.

Table 1. Use of Force Incidents by Agency and Highest Level of Force Used

Department	A	B	C	D	E	F	G	H	I	J	K	L	Total
Population Size	Under 100K	100-500K	500K - 1M	500K - 1M	100-500K	Over 1M	Under 100K	500K - 1M	500K - 1M	Over 1M	500K - 1M	100-500K	
Number of Years	1	1	4	6	3	4	4	2	1	2	1	1	30
Number of Incidents	88	293	1,251	3,893	386	1,115	953	2,440	1,689	3,688	885	2,588	19,269
Highest Level of Force (%)													
Lethal	0	2	2	0	2	0	5	1	0	1	0	0	1
Less Lethal and Taser	39	44	48	0	27	5	17	2	25	5	35	4	11
Canine	6	0	5	0	8	0	2	0	1	1	10	0	1
Weapon	0	1	0	0	2	1	0	2	0	0	1	0	1
OC Spray	18	9	12	0	3	1	14	2	7	3	9	5	4
Hands and Body	24	44	31	0	58	67	31	36	66	69	43	17	37
Officer Presence*	13	0	0	0	1	21	25	56	0	21	0	73	24
Vehicle*	0	0	0	0	0	0	0	0	0	0	0	0	0
Not Recorded	1	0	1	100	0	5	6	0	1	0	3	0	21
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

*Incidents in these categories are excluded from subsequent analyses due to low rates (vehicle) and inconsistency of use (officer presence).

Findings

SECTION I: VOLUME OF INCIDENTS

Having standardized the data by counting each citizen once, excluding data from partial years, and dropping incidents involving only vehicle maneuvers or the threat of force, we can now compare use of force counts and disparities across departments. Table 2 displays summary statistics on annual use of force counts for each agency. The total volume of use of force incidents ranged from 77 in a single year (fewer than 7 per month) to 1,689 per year (approximately 140 per month or nearly 5 per day). The mean annual volume of use of force incidents was 576, fewer than 2 incidents per day.

Table 2. Annual Volume of Use of Force Incidents, by Citizen Race/Ethnicity

Sample: 12 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Total	576	412	77	1689
Black NH	250	159	35	664
White NH	191	130	33	573
Hispanic	98	25	0	586
Asian NH	7	3	0	29
Other NH	9	2	0	46

*NH = Non-Hispanic

SECTION II: USE OF FORCE RATES

The goal of Section II is to provide a broad overview of the distribution of force. Although counts do not capture the severity of force, they do provide an impression of how often force is applied and the disparities in that distribution. Again, each of the next three sections will

include four analyses: the disparities in use of force benchmarked to 1) population, 2) arrests for all offenses, and 3) Part I violent arrests, followed by 4) the percentage(s) of departments whose racially disparate treatment of Black residents persists in the face of controls for violent crime.

Use of Force Rates Benchmarked to Population and Arrests

Comparing counts of use of force incidents across agencies is not particularly informative unless we benchmark the counts against the sizes and racial/ethnic distributions of the populations the agencies are serving and local crime rates. We obtained population data from the American Community Survey based on the 2010 Census. We obtained arrest data using the Bureau of Justice Statistics' Arrest Data Analysis Tool.[2] Arrest counts were obtained for 2008-2012 and averaged across years to create annual arrest count averages for all offenses and for Part I violent offenses.[3]

Table 3 presents the population benchmarking results. Rates are reported as the number of use of force incidents per 100,000 residents and rounded to the nearest whole number. The overall mean use of force rate was 108 per 100,000 residents, just over 1 in 1,000. The mean rate for Black residents was 273 per 100,000, which is 2.5 times as high as the overall rate and 3.6 times as high as the rate for White residents (76 per 100,000). Mean use of force rates for Hispanic residents, Asian residents, and residents of other races were lower than those of White and Black residents.

[2] The arrest data analysis tool is available at http://www.bjs.gov/index.cfm?ty=datool&surl=/arrests/index.cfm#

[3] For one department, we used older arrest data because 2008-2012 data were not available.

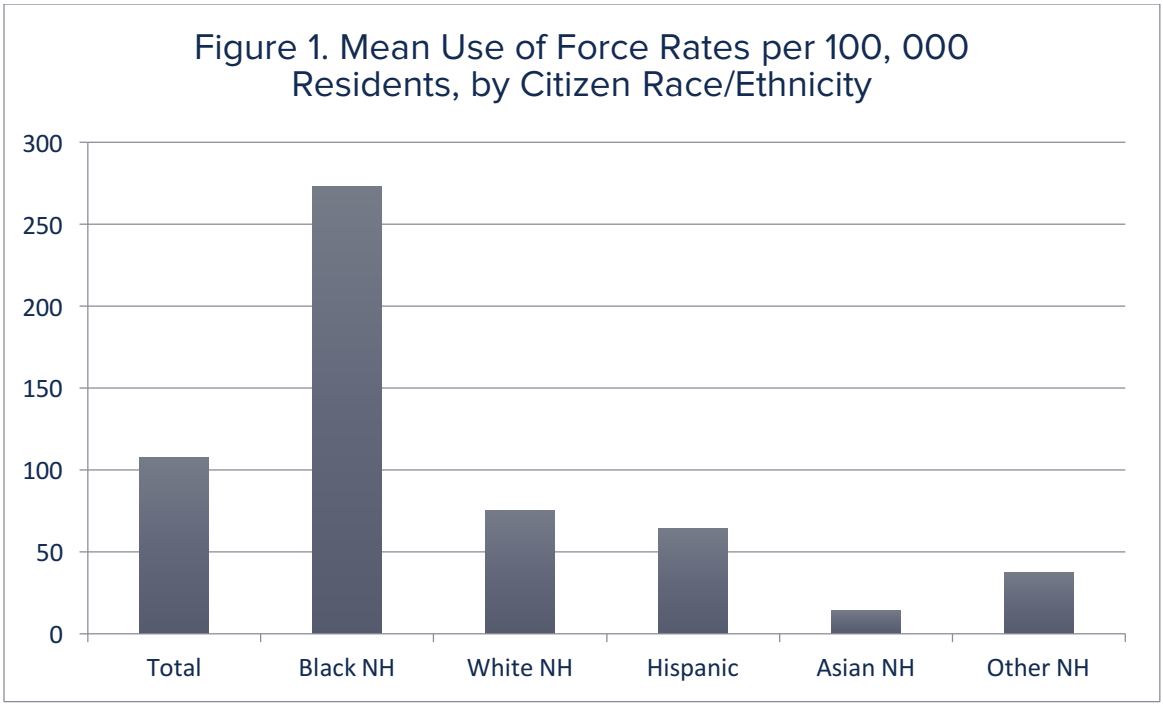


Table 3. Use of Force Rates per 100,000 Residents, by Citizen Race/Ethnicity

Sample: 12 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Total	108	103	7	214
Black NH	273	207	41	769
White NH	76	68	4	174
Hispanic	65	51	0	211
Asian NH	15	6	0	41
Other NH	38	11	0	150

Population benchmarks provide only a crude method for estimating disproportionality. They allow for an inference that force is being used in a manner that is disproportionate to *presence in the general population*, but do not allow for a clear inference as to whether the

force is disproportionate to presence in any particular area or to legitimately provocative behavior. A more direct, albeit still limited, proxy for level of provocative behavior would be actual offending. The closest available index of offending is arrest rates. While arrest rates are confounded by racial bias in policing practices, they provide a closer approximation than simple resident population.

Tables 4 and 5 present arrest and violent arrest benchmarking results for Black and White individuals only. In Table 4, rates are reported as the number of use of force incidents per 1,000 arrests for all types of offenses and rounded to the nearest whole number. In Table 5, rates are reported as the number of use of force incidents per 1,000 arrests for Part I violent offenses and rounded to the nearest whole number. Comparing Tables 2, 3, and 4 reveals that benchmarking to the population increases the size of Black-White disparities in use of force considerably, whereas benchmarking to arrests reduces Black-White disparities, but does not eliminate them. Table 5 shows that benchmarking to violent Part I arrests reverses the direction of the Black-White gap.

Table 4. Use of Force Rates per 1,000 Arrests*, by Citizen Race

Sample: 12 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Black**	46	21	9	308
White**	36	15	5	255

*Arrest data were obtained from BJS and include all offenses.
**Use of Force data are for non-Hispanic Black and non-Hispanic White citizens, whereas arrest data are for all Black and all White citizens regardless of ethnicity.

Table 5. Use of Force Rates per 1,000 Arrests for Violent Offenses*, by Citizen Race

Sample: 12 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Black**	731	356	166	3989
White**	1003	421	201	7111

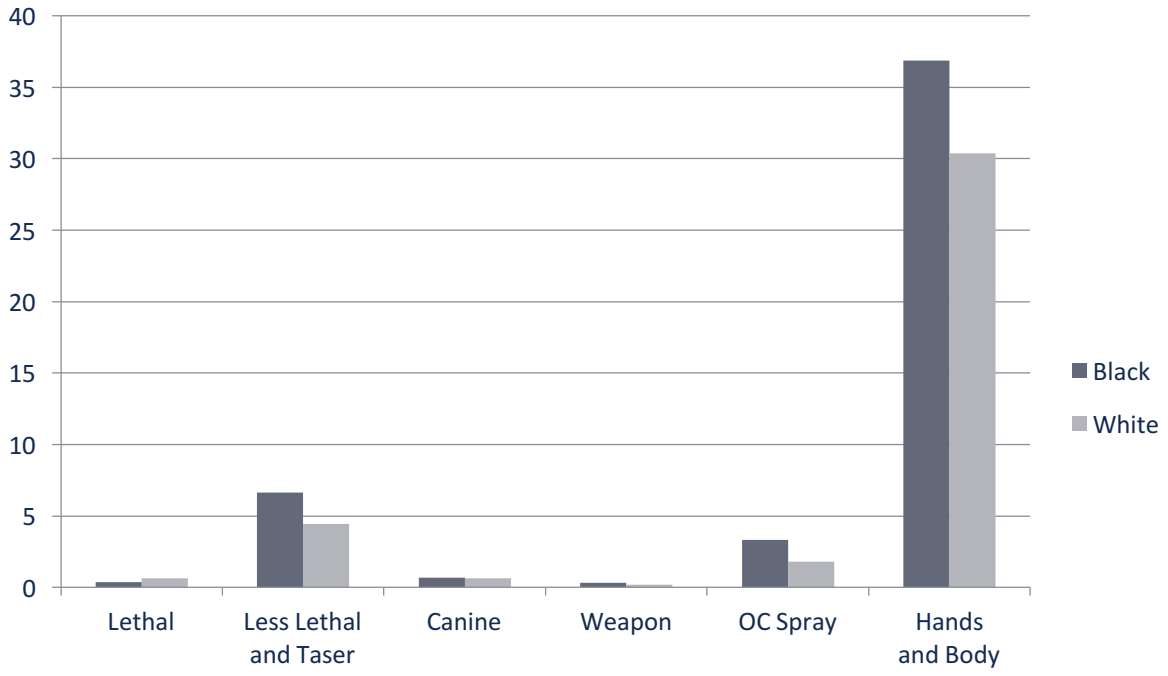
*Arrest data were obtained from BJS and include arrests for Part I violent crimes only.
**Use of Force data are for non-Hispanic Black and non-Hispanic White citizens, whereas arrest data are for all Black and all White citizens regardless of ethnicity.

Contrary to the dominant narrative, these analyses reveal that racial disparities persist even when benchmarking on all arrests. Although these disparities dissipate (and even reverse) when controlling for violent Part I arrests, it is noteworthy that 5 of the 12 participating departments (42%) still evidence disproportionate targeting of Black residents when violent arrests are controlled. Given the rarity of Part I violent crimes and a lack of evidence that arrests for violent crime significantly increase the likelihood of police use of force, these findings suggest that crime rates are an insufficient explanation for disparities in the application of police force. They do not, however, provide any sense of whether racial disparities in the application of force are more or less pronounced when officers use greater or lesser force. Sections III and IV are designed to provide clarity on this point.

SECTION III: RACIAL DISPARITIES IN SEVERITY OF FORCE

Having standardized use of force data from each department into six categories, we analyzed racial disparities in use of force for each of those categories, first benchmarked on population, then on arrests for all offenses and arrests for Part I violent crimes. Finally, we calculated the number of departments whose anti-Black racial disparities persisted even when controlling for Part I violent crimes. Our goal in the analyses reported in the following section was to determine whether or not the racial disparities observed in Section II were distributed across all categories of force or were more pronounced in some than in others. For the figures that follow, we plotted the means using only the most recent year of data from each department.

Figure 2. Mean Use of Force Rates per 1,000 Arrests, by Severity and Citizen Race



Note: The difference in means between Black and White residents is statistically significant at the <.05 level for the Less lethal and Taser category (p=.016) and at the p<.10 level for the OC spray (p=.054) and Hands and body (p=.071) categories. Mean differences for the lethal, canine, and weapon cateogries have p-values above 0.10.

Table 6. Use of Force Rates per 1,000 Arrests*, by Severity and Citizen Race

Sample: 8 to 11 Department-Years

	Black Citizens				White Citizens				
	Mean	Median	Min	Max	Mean	Median	Min	Max	N
Lethal	0.37	0.29	0.00	1.35	0.64	0.18	0.00	3.91	8
Less Lethal and Taser	6.64	6.76	1.22	11.94	4.46	4.48	0.71	11.93	11
Canine	0.67	0.45	0.00	1.71	0.64	0.30	0.00	3.91	11
Weapon	0.34	0.09	0.00	2.17	0.19	0.07	0.00	0.78	10
OC Spray	3.34	1.41	0.41	9.91	1.82	0.62	0.00	7.04	11
Hands and Body	36.88	13.07	3.41	282.36	30.39	9.35	2.20	238.66	11

*Arrest data were obtained from BJS and include arrests for all offenses.

Table 7. Use of Force Rates per 1,000 Arrests for Violent Offenses*, by Severity and Citizen Race

Sample: Maximum of 11 Department-Years

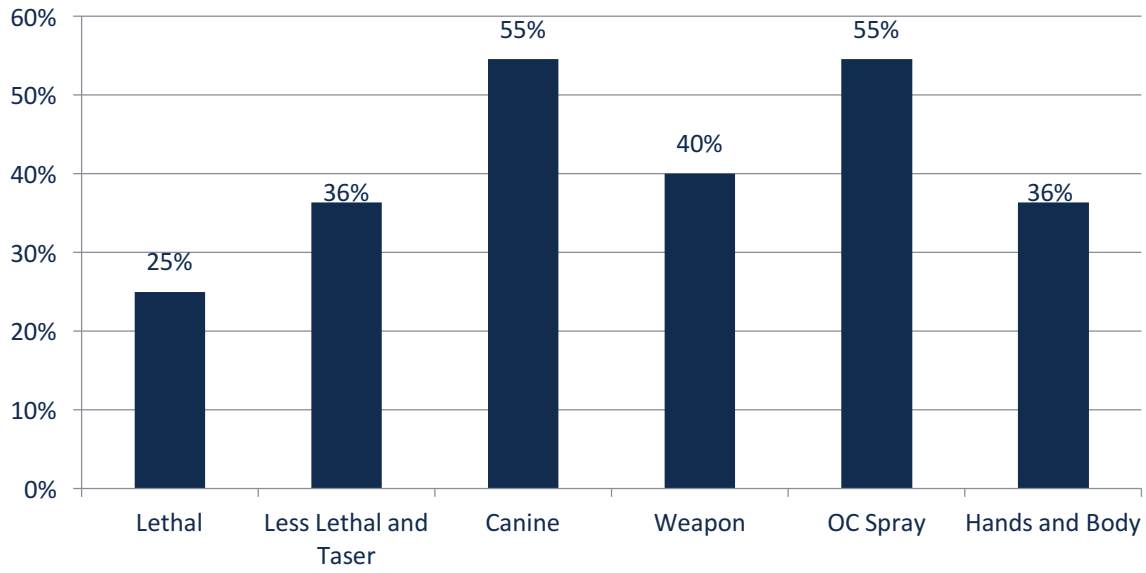
	Black Citizens				White Citizens				
	Mean	Median	Min	Max	Mean	Median	Min	Max	N
Lethal	6.92	5.81	0.00	21.77	16.70	6.54	0.00	90.25	8
Less Lethal and Taser	122.71	99.53	18.46	376.64	133.05	103.31	24.10	333.33	11
Canine	10.87	7.26	0.00	32.05	15.90	6.57	0.00	90.25	11
Weapon	5.30	1.86	0.00	28.09	4.76	2.66	0.00	18.05	10
OC Spray	53.47	29.50	6.15	159.65	41.86	28.36	0.00	162.45	11
Hands and Body	564.69	210.45	28.44	3651.69	850.27	273.40	118.15	6666.67	11

*Arrest data were obtained from BJS and include arrests for Part I violent crimes only.

As Figure 2 and Table 6 show, the mean use of force rate for Black citizens was higher than that for White citizens in all categories, save the use of lethal force, when controlling for arrests for all offenses. When controlling for resident arrests for violent Part I offenses, racial disparities that disadvantaged Blacks persisted in weapon use and the use of OC spray (see Table 7). All other categories revealed disparities that disadvantaged Whites.

Finally, some departments revealed robust disparities across levels of force even when using this most conservative test. As Figure 3 shows, Black-White gaps in canine use and in OC spray use persisted in 55 percent of departments after violent arrests were controlled. Likewise, Black-White disparities persisted in weapon use in 40 percent of departments, in less lethal and Taser and hands and body use in 36% of departments, and in lethal force in 25 percent of departments.

Figure 3. Percentage of Departments with Use of Force Rates Disadvantaging Blacks, Benchmarked on Violent Arrests



SECTION IV: SUMMED SEVERITY SCORES

In addition to variation in rates of use of force, it might still be important to have some measure of how disparities in stop counts intersect with disparities in stop severity. Therefore, Section IV repeats these analyses with a weighted use of force score. The weighted measure of force severity was created as follows.

- Lethal incidents were assigned a weight of 6.
- Less lethal and Taser incidents were assigned a weight of 5.
- Canine incidents were assigned a weight of 4.
- OC spray incidents were assigned a weight of 3.
- Weapon incidents were assigned a weight of 2.
- Hands and body incidents were assigned a weight of 1.

Using this weighting scheme, 100 hands and body incidents carry the same weight as 50 weapon incidents, 25 canine incidents, or 20 less lethal incidents.

We then summed scores for each racial or ethnic category. Table 8 presents descriptive statistics on summed severity scores using each agency's most recent year of data.

Table 8. Annual Summed UoF Severity Scores, by Citizen Race/Ethnicity

Sample: 11 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Black NH	479	227	108	1185
White NH	426	336	75	1130
Hispanic	199	44	0	1194
Asian NH	11	5	0	38
Other NH	17	5	0	77

As with overall use of force counts, these statistics are not particularly informative unless we consider the populations served by these agencies and/or local crime rates. In Tables 9, 10, and 11, we benchmark these severity scores to population, to all arrests, and to violent Part I arrests, respectively.

Figure 4. Mean UoF Severity Score per 100,000 Residents, by Citizen Race/Ethnicity

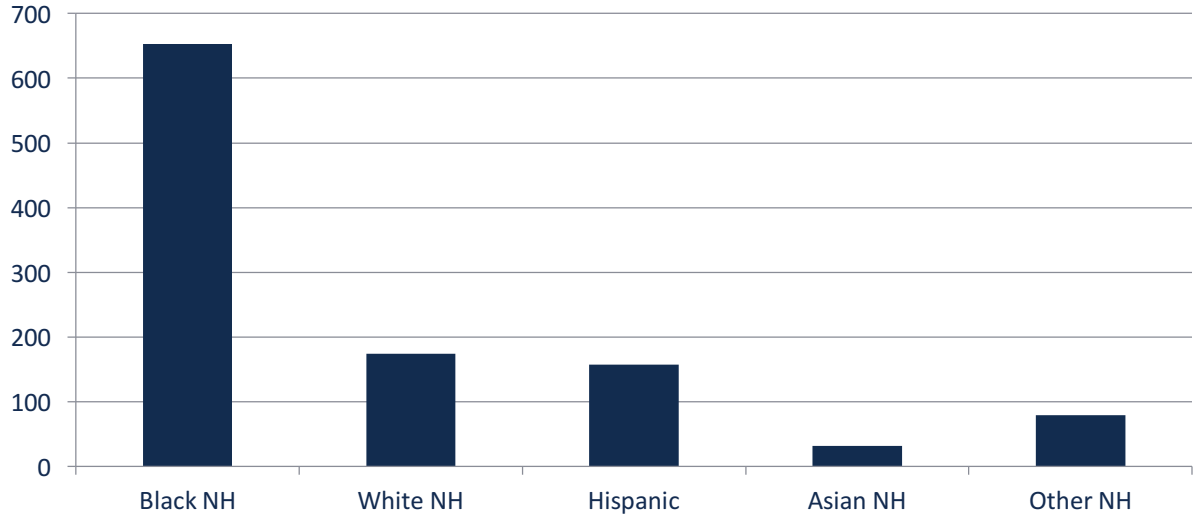
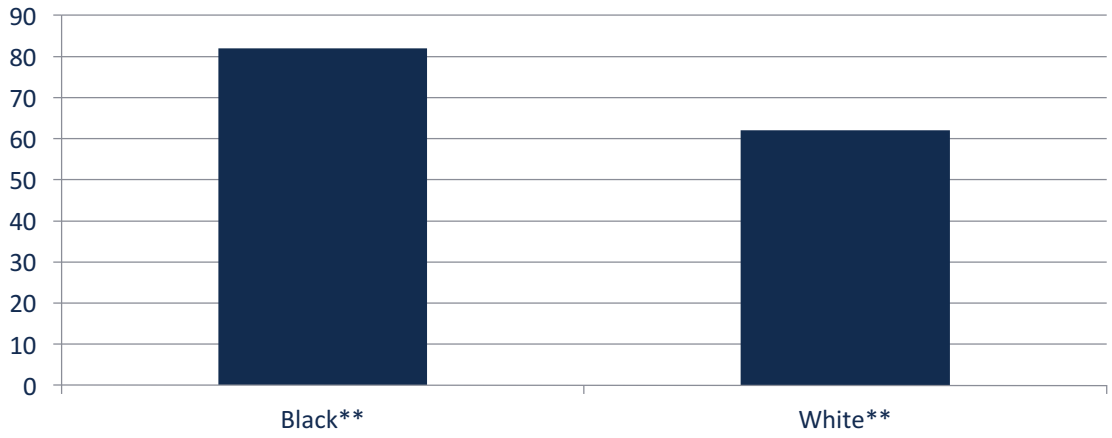


Table 9. UoF Severity Score per 100,000 Residents, by Citizen Race/Ethnicity

Sample: 11 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Black NH	653	531	48	1745
White NH	174	170	5	309
Hispanic	157	109	0	486
Asian NH	32	15	0	139
Other NH	79	5	0	300

Figure 5. Mean UoF Severity Score per 1,000 Arrests, by Citizen Race



Note: The difference in means between Black and White residents is statistically significant at the <.05 level (p=.014).

Table 10. UoF Severity Score per 1,000 Arrests*, by Citizen Race

Sample: 11 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Black**	82	51	23	361
White**	62	33	11	298

*Arrest data were obtained from BJS and include arrests for all offenses.
**Use of Force data are for non-Hispanic Black and non-Hispanic White citizens, whereas arrest data are for all Black and all White citizens regardless of ethnicity.

Table 11. UoF Severity Score per 1,000 Arrests for Violent Offenses*, by Citizen Race

Sample: 11 Department-Years (only most recent year for each department)

	Mean	Median	Minimum	Maximum
Black**	1368	917	433	4663
White**	1738	821	475	8333

*Arrest data were obtained from BJS and include arrests for Part I violent crimes only.
**Use of Force data are for non-Hispanic Black and non-Hispanic White citizens, whereas arrest data are for all Black and all White citizens regardless of ethnicity.

These analyses are largely similar in scope to the analyses of Section III. They reveal a robust racial disparity benchmarked to population such that Blacks receive a mean use of force score—a combination of counts and severity—that is roughly 3.8 times higher than Whites. This disparity holds, but is reduced to roughly 1.3, when benchmarking use of force scores against all arrests. The direction of this disparity changes when controlling for arrests for violent Part I crimes, although the median severity score is higher for Blacks than for Whites. Importantly, 3 of 11 departments (27%) continue to demonstrate racial disparities in mean severity of use of force that disadvantage Blacks even in the context of this conservative test.

Conclusions

Reviewing the four previous sections, three findings merit emphasis. First, even when controlling for arrest demographics, participating departments revealed racial disparities across multiple levels of force severity. Second, even when controlling for the very rare occurrence of arrest for Part I violent crime within a demographic—an event that previous research suggests is only modestly more likely in and of itself to result in a use of force incident—25%-55% of participating departments still revealed robust racial disparities that disadvantaged Blacks. Third, and finally, analyses of each department revealed that Tasers were the second most common use of force option, ranging from roughly 8 times to 18 times more common than use of deadly force and less common only than bodily contact—the least severe use of force option on the continuum. Taken together, these findings suggest:

1) That racially disparate crime rate is an insufficient explanation of racially disparate use of force rates for this sample of police departments. Given that these departments range widely in size and represent urban cities, suburban counties, and transportation police in geographically diverse jurisdictions, the results are suggestive that these findings may generalize beyond the sample.

2) That significant attention should be paid to additional situational factors in attempting to quantify and explain racial disparities in use of force. For instance, might racial disparities in the tendency to resist, flee, or disrespect officers be implicated in the observed differences? Might cultural mismatches and/or officers' perceptions of cooperation be influenced by residents' race? There is some suggestive evidence that there are racial disparities in resistance based on research by Smith and colleagues for the National Institute of Justice. They find that the rate of officer injury is lower when arresting a White suspect than a suspect of another racial group (Smith et al., 2009). However, this finding should be taken only as suggestive, since suspect resistance was not measured in a robust manner and a number of circumstances could have contributed to this finding. Each of these possibilities gains in importance if demographics of crime do not undergird racial disparities in the use of force.

3) That increased attention ought to be paid to the use of Tasers in officers' street-level encounters with residents. Previous research demonstrates that Taser usage has risen sharply, while other force options such as batons are down (Taylor et al., 2011). It may be that crime severity and/or resistance is often such that it requires a force option merely one step removed from lethal force. However, given that all officers in participating departments had access to several steps between physical contact and Tasers, and that the drop off between Tasers and discharging a firearm is so steep, it is at least plausible that Tasers have become a kind of default response to moderate threats. This may also be prudent. For example, research by Alpert and colleagues reveals that, in one sample, Taser usage reduced both officer and suspect injuries, with the odds of suspect injury decreasing by up to 60% (Alpert

et al., 2011). However, neither scholarly nor public discourse surrounding police force reflects the relative prevalence of Taser usage, suggesting the need to adjust both.

In addition to these high-level takeaway messages, this report serves to demonstrate how the NJD can produce new insights into old problems. The goal of the NJD is to produce a high quality standardized database from which reports and scholarly articles like this can regularly advance our collective understanding of how police behaviors shape public life. By responding to both the gaps in the scientific literature and the needs of public policy, research from the NJD can position law enforcement leaders to ensure their officers engage communities in a manner consistent with their values. While this report reveals some troubling patterns, it also supplies courageous leaders with the opportunity to address a potentially wide-reaching problem proactively—the goal of any evidence-led approach to public safety.

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