The Effects of Intergroup versus Intragroup Relations in Police Use of Force

Olivia James

Department of Psychology, Hamilton College

Abstract

Intergroup relations between White police officers and Black citizens are often at the forefront of the discussion on police brutality. Intergroup racial bias, the of favoring one's own racial group over others, can lead to policing practices that have damaging, or even deadly, effects on minority communities. Intragroup bias, the favoring and derogation of members *within* one's ingroup, has not been investigated enough in examining police bias. This research utilized the NOPD's publicly available "Use of Force Incidents" data in order to examine whether intergroup and intragroup bias can be observed within their policing. Variables such as the officer/suspect race, suspects build and height, whether the suspect was injured/hospitalized were analyzed and evidence of both intergroup and intragroup biases were found. Disproportionate treatment of Black suspects is apparent in the NOPD data, and White suspects overall were found to still experience better treatment in some areas.

Racially biased policing in America has had damaging ramifications on minority communities. On May 25th of 2020, a convenience store called the police on a man by the name George Floyd under the assumption that he was trying to pay with a counterfeit $20 bill. During Floyd's arrest he was pinned to the ground by an officer, who then proceeded to put his knee on his neck for over seven minutes (Hill et al., 2020). A couple months before, on March 13th, Breonna Taylor was shot eight times in her home when police came with a warrant for a drug search (Carrega & Ghebremedhin, 2020). These are only a couple of examples of the racially charged issues with policing that led to the resurgence of Black Lives Matter (BLM) protests in the summer of 2020 (Dungca et al., 2020). White people tend to experience better interactions with police than all other non-White people. Statistically, White people are 21% less likely to have a police interaction in which at least a weapon is drawn than Black people (Fryer, 2017). Additionally, White people are also four times less likely to be a target of police use of force than Black people (Walker et al., 2007, as cited in Goff & Kahn, 2012). It has been evident that American policing comes with racial disparities. There is a desperate need for reform in the American justice system, starting with how police interact/treat minority groups. However, in order to assess proper reform, one must understand the influencing psychological factors in policing.

Many places have already taken some measures to mitigate the effects of bad policing. In December of 2015, the New Orleans Police Department (NOPD) released an operations manual on police use of force. The purpose of the operations manual was to make guidelines for all members of the NOPD to follow when it comes to using force on civilians. Guidelines such as their use of force policies and principles, when they are authorized to use force, determining the reasonableness of force, de-escalation techniques, etc. (NOPD, 2015). The manual also provides

additional information pertaining to definitions of police terms and the "Use of Force continuum" Following the release of the operations manual, the NOPD created an accessible dataset called, "NOPD Use of Force Incidents," that reports any time an officer uses force on a suspect. The current research will examine if there are racial discrepancies in excessive use of force, more specifically on the basis of intergroup and intragroup bias from the NOPD officers.

Racial Intergroup Bias

Intergroup bias has been traditionally shown in preference for one's ingroup and derogation for one's outgroup. In the context of police brutality and racial group membership, outgroup derogation can be seen as harsher treatment toward Black suspects and more lenient treatment toward White suspects (Goff & Kahn, 2012). Implicit bias is often a key part of intergroup bias in policing. Police officers will often unknowingly have race and criminality associations that affect how they treat minority suspects (Dukes & Khan, 2017). There is also shooter/weapon bias where officers have a higher tendency to perceive an item as a weapon in the hands of a Black suspect rather than White suspects (Payne, 2006**;** Correll et al. 2014). During traffic stops officers reportedly have better quality interactions with White suspects than Black suspects, who tend to experience more nonmoving violations, extensive searches, and have their vehicles investigated more often (Dixon et al., 2008). Police officers acknowledge that there are racial differences in how suspects are treated, and even that knowing that information causes their minority interactions tense while on the job (Morin et al., 2017).

Racial Intragroup bias

A group membership bias that little is known about is racial intragroup bias. Intragroup bias refers to favoring those who are more stereotypically similar to the ingroup than those who are less stereotypical of the ingroup. Kahn et al (2016) examined the effects of intragroup bias in

police officers' use of force against White suspects. Their results showed that the more stereotypically White a suspect is (whiter complexion, blonde, etc.), the less force police are likely to use. Phenotypic racial stereotypicality is an element of intragroup bias that effects how people perceive their ingroup (Kahn et al., 2016). This term refers to how closely one phenotypically looks to the stereotypes of their racial in-group. Kahn et al. (2016) found White suspects received higher levels of force by White officers when they possessed less phenotypic racial stereotypical traits. Conversely Black suspects are typically treated worse the more closely they aligned with phenotypic racial stereotypical traits (Kahn et al. 2016). A study conducted by Wilson et al. (2017) found that non-Black people were more likely to interpret young Black men as taller, heavier, more muscular, and more likely to cause bodily harm than young White men. Since this study lacks visual representation of the suspects and officer, bias in phenotypic racial stereotypicality will be assessed by examining suspect's build and height in police use of force.

Method

NOPD Use of Force Files

The New Orleans Police Department's (NOPD) *Use of Force Incidents* report provides specific information of police force per NOPD Use of Force policy (Data.gov, 2020). This publicly available dataset contains details such as: date occurred, use of force type, use of force level, suspect's influencing factors, etc. Variables of interest for this study will be introduced later. The NOPD dataset was downloaded on December 10th, 2020. The website updates frequently so all cases that have been added or updated beyond that time were not used in the current analysis.

The raw data contained 5,878 use of force files with specific information about each case. The more important information, or key variables, that will be assessed in the analysis are the

following: officer race/ethnicity, officer gender, suspect ethnicity, suspect gender, suspect height, suspect build, suspect hospitalized, suspect injured, use of force level, and use of force effectiveness.

Before running analysis tests, cases that did not contain key variables were removed from the data analysis. After removing files, the dataset contained 4,634 cases. The key variables were then coded for SPSS data analysis: (1) *race* (0 = Black, 1 = White); (2) *yes/no answers* (0 = yes, 1 = no); (3) *use of force level* (0 = L1, 1 = L2, 2 = L3, 3 = L4); (4) *suspect build* (0 = small, 1 = medium, 2 = large, or 3 = x-large); (5) *gender* (0 = male, 1 = female, 2 = gender unknown); (6) *suspect height* (0 = < 5′0″, 1 = 5′0″ to 5′3″, 2 = 5′4″ to 5′6″, 3 = 5′7″ to 5′9″, 4 = 5′10″ to 6′0″, 5 = 6′1″ to 6′3″, or 6 = > 6′3″). Out of the 4,634 cases there were 2,156 (46.5%) Black officers and 2,478 (53.5%) White officers. Most of the officers were male (89.4%) and 10.6% were female. The majority of the suspects (88%) were Black while 12% of the suspects were White. Similar to the breakdown for officers, most of the suspects (85.7%) were male and 14.2% were female (0.1% of the suspect gender was unknown).

Levels of Force

The NOPD classifies levels of force on a scale from 1-4, with level 1 being the lowest amount of force and level 4 being the highest. The NOPD provides information on the various levels of force in their "Use of Force" operations manual (NOPD, 2015). However, the "Use of Force Incidents" dataset included other use of force types that are not mentioned in the manual. A cross-reference between the dataset and the manual was used in determining what comprised of the varying levels of force.

Force was categorized as Level 1, the lowest level, if the officer did any of the following: exhibit a firearm, exhibit a Conducted Energy Weapon (CEW) exhibited/laser, escort techniques,

point a rifle, or use a baton without striking. Using escort techniques was considered Level 1 if an officer applied them as pressure point compliance techniques that resulted in injury or complaint of injury (NOPD, 2015). Level 2 force was categorized if the officer did the following: CEW deployment (even if it missed), takedown with injury, weaponless defense techniques, or used a baton/PR-24 with no strike. Level 3 force was categorized if the officer did the following: a head-strike with no weapon, a baton/PR-24 with strikes, or a canine was used with contact. Force was categorized as Level 4, the highest level, if the officer did the following: discharged a firearm, use of CEW, handcuffed the suspect, the canine bit the suspect, neck holds, discharged a rifle, or used a nontraditional impact weapon. A case was also considered a Level 4 force instance if a suspect was severely injured/hospitalized, the suspect ended up losing consciousness, the suspect endured two or more CEW deployments (or they endured one for over 15 seconds), or if the suspect endured force while already handcuffed. Cases in the dataset with use of force type labeled as *other* or *canine without bite* have been found to be fluctuating between levels 1-3. The levels of force in the dataset consisted of 3,687 (79.6%) cases of Level 1 force; 853 (18.4%) cases of Level 2 force; 29 (0.6%) cases of Level 3 force; 65 (1.4%) cases of Level 4 force.

Intergroup and Intragroup Pairings

In order to examine the biases of interest in this dataset, intergroup and intragroup racial pairings for each case had to be coded. An intergroup pair represented cases where the officer's and the suspect's race differed; and an intragroup pair represented cases where the officer's and the suspect's race were the same. The following coding scheme was established: 0 = Black officer and Black suspect; 1 = White officer and White suspect; 2 = Black officer and White suspect; 3 = White officer and Black suspect. The intergroup and intragroup pairings in the

dataset consisted of 1,939 (41.84%) cases with a Black officer and a Black suspect; 340 (7.33%) cases with a White officer and a White suspect; 217 (4.69%) cases with a Black officer and a White suspect; and 2,138 (46.14%) cases with a White officer and a Black suspect (the most common pair).

Results

As is standard practice in psychology, significance was determined if alpha values were equal to or less than .05, as well as adjusted residual of ±1.96. Residuals that are found to be positively significant or negatively significant will be represented as occurring higher or lower than expected. Adjusted residuals from analysis have been reported in tables and can be found in the appendices.

Hospitalizations

The relationship between the intergroup/intragroup pairings and the suspect being hospitalized was found to be statistically significant, χ^2 (3, N = 4,634) = 22.71, $p < 0.001$ (Cramer's V = 0.07). Overall, there were more suspects who were not hospitalized than suspects who were. However, the data shows that Black suspects were hospitalized more than White suspects. There were also more hospitalizations shown for the intergroup pairings of White officers with Black suspects than the intragroup pairings of Black officers with Black suspects. In the intragroup pairings, Black officers hospitalized Black suspects less, while White officers hospitalized White suspects more (see Table 1 for adjusted residuals). In the intergroup pairings, Black officers hospitalized White suspects more.

Injuries

The relationship between the intergroup/intragroup pairings and whether or not the suspect was injured was not statistically significant, χ^2 (3, N = 4,634) = 5.08, p = .166 (Cramer’s

V = 0.03). This finding reflects that whether or not a suspect was injured did not differ on a racial basis (see Table 1).

The relationship between an officer's race and if the officer was injured during the use of force incident was found to be statistically significant, χ^2 (1, N = 4,631) = 4.43, p = 0.035 (Cramer's V = 0.03). Black officers were found to be injured much less during the use of force interactions, while White officers were found to be injured more during use of force interactions (see Table 4).

Arrests

The relationship between the intergroup/intragroup pairings and if the suspect was arrested was found to be statistically significant, χ^2 (3, N = 4,634) = 44.01, $p < 0.001$ (Cramer's V = 0.10). In the intragroup pairings it was found that White officers arrested White suspects less. No significant difference in whether a suspect was arrested or not was found within Black officers with Black suspects. In the intergroup pairings, Black officers released White suspects more, while White officers released Black suspects less (see Table 2).

Use of Force Levels & Effectiveness

The relationship between intragroup and intergroup pairings and the use of force levels was statistically significant, χ^2 (9, N = 4,634) = 49.15, $p < 0.001$ (Cramer's V = 0.06). In the intragroup pairings, Black officers used Level 1 force more and Level 2 force less with Black suspects. White officers used less Level 1 force and more Level 2 force with White suspects. In the intergroup pairings, Black officers used less Level 1 force and more Level 2 and Level 4 force with White suspects (see Table 3).

The relationship between the intergroup/intragroup pairings and if the use of force was effective was found to be statistically significant, χ^2 (6, N = 4.634) = 13.28, p = 0.039 (Cramer's

V = 0.04). In the intragroup pairings, White officers were found to have their use of force with White suspects to be more effective than not. All other pairings had no difference in whether their force was found to be effective or not (see Table 2).

Suspect Build

The relationship among intergroup/intragroup pairings, Level 1 use of force, and suspect build was found to be statistically significant, χ^2 (9, N = 3,687) = 42.98, $p < 0.001$ (Cramer's V = 0.06). In the intragroup pairings, Black suspects of a medium build experienced high occurrences of Level 1 force, while suspects of a large build experienced less occurrences of Level 1 force from Black officers. White suspects of a small build experienced lower occurrences of Level 1 force, while White suspects of a large build experienced higher occurrences of Level 1 force, from White officers. In the intergroup pairings, White suspects of a medium build experienced lower occurrences of Level 1 force from Black officers. White suspects of a large build were found to experience higher occurrences of Level 1 force from Black officers (see Table 5).

The relationship among intergroup/intragroup pairings, Level 2 use of force, and suspect build was found to be statistically significant, χ^2 (9, N = 853) = 27.25, p = 0.001 (Cramer's V = 0.10). In the intragroup pairings, Black suspects of a large build experienced less Level 2 force, while Black suspects of an extra-large build experienced more Level 2 force from Black officers. White suspects of a large build experienced more occurrences of Level 2 force from White officers. In the intergroup pairings, White suspects of a large build experienced more occurrences of Level 2 force from Black officers.

The relationship among intergroup/intragroup pairings, Level 3 use of force, and suspect build was found to be statistically significant , χ^2 (4, N = 29) = 9.88, p = 0.043 (Cramer's V =

0.41). In the intragroup pairings, Black suspects of a small build experienced less occurrences of Level 3 force, while Black suspects of a medium build experiences more Level 3 force from Black officers. In the intergroup pairings, Black suspects of a small build experienced higher than expected occurrences of Level 3 force, while Black suspects of a medium build experienced less Level 3 force from White officers.

The relationship among intergroup/intragroup pairings, Level 4 use of force, and suspect build was not statistically significant, χ^2 (9, N = 65) = 9.06, p = 0.432 (Cramer's V = 0.22). In the intragroup pairings, there was no significance found for any differences in treatment of suspects based upon build. In the intergroup pairings, White suspects of an extra-large build experienced higher than expected occurrences of Level 4 force from Black officers.

Suspect Height

The relationship among intergroup/intragroup pairings, Level 1 use of force, and suspect height was found to be statistically significant, χ^2 (18, N = 3,687) = 48.08, $p < 0.001$ (Cramer's V = 0.07). In the intragroup pairings, White suspects that were 5′4″ to 5′6″ experienced less Level 1 force, while White suspects that were >6′3″ experienced more Level 1 force from White officers. In the intergroup pairings, White suspects that were 5′7″ to 5′9″ experienced less Level 1 force, while White suspects that were 5′10″ to 6′0″ and >6′3″ experienced more Level 1 force from Black officers. Black suspects that were <5′0″ experienced less Level 1 force, while Black suspects that were 5′4″ to 5′6″ experienced more Level 1 force from White officers (see Table 6).

The relationship among intergroup/intragroup pairings, Level 2 use of force, and suspect height was found to be statistically significant, χ^2 (18, N = 853) = 39.26, p = 0.003 (Cramer's V = 0.12). In the intragroup pairings, Black suspects that were 5′4″ to 5′6″ experienced more Level 2 force, while Black suspects that were 5′10″ to 6′0″ experienced less Level 2 force from Black

officers. White suspects that were 5′4″ to 5′6″ experienced less Level 2 force, while White suspects that were 5′10″ to 6′0″ experienced more Level 2 force from White officers. In the intergroup pairings, White suspects that were 5′4″ to 5′6″experienced less occurrences of Level 2 force from Black officers.

The relationship among intergroup/intragroup pairings, Level 3 use of force, and suspect height was not found to be statistically significant, χ^2 (10, N = 29) = 9.68, p = 0.469 (Cramer's V = 0.41). This finding reflects that the use of force exhibited was not different on a racial basis and height.

The relationship among intergroup/intragroup pairings, Level 4 use of force, and suspect height was not found to be statistically significant, χ^2 (15, N = 65) = 19.01, p = 0.213 (Cramer's V = 0.31). In the intragroup pairings, no significant difference was found between Level 4 use of force and height. In the intergroup pairings, White suspects that were 5′0″ to 5′3″experienced higher levels than expected occurrences of Level 4 force from Black officers. White suspects that were 5′10 to 6′0″ experienced higher levels than expected occurrences of Level 4 force from Black officers.

Discussion

The NOPD files depicts that racial inequality in policing still remains. There are significantly more Black suspects receiving any level of force than White suspects, which is a finding that is consistent with Dukes and Kahn's (2017) study. During police interactions Black suspects were found to be hospitalized more than White suspects, especially at the hands of White officers instead of Black officers. White suspects too experienced high levels of hospitalizations at the hands of both White and Black officers but, significantly less than that of Black suspects. Although racial differences were observed in whether or not a suspect was hospitalized, there

were no racial differences found in whether or not a suspect was injured during police interaction. During the use of force incidents, White suspects were arrested less by both White and Black officers, while Black suspects did not endure the same likelihood. This finding was also consistent with that of the Dukes and Kahn study (2017).

Throughout the varying levels of force, only White officers found their use of force to be effective, paired off with White suspects. This finding is similar to that of Dixon et al. (2008) where officers tend to have better interactions with White suspects than with Black suspects at traffic stops. In the intragroup pairing of a Black officer and Black suspect it was found that overall, Black officers tend to use the lowest level of force. Level 1 force was most common for this pairing than any other type of force. Black suspects of a small and large build experience less instances of force more than those of a medium and extra-large build at the hands of Black officers. Furthermore, Black suspects that were taller (5′10″ to 6′0″) experienced less instances of Level 2 force and those who were shorter (5′4″ to 5′6″) experienced more instances of Level 2 force. These results do not entirely match the results of Wilson et al. (2017) where Black men tend to be seen as stronger, however, the levels of force by the NOPD were inconsistently defined so it is hard to determine whether the results are accurate or not. In the intragroup pairing of a White officer and a White suspect, it was found that overall White suspects endured higher levels of force with Level 2 force being more significantly prominent than Level 1 force. White suspects did not experience Level 3 force at the hands of White officers. With White officers, White suspects who were of a small build experienced less instances of Level 1 force, while those who were of a large build experienced more instances of Level 1 and 2 force. White suspects who were shorter (5′4″ to 5′6″) experienced less instances of Level 1 and Level 2 force, while those who were taller (5′10″ to 6′0″) experienced more instances of Level 2 force. It might

make sense that officers would use higher levels of force with bigger men regardless of race, despite this pattern not being found for the Black suspects.

In the intergroup pairing of a Black officer and White suspect it was found overall that more Level 2 and 4 force being used, and Level 1 force was used less. White suspects of a medium build endured less instances of Level 1 force, while White suspects of a large build experienced more instances of Level 2 force. In the intergroup pairing of a White officer and a Black suspect it was found that Level 4 was used less.

A limitation of this study is that although the NOPD has information available to the public on police use of force, there is no way of knowing how accurate the information on the site is. Another limitation is the inconsistency in how the use of force levels are defined in relation with how they were inputted into the dataset. More light needs to be shed on how use of force is measured and defined, not just for future researchers to study this topic but also, for the general public to receive accurate data on use of force incidents. Furthermore, there were no images of the police officers or suspects that could be used in better assessing phenotypic racial stereotypicality. Most of what we found is consistent with previous research but, much more research needs to be done in expanding knowledge on police/suspect intergroup and intragroup interactions.

Conclusion

Police for too long have been treating marginalized groups poorly and using unnecessarily high levels of force with them. This research should aid in the progress of understanding police bias and their mistreatment of people. Most of the results found in this study are consistent with previous research. Nonetheless, more work needs to be done on investigating police use of force and scientific methods that promote police reform. This research is only a first step in further

understanding the intergroup and intragroup differences between officer and suspect race and use of force. Hopefully, the future of public data and state of policing will improve through better means of reform.

References

Carrega, C., & Ghebremedhin, S. (2020, November 17). *Timeline: Inside the investigation of Breonna Taylor's killing and its aftermath*. ABC News. https://abcnews.go.com/US/timeline-inside-investigation-breonna-taylors-killing-aftermath/story?id=71217247

City of New Orleans Open Data. (2020). NOPD Use of Force Incidents,[Data set]. Data.Nola.Gov. https://data.nola.gov/Public-Safety-and-Preparedness/NOPD-Use-ofForce-Incidents/9mnw-mbde

Correll, J., Hudson, S. M., Guillermo, S., & Ma, D. S. (2014). The police officer's dilemma: A decade of research on racial bias in the decision to shoot. *Social and Personality Psychology Compass*, 8(5), 201-213. doi:10.1111/spc3.12099

Dixon, T. L., Schell, T. L., Giles, H., & Drogos, K. L. (2008). The influence of race in police civilian interactions: A content analysis of videotaped interactions taken during Cincinnati police traffic stops. Journal of Communication, 58(3), 530–549. https://doi.org/10.1111/j.1460-2466.2008.00398.x

Dukes, K. N., & Kahn, K. B. (2017). What social science research says about police violence against racial and ethnic minorities: Understanding the antecedents and consequences- an introduction. Journal of Social Issues, 73(4), 690-700. doi:10.1111/josi.12242

Dungca, N., Abelson, J., Berman, M., & Sullivan, J. (2020, June 8). *A dozen high-profile fatal encounters that have galvanized protests nationwide*. The Washington Post. https://www.washingtonpost.com/investigations/a-dozen-high-profile-fatal-encounters-that-have-galvanized-protests-nationwide/2020/06/08/4fdbfc9c-a72f-11ea-b473-04905b1af82b_story.html

Goff, P. A., & Kahn, K. B. (2012). Racial bias in policing: Why we know less than we should. *Social Issues and Policy Review*. 6(1), 177-210.

Hill, E., Tiefenthäler, A., Triebert, C., Jordan, D., Willis, H., & Stein, R. (2020, May 31). *How George Floyd was killed in police custody*. The New York Times. https://www.nytimes.com/2020/05/31/us/george-floyd-investigation.html

Kahn, K. B., Goff, P. A., Lee, J. K., & Motamed, D. (2016). Protecting whiteness: White phenotypic racial stereotypicality reduces police use of force. Social Psychological and Personality Science, 7(5), 403-411. doi:10.1177/1948550616633505

Morin, R., Parker, K., Stepler, R., & Mercer, A. (2017, January). Behind the badge: Amid protests and call for reform, how police view their jobs, key issues and recent fatal encounters between black and police. *Pew Research Center*. https://www.pewsocialtrends.org/2017/01/11/behind-the-badge/

New Orleans Police Department. (2015, December 6). Operations manual: Use of force. Nola.gov. https://www.nola.gov/getattachment/NOPD/NOPD-Consent-Decree/Chapter-1-3-Use-of-Force.pdf/#:~:text=Officers may use only necessary, To protect themselves from injury%3B&text=To protect others from injury, To conduct a lawful search.

Payne, K. B., (2006). Weapon bias: Split-second decisions and unintended stereotyping. Association for Psychological Science, 15(6), 287-92. doi:10.1111/j.1467-8721.2006.00454.x

Roland G. Fryer, Jr. (2017, July). An empirical analysis of racial differences in police use of force. *Harvard*. https://scholar.harvard.edu/files/fryer/files/empirical_analysis_tables_figures.pdf

Walker, S., Spohn, C., & DeLone, M. (2007). The color of justice (3rd Ed.). Beverly Hills, CA: Wadsworth.

Wilson, J. P., Rule, N. O., & Hugenberg, K. (2017). Racial bias in judgments of physical size and formidability: From size to threat. Journal of Personality and Social Psychology, 113(1), 59–80. http://dx.doi.org/10.1037/pspi0000092\

Table 1

Suspect Injured and Hospitalized

Pairings	Suspect Injured		Suspect Hospitalized	
	Yes	No	Yes	No
Black officer and Black Suspect				
N	386	1553	680	1259
Percentage	39.4	42.5	38.7	43.7
Adjusted residual	-1.7	1.7	-3.3	3.3
White officer and White Suspect				
N	82	258	152	188
Percentage	8.4	7.1	8.7	6.5
Residual	1.4	-1.4	2.7	-2.7
Black officer and White Suspect				
N	53	164	104	113
Percentage	5.4	4.5	5.9	3.9
Adjusted residual	1.2	-1.2	3.1	-3.1
White officer and Black suspect				
N	458	1680	819	1319
Percentage	46.8	46.0	46.7	45.8
Adjusted residual	0.5	-0.5	0.6	-0.6

Table 2

Use of Force Effectiveness and Suspect Arrests

Pairings	Use of Force Effective		Suspect Arrested	
	Yes	No	Yes	No
Black officer and Black suspect				
N	1701	229	1573	366
Percentage	41.6	44.7	42.5	39.1
Adjusted residual	-0.9	1.4	1.9	-1.9
White officer and White suspect				
N	313	24	243	97
Percentage	7.7	4.7	6.6	10.4
Adjusted residual	2.3	-2.4	-4.0	4.0
Black officer and White suspect				
N	183	32	144	73
Percentage	4.5	6.3	3.9	7.8
Adjusted residual	-1.8	1.8	-5.1	5.1
White officer and Black suspect				
N	1891	227	1738	400
Percentage	46.3	44.3	47.0	42.7
Adjusted residual	0.4	-0.9	2.3	-2.3

Table 3

Use of Force Levels

Pairing	Use of Force Level			
	Level 1	Level 2	Level 3	Level 4
Black officer and Black suspect				
N	1601	298	10	30
Percentage	43.4	34.9	34.5	46.2
Adjusted residual	4.3	-4.5	-0.8	0.7
White officer and White suspect				
N	243	89	0	8
Percentage	6.6	10.4	0.0	12.3
Adjusted residual	-3.8	3.8	-1.5	1.5
Black officer and White suspect				
N	154	53	3	7
Percentage	4.2	6.2	10.3	10.8
Adjusted residual	-3.2	2.3	1.4	2.3
White officer and Black suspect				
N	1689	413	16	20
Percentage	45.8	48.4	55.2	30.8
Adjusted residual	-0.9	1.5	1.0	-2.5

Table 4

Officer Injured

Officer Race	Officer Injured	
	Yes	No
Black		
N	226	1928
Percentage	42.2	47.1
Adjusted residual	-2.1	2.1
White		
N	309	2168
Percentage	57.8	52.9
Adjusted residual	2.1	-2.1

Note: 3 cases are excluded because they were labeled "refuse verbal commands," instead of yes or no.

Table 5

Use of force level x Pairings x Build

Use of Force Level	Pairing	Build			
1		Small	Medium	Large	X-Large
	Black officer and Black suspect				
	N	377	1033	159	32
	Percentage	44.8	45.3	33.2	37.2
	Adjusted residual	0.9	2.9	-4.8	-1.2
	White officer and White suspect				
	N	40	147	51	5
	Percentage	4.8	6.4	10.6	5.8
	Adjusted residual	-2.4	-0.5	3.8	-0.3
	Black officer and White suspect				
	N	34	83	32	5
	Percentage	4.0	3.6	6.7	5.8
	Adjusted residual	-0.2	-2.1	2.9	0.8
	White officer and Black suspect				
	N	390	1018	237	44
	Percentage	46.4	44.6	49.5	51.2
	Adjusted residual	0.4	-1.8	1.7	1.0
2					
	Black officer and Black suspect				
	N	67	181	36	14
	Percentage	33.3	36.3	27.3	63.6
	Adjusted residual	-0.5	1.0	-2.0	2.9
	White officer and White suspect				
	N	16	50	22	1
	Percentage	8.0	10.0	16.7	4.5
	Adjusted residual	-1.3	-0.4	2.5	-0.9
	Black officer and White suspect				
	N	11	26	16	0
	Percentage	5.5	5.2	12.1	0.0
	Adjusted residual	-0.5	-1.4	3.1	-1.2
	White officer and Black suspect				
	N	107	241	58	7
	Percentage	53.2	48.4	43.9	31.8
	Adjusted residual	1.6	0.0	-1.1	-1.6
3					

	Black officer and Black suspect				
	N	0	8	2	-
	Percentage	0.0	50.0	28.6	-
	Adjusted residual	-2.0	2.0	-0.4	-
	White officer and White suspect				
	N	-	-	-	-
	Percentage	-	-	-	-
	Adjusted residual	-	-	-	-
	Black officer and White suspect				
	N	0	3	0	-
	Percentage	0.0	18.8	0.0	-
	Adjusted residual	-0.9	1.6	-1.0	-
	White officer and Black suspect				
	N	6	5	5	-
	Percentage	100.0	31.2	71.4	-
	Adjusted residual	2.5	-2.9	1.0	-
4					
	Black officer and Black suspect				
	N	7	21	1	1
	Percentage	46.7	48.8	50.0	20.0
	Adjusted residual	0.0	0.6	0.1	-1.2
	White officer and White suspect				
	N	2	5	1	0
	Percentage	13.3	11.6	50.0	0.0
	Adjusted residual	0.1	-0.2	1.6	-0.9
	Black officer and White suspect				
	N	1	4	0	2
	Percentage	6.7	9.3	0.0	40.0
	Adjusted residual	-0.6	-0.5	-0.5	2.2
	White officer and Black suspect				
	N	5	13	0	2
	Percentage	33.3	30.2	0.0	40.0
	Adjusted residual	0.2	-0.1	-1.0	0.5

Note: Empty cells indicate no existing cases

Table 6

Use of force level x Pairings x Build

Use of Force Level	Pairing	Height						
		< 5′0″	5′0″ to 5′3″	5′4″ to 5′6″	5′7″ to 5′9″	5′10″ to 6′0″	6′1″ to 6′3″	> 6′3″
1								
	Black officer and Black suspect							
	N	27	112	259	525	473	181	24
	Percentage	56.3	45.2	41.8	44.7	41.6	45.6	38.1
	Adjusted residual	1.8	0.6	-0.9	1.1	-1.5	0.9	-0.9
	White officer and White suspect							
	N	3	22	29	69	87	22	11
	Percentage	6.3	8.9	4.7	5.9	7.7	5.5	17.5
	Adjusted residual	-0.1	1.5	-2.1	-1.2	1.7	-0.9	3.5
	Black officer and White suspect							
	N	3	11	22	32	61	19	6
	Percentage	6.3	434	3.5	2.7	5.4	4.8	9.5
	Adjusted residual	0.7	0.2	-0.9	-3.0	2.4	0.6	2.1
	White officer and Black suspect							
	N	15	103	310	549	515	175	22
	Percentage	31.3	41.5	50.0	46.7	45.3	44.1	34.9
	Adjusted residual	-2.0	-1.4	2.3	0.8	-0.4	-0.7	-1.7
2								
	Black officer and Black suspect							
	N	2	12	65	97	70	39	13
	Percentage	22.2	27.9	43.3	37.7	27.3	38.6	35.1
	Adjusted residual	-0.8	-1.0	2.4	1.1	-3.0	0.8	0.0
	White officer and White suspect							
	N	2	4	6	20	41	14	2
	Percentage	22.2	9.3	4.0	7.8	16.0	13.9	5.4
	Adjusted residual	1.2	-0.2	-2.8	-1.7	3.5	1.2	-1.0
	Black officer and White suspect							
	N	0	1	4	18	21	8	1
	Percentage	0.0	2.3	2.7	7.0	8.2	7.9	2.7
	Adjusted residual	-0.8	-1.1	-2.0	0.6	1.6	0.8	-0.9
	White officer and Black suspect							
	N	5	26	75	122	124	40	21
	Percentage	55.6	60.5	50.0	47.5	48.4	39.6	56.8
	Adjusted residual	0.4	1.6	0.4	-0.4	0.0	-1.9	1.0
3								
	Black officer and Black suspect							
	N	-	0	1	3	2	3	1
	Percentage	-	0.0	25.0	60.0	16.7	60.0	100.0
	Adjusted residual	-	-1.1	-0.4	1.3	-1.7	1.3	1.4
	White officer and White suspect							

	N	-	-	-	-	-	-	-
	Percentage	-	-	-	-	-	-	-
	Adjusted residual	-	-	-	-	-	-	-
	Black officer and White suspect							
	N	-	0	1	0	2	0	0
	Percentage	-	0.0	25.0	0.0	16.7	0.0	0.0
	Adjusted residual	-	-0.5	1.0	-0.8	0.9	-0.8	-0.3
	White officer and Black suspect							
	N	-	2	2	2	8	2	0
	Percentage	-	100.0	50.0	40.0	66.7	40.0	0.0
	Adjusted residual	-	1.3	-0.2	-0.7	1.0	-0.7	-1.1
4								
	Black officer and Black suspect							
	N	-	0	4	9	13	3	1
	Percentage	-	0.0	44.4	52.9	41.9	50.0	100.0
	Adjusted residual	-	-0.9	-0.1	0.7	-0.7	0.2	1.1
	White officer and White suspect							
	N	-	0	0	3	4	1	0
	Percentage	-	0.0	0.0	17.6	12.9	16.7	0.0
	Adjusted residual	-	-0.4	-1.2	0.8	0.1	0.3	-0.4
	Black officer and White suspect							
	N	-	1	0	0	6	0	0
	Percentage	-	-	0.0	0.0	19.4	0.0	0.0
	Adjusted residual	-	2.9	-1.1	-1.7	2.1	-0.9	-0.4
	White officer and Black suspect							
	N	-	0	5	5	8	2	0
	Percentage	-	-	55.6	29.4	25.8	33.3	0.0
	Adjusted residual	-	-0.7	1.7	-0.1	-0.8	0.1	-0.7