

Introduction

Beginning with simple reporting and moving on to more complicated inferences, the goal of this paper is to explore some of the trends of the complaint data. Beginning with the most obvious, I want explore the simpler metrics, such as observing the amount of complaints over the period the data was collected, the nature of the complaints, how many needed corrective action and what corrective action was taken. Further analysis will attempt to see if variables such as the officer rank, ethnicity and age, the complainant's ethnicity and age have any noticeable effect on the frequency of a substantiated complaint. Finally, I would like to take a look at the frequency of specific groupings of variables, for example does age and rank have anything to do with a 'substantiated' beating allegation.

Data Preparation

Many of the column names were changed to be more descriptive and to follow a uniform pattern. All blanks within each column were changed to NA, except for disciplinary action taken. Those records coinciding with those in the exonerated and unsubstantiated category were labeled as none. There are several abnormal records, such as ages recorded as -1 or 0 or -4301, but I have chosen to leave those as is for now. The column disciplinary-action-taken was derived from the original dataset's board-disposition. Which contained corrective action taken as well as the substantiated, unsubstantiated and exonerated information. I thought it would be best to separate that information out. I have also added a classifier column, called required-corrective-action, which is split into 'no' or 'yes'. This will serve as a basis for later classification. The reasoning behind this, was to provide a clear binary classification. However, it is important to acknowledge that the "unsubstantiated" label in the board disposition is separate from exonerated. Per the data set's accompanying documentation, exonerated is where an investigator found what was alleged

happened, but it was allowed under NYPD conduct. Unsubstantiated means that the investigator was unable to find evidence that the alleged incident happened and that it violated NYPD's rules.

Analysis

There are 33,358 records, of which 25,057 are classified as having no corrective action taken, while there are 8,301 records that required corrective action. There is a significant class imbalance, as there are more than three times as many non-corrective vs corrective action records.

Per Fig. 1 you can see that the majority of complaints were recorded after the year 2000, with a significant increase between 2000-2006.

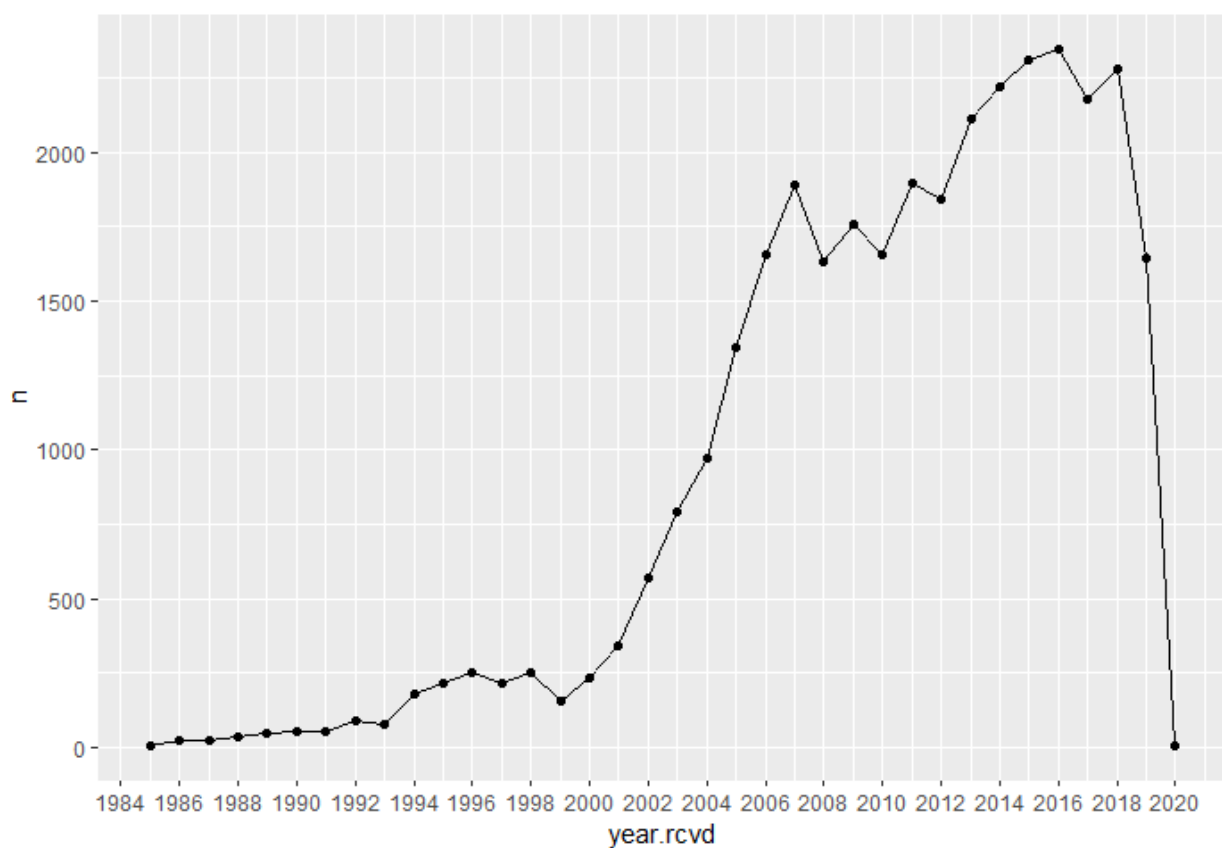


Fig. 1 - Complaints over Time

Shown in Fig. 2, is the general breakdown of incidents between those that required corrective action and those that did not. These substantiated incidents follow the general increase in total complaints starting after 2000, peaking in the year 2015.

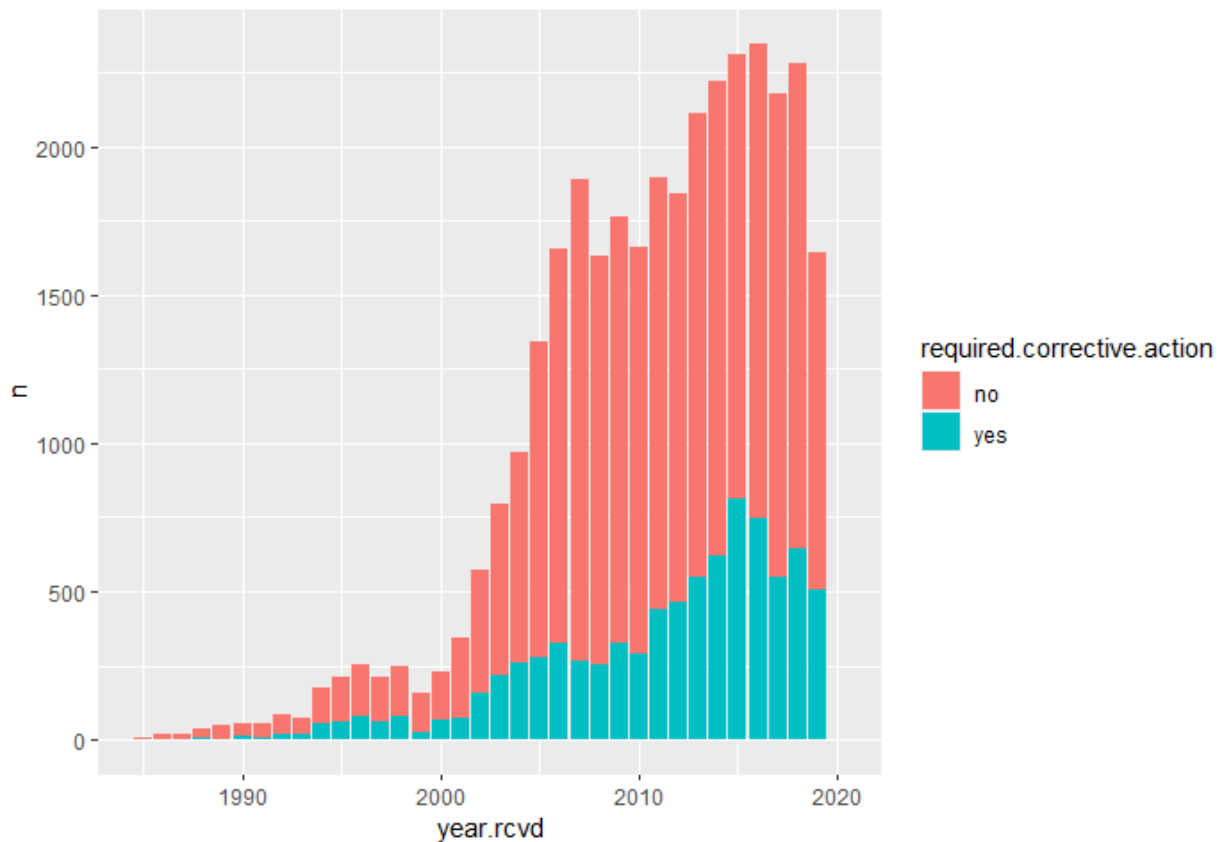


Fig. 2 Number of Complaints per Year Corrective Action Breakdown

There are four general categories of allegations, they are represented by the fado-type column. Table 1. and 2. show the number of FADO types across all and substantiated complaints respectively. The general FADO type is further described by the allegation column, which gives a brief description of the allegation. Force for example, contains specific acts like ‘gun as club’, ‘pepper spray’ and ‘Hit against inanimate object’ as well as the more general ‘physical force’ as seen as the top allegation description in Table 3. For comparison, Table 4. shows descriptions of substantiated complaints, which differ slightly from the trend of the overall, though there are eight in common.

Table 1. All FADO

fado.type	n
Abuse of Authority	20292
Force	7636
Discourtesy	4677
Offensive Language	753

Table 2. Subst. FADO

fado.type	n
Abuse of Authority	6172
Discourtesy	1026
Force	976
Offensive Language	127

Table 3. Top 10 Allegations

allegation	n
Physical force	4849
Word	3942
Stop	2300
Search (of person	2047
Frisk	1926
Premises entered and/or searched	1555
Refusal to provide name/shield number	1483
Vehicle search	1405
Threat of arrest	1370
Vehicle stop	1094

Table 4. Top 10 Subst. Allegations

allegation	n
Stop	890
Frisk	871
Word	828
Search (of person	538
Physical force	504
Vehicle search	447
Refusal to provide name/shield number	433
Premises entered and/or searched	417
Other	299
Retaliatory summons	216

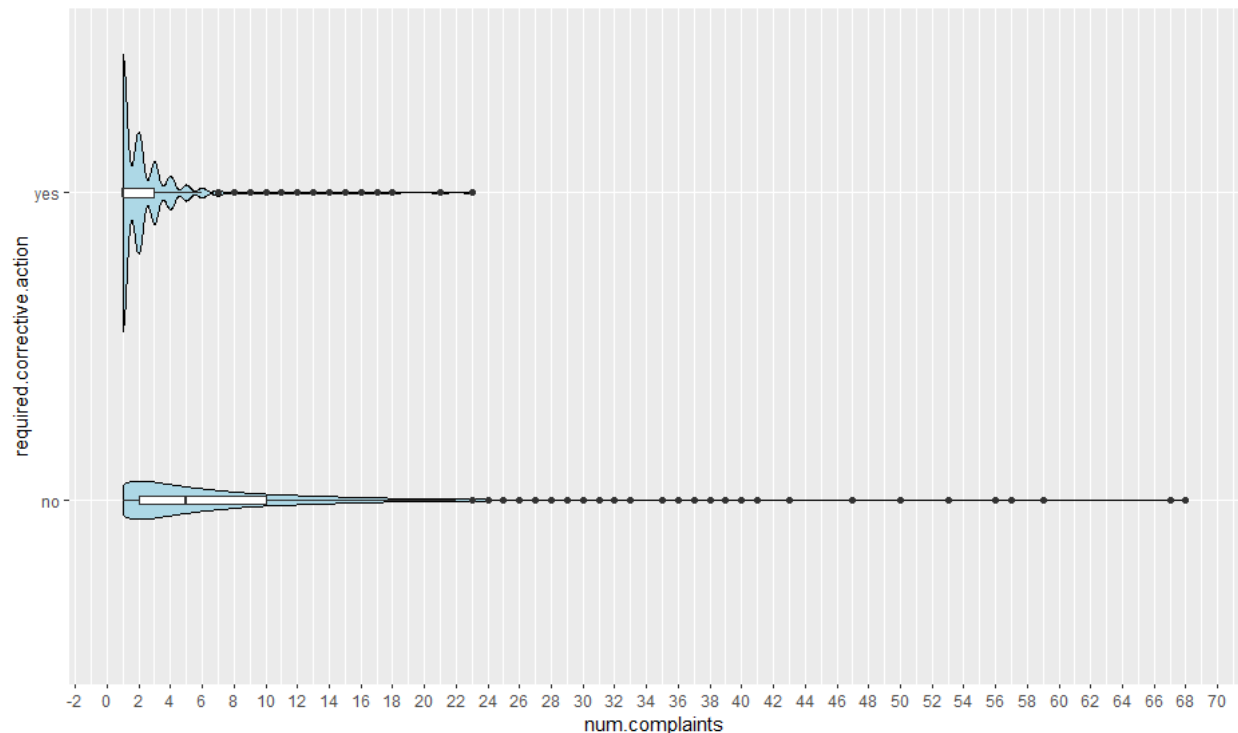


Fig.3 Average Complaints

The average of number of complaints is broken down by whether or not the complaint required corrective action. Tables 5-7 show the averages across all, corrective action and no corrective action complaints. Highest number of complaints for an officer was 75 – lowest was one. One thing about this data set is important to note, all officers have at least one substantiated complaint against them. All records of officers that did not have a substantiated were not included in this dataset.

Table 5. All Complaints	
Stats	
Min. :	1.000
1st Qu.:	3.000
Median :	6.000
Mean :	8.348
3rd Qu.:	11.000
Max. :	75.000

Table 6. Corrective Action	
Stats	
Min. :	1.000
1st Qu.:	1.000
Median :	1.000
Mean :	2.077
3rd Qu.:	3.000
Max. :	23.000

Table 7. No Corrective Action	
Stats	
Min. :	1.000
1st Qu.:	2.000
Median :	5.000
Mean :	7.244
3rd Qu.:	10.000
Max. :	68.000

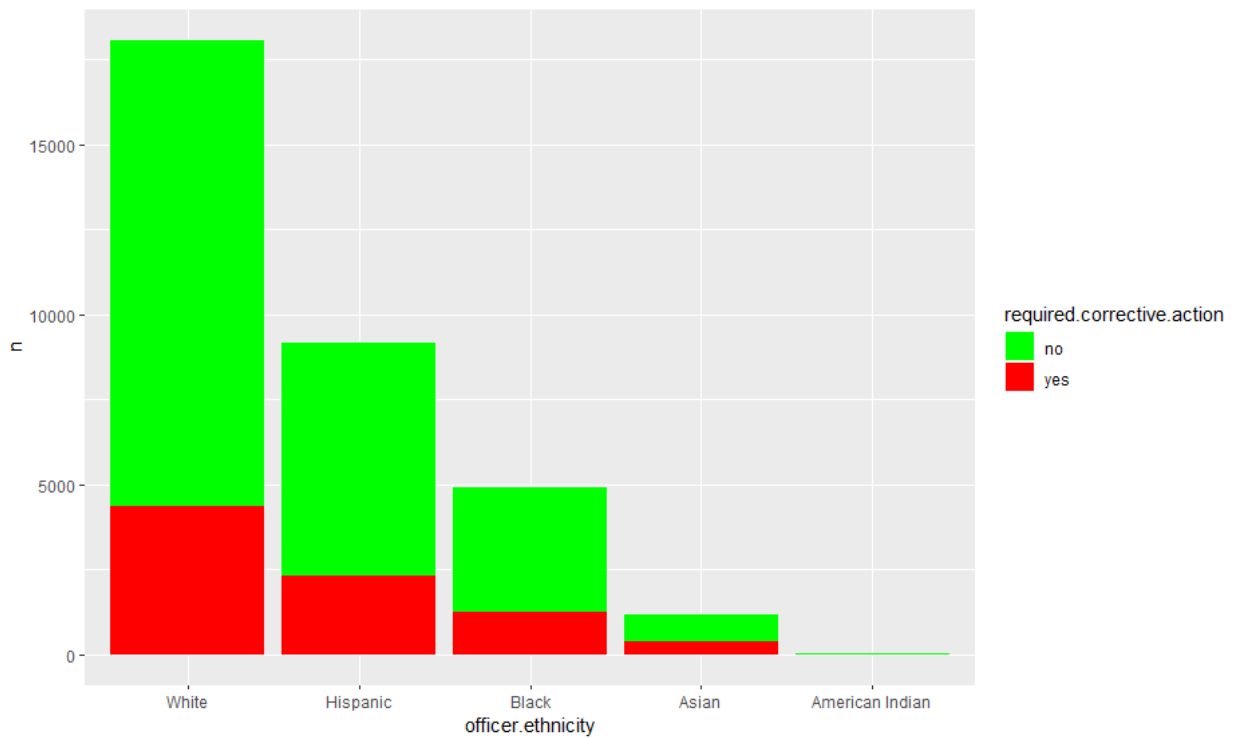


Fig.4 Officer Ethnicity and Complaint Disposition

Officer ethnicity is broken down into White, Hispanic, Black, Asian and American Indian. Fig 4. shows the break down of the number of complaints filed against officers of each ethnicity, as well as the disposition of the complaints. Fig 5. on the following page shows the number of complaints filed by each ethnicity and the breakdown of their disposition.

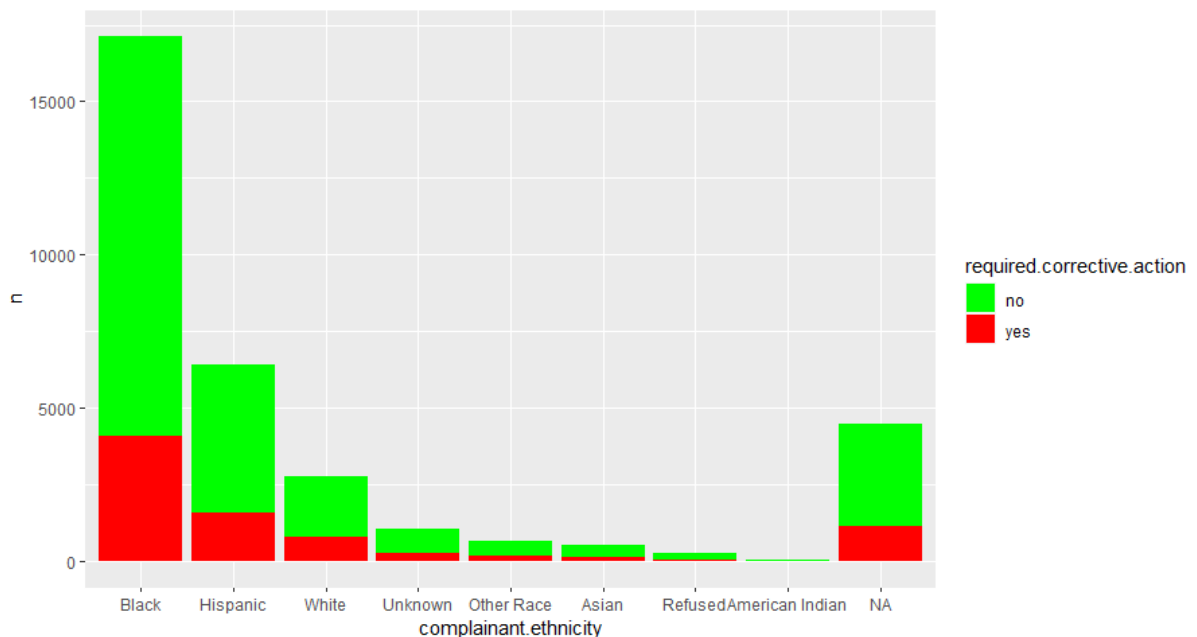


Fig.5 Complainant Ethnicity and Complaint Disposition

Table 8. Substantiated Officer and Complainant Incidents

officer.ethnicity	complainant.ethnicity	n
American Indian	Black	4
Asian	Black	163
Asian	Hispanic	60
Asian	White	52
Asian	NA	37
Asian	Asian	28
Asian	Unknown	11
Asian	Other Race	7
Asian	Refused	7
Asian	American Indian	1
Black	Black	668
Black	NA	177
Black	Hispanic	170
Black	White	123
Black	Unknown	44
Black	Other Race	36
Black	Refused	12
Black	Asian	11
Black	American Indian	1
Hispanic	Black	1136
Hispanic	Hispanic	551
Hispanic	NA	264
Hispanic	White	167
Hispanic	Unknown	96
Hispanic	Other Race	61
Hispanic	Asian	26
Hispanic	Refused	17
Hispanic	American Indian	1
White	Black	2102
White	Hispanic	791
White	NA	687
White	White	435
White	Unknown	133
White	Asian	90
White	Other Race	78
White	Refused	34
White	American Indian	20

Table 9. Count of Officers by Ethnicity

officer.ethnicity	n
White	2056
Hispanic	1154
Black	597
Asian	186
American Indian	3



Table 10. Black Complainants and Officer Ethnicity

officer.ethnicity	num.subs.complaints	num.officers	pct_complaints	pct_officers
White	2102	2056	51.608%	51.451%
Hispanic	1136	1154	27.891%	28.879%
Black	668	597	16.401%	14.940%
Asian	163	186	4.002%	4.655%
American Indian	4	3	0.098%	0.075%

Tables 8-10 show information about complaints that were substantiated. Table 8. breaks it down by officer ethnicity and the ethnicity of the complainant. Table 9. shows the number of officers of each ethnicity and Table 10. focuses on black complainants, who across all officer ethnicities, have the highest total substantiated complaints. The general percentage of officers responsible for the percentage of complaints is within aprox. 1-2% across all officer ethnicities.

Conclusions

A suggested solution to the problems of police brutality and use of force is to that having a police force more representative of those communities.[Brunson and Gau 2011] However further investigation, particularly by statistical methods has found that the composition of the police force, by race, has no effect on the amount of complaints filed [Brunson and Gau 2011] Age and experience are better indications of negatively affect the amount of civilian complaints made against the police force [Cao 2000]. Per Table 8-10 the relatively close percentages of substantiated complaints made by black complainants and the officer ethnicity shows that it is relatively proportional. As further presented by Cao in his research, organization make up and characteristics is important as well [2000]. Further analysis on age, rank and perhaps the command of the officer bears pursuing. Perhaps one caveat to this would be this dataset is only contains officers with at least one substantiated complaint, thereby eliminating a fair amount of data that could provide more insight into what is most important.

References

[1] Rod K. Brunson and Jacinta M. Gau. 2011. Officer Race Versus Macro-Level Context: A Test of Competing Hypotheses About Black Citizens' Experiences With and Perceptions of Black Police Officers. *Crime & Delinquency* 61, 2 (February 2011), 213–242.

DOI:<https://doi.org/10.1177/0011128711398027>

[2] Liqun Cao and Bu Huang. 2000. Determinants of Citizen Complaints against Police Abuse of Power. *Journal of Criminal Justice* 28, (February 2000), 203–213.

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