Stage II

Literature Review

In 2020 alone, 53.8 million U.S. residents reported having contact with law enforcement (Tapp & Davis, 2020). While the majority (88%) of respondents reported having satisfactory interactions with police, about 2% or 1 million respondents reported having negative experiences, characterized by the threat and/or use of force as well as other forms of misconduct (Tapp & Davis, 2020). Police misconduct, defined by the New York Police Department (NYPD) Civilian Complaints Review Board, is any action or charge that may result in an officer being subjected to an administrative trial process (Cubitt et al., 2022). Conduct that falls under this category includes, but is not limited to, improper use of force, abuse of authority, discourteous behavior, and offensive language (Cubitt et al., 2022). In recent years, police misconduct has become a prominent issue in the eyes of the American public, especially given racial/ethnic disparities in experiences, with numerous high-profile cases resulting in the death of many lives. Releases of police misconduct records in recent years have allowed researchers to better characterize and understand the escalating problem at hand.

Research has shown that there are several correlates of police misconduct. In general, male officers are more likely to get complaints than their female counterparts (Harris & Worden, 2014). Younger, less experienced officers are also at higher risk along with officers with military experience (Harris & Worden, 2014). Officers who are more productive (i.e. with more arrests and stops) and who have more civilian interaction are also more likely to accrue greater complaints of police misconduct (Harris & Worden, 2014; Rozema & Schanzenbach, 2019). Some reports have also suggested that officers from minority populations may also be more likely to commit misconduct, though other studies have suggested that this may be a result of differential task or geographic assignment to high-crime precincts (Cubitt et al., 2022; Harris & Worden, 2014)

Police misconduct records only represent a small portion of actual misconduct cases; it is estimated that approximately only a third of complaints end up being actually filed (Harris & Worden, 2014). Of those filed, legal and institutional barriers make it difficult for complaints to result in disciplinary measures. Reports have shown that only an eighth of civilian-initiated complaints are sustained, with most complaints often being declared as either exonerated (act verified but found to be proper), unfounded, or not sustained (insufficient evidence) (Harris & Worden, 2014). If sustained, about 1 of 24 cases result in sanctions for officers involved, with most sanctions often not commensurate with the misconduct that occurred (Harris & Worden, 2014).

Past work looking into police misconduct at various police departments across the nation has identified significant patterns. Rozema & Schanzenbach (2019), while examining police misconduct in Chicago, found that officers with moderate numbers of misconduct allegations were at no greater risk of committing serious misconduct than officers who had no misconduct allegations at all. Instead, they found that officers who were in the top 1% quartile of misconduct allegations were more likely to commit serious misconduct, generating almost 5 times the number of payouts and 4 times the total damage payments. When complaints against officers are sustained, almost 36% of offending officers accrue another sustained complaint at some point during their career (Harris &

Worden, 2014). The risk of obtaining another complaint was found to be higher in the first months succeeding the first complaint but dropped significantly afterward. Notably, officers who are sanctioned for the complaint are not only more likely to engage in misconduct but do so more rapidly (Harris & Worden, 2014). Overall, findings suggest that a small subset of repeat offenders are responsible for a large portion of police misconduct reported, encompassing over $1.5 billion in lawsuit settlements across the nation (Cubitt et al., 2022).

Cubitt et al. (2022) also noted that differences in case outcomes depend on officer and complainant characteristics. Female officers, for example, while less likely to accrue misconduct allegations in general than their male counterparts, were more likely to be sanctioned with remedial management action. Black and Hispanic civilians who submitted a complaint of police misconduct were 4.7 and 1.6 more likely to receive a not sustained ruling compared to White citizens (Headley et al., 2020). One study also found that racial mismatches between officer and complainant were linked to differing case outcomes (Wright II, 2020). The study found that Black complainants were more likely to receive a sustained ruling when misconduct was alleged against a white officer. On the other hand, white complainants were less likely to receive a sustained ruling when alleging misconduct against a black officer. These results differed across city departments, however, suggesting geographic differences.

Research Question(s)

The issue of police misconduct is important, especially given rising cases of police violence, police brutality, and fatalities as a result of such misconduct. Such issues have resulted in the loss of multiple lives, increased racial tensions across the US, and fractured public trust in law enforcement. The literature has explored various factors linked to police misconduct and has similarly evaluated predictors of not only future misconduct but also misconduct case outcomes.

Few studies, however, have examined the impact of media coverage on police misconduct. Those who do have primarily limited their analysis to the impact of media coverage on public perceptions of police misconduct (Chermak et al., 2006; Dowler & Zawilski, 2007). No article to date has assessed the role that the media can play in influencing misconduct case outcomes, despite the potential pressure that media can have on ensuring that sufficient sanctions are levied.

To address this gap, in this study, we will utilize a dataset of police misconduct cases drawn from the New York City Police Department (NYPD) to do the following:

1. Assess the impact that media coverage/visibility of a given police misconduct incident has on its case outcome, specifically its complaint disposition, as well as the type of resulting penalty.
2. Using the literature, identify and verify additional factors predictive of police misconduct case outcomes such as officer/victim race, gender and age, along with incident location, police contact type, etc.
3. Develop a supervised model to predict case and penalty outcomes for police misconduct cases.

Data

To answer these questions, I will utilize police misconduct cases from the NYPD. Established in 1845, NYPD is one of the oldest and largest police departments in the nation, encompassing over 36,000 officers and 19,000 civilian employees (*About NYPD*, n.d.). Across its 78 precincts, the department serves over 8.5 million different individuals. The Civilian Complaint Review Board (CCRB), which separated from NYPD in 2000, has compiled a database of over 395,000 police misconduct cases from 2000 to 2025 (*Civilian Complaint Review Board (CCRB) Database*, n.d.). The database contains 4 datasets:

1. Allegations Against Police Officers: a list of all closed allegations made against NYPD officers, including information about the complainant, the officer, allegation, and resulting deposition (*Civilian Complaint Review Board: Allegations Against Police Officers | NYC Open Data*, n.d.)
2. Complaints Against Police Officers: a list containing information such as dates, locations, and circumstances surrounding the allegation (*Civilian Complaint Review Board: Complaints Against Police Officers | NYC Open Data*, n.d.)
3. Police Officers: a list of all NYPD officers and the number of total and substantiated complaints on their record (*Civilian Complaint Review Board: Complaints Against Police Officers | NYC Open Data*, n.d.)
4. Penalties: a list containing case and trial penalty information (*Civilian Complaint Review Board: Penalties | NYC Open Data*, n.d.)

To get media coverage information, I will use a subset of data available from the Mapping Police Violence Project, which used google alerts to get news articles on police violence events to construct their dataset (*Mapping Police Violence*, n.d.-a). Currently, the Mapping Police Violence Project has records of 48 separate police violence incidents, with associated news article links, that occurred between 2013 and 2024 (*Mapping Police Violence*, n.d.-b). Given the sample size, I will also utilize the New York Times API to scrape for relevant news articles on the officers and their associated misconduct cases.

As we have location data on where the incidents occurred, I may also incorporate precinct-level crime data into my dataset (*Crime Stats - Historical - NYPD*, n.d.). Previous literature has found that more active police officers are more likely to get higher complaints—controlling for location-specific crime rates will account for this endogeneity to some degree.

Preprocessing and Descriptives

Given the sheer number of datasets I am utilizing for this study, merging datasets effectively is a critical component. I first merged the Allegations Against Police Officers and Complaints Against Police Officers datasets together by inner join, as there are multiple allegations forming single complaints (i.e. allegation ID is clustered by complaint ID). I then merged the resulting dataset to Penalties by left join, since Penalties are only given to complaints that have been ruled as "Sustained" and I want to keep non-sustained case outcomes. Finally, I merged this result with

Police Officers by inner join. Police Officers contain all officers on the NYPD roster, regardless if they have a complaint against them. For this study, as I am interested in exploring case outcomes and resulting penalties, I used inner join to drop all officers who have not been subject to a complaint/allegation. This left me will a resulting dataset of 235,939 instances.

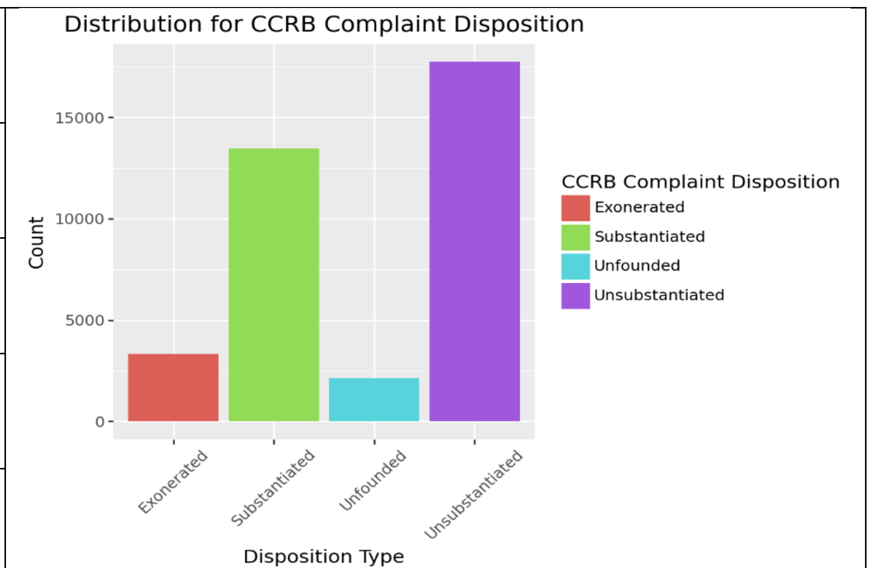
As this dataset lacked any variables for media coverage, I utilized the Mapping Police Violence Project dataset. After filtering for instances from the NYPD and for cases where the officers involved were known, I merged by officer name and year of incident using left join. Because the Mapping Police Violence Project dataset runs from 2013-2024 and the NYPD CCRB runs from 2000 to 2025, I elected to filter for instances that occurred after 2013. I also filtered for cases that occurred before 2020 to avoid potential endogeneity from COVID as well as the Black Lives Matter Movement (which was sparked in part but several police brutality and murder incidents that occurred around the time, which would likely skew media coverage).

For our main target variables, I am focusing on case outcome (CCRB Complaint Disposition) and resulting penalty (NYPD Officer Penalty). I utilized the CCRB Complaint Disposition rather than the individual allegation dispositions as (1) only Sustained Complaints rather than Sustained Allegations result in a penalty and (2) multiple allegations are clustered under individual complaints. I also used the NYPD Officer Penalty instead of other penalty variables as they are typically Recommended Penalties and NYPD has final authority on which penalties are actually implemented.

Upon examination of the CCRB Complaint Disposition variable, in addition to expected disposition types (Substantiated, Unsubstantiated, Exonerated, Unfounded) there were also miscellaneous types such as "Complainant Uncooperative", "Complaint Withdrawn", "Subject Resigned", etc. For the miscellaneous types, as they effectively meant the disposition did not happen, I recoded them as NaN and dropped them, resulting in a dataset of 36,666. The following showcases the distribution for the variable after recoding:

Table 1. CCRB Complaint Disposition

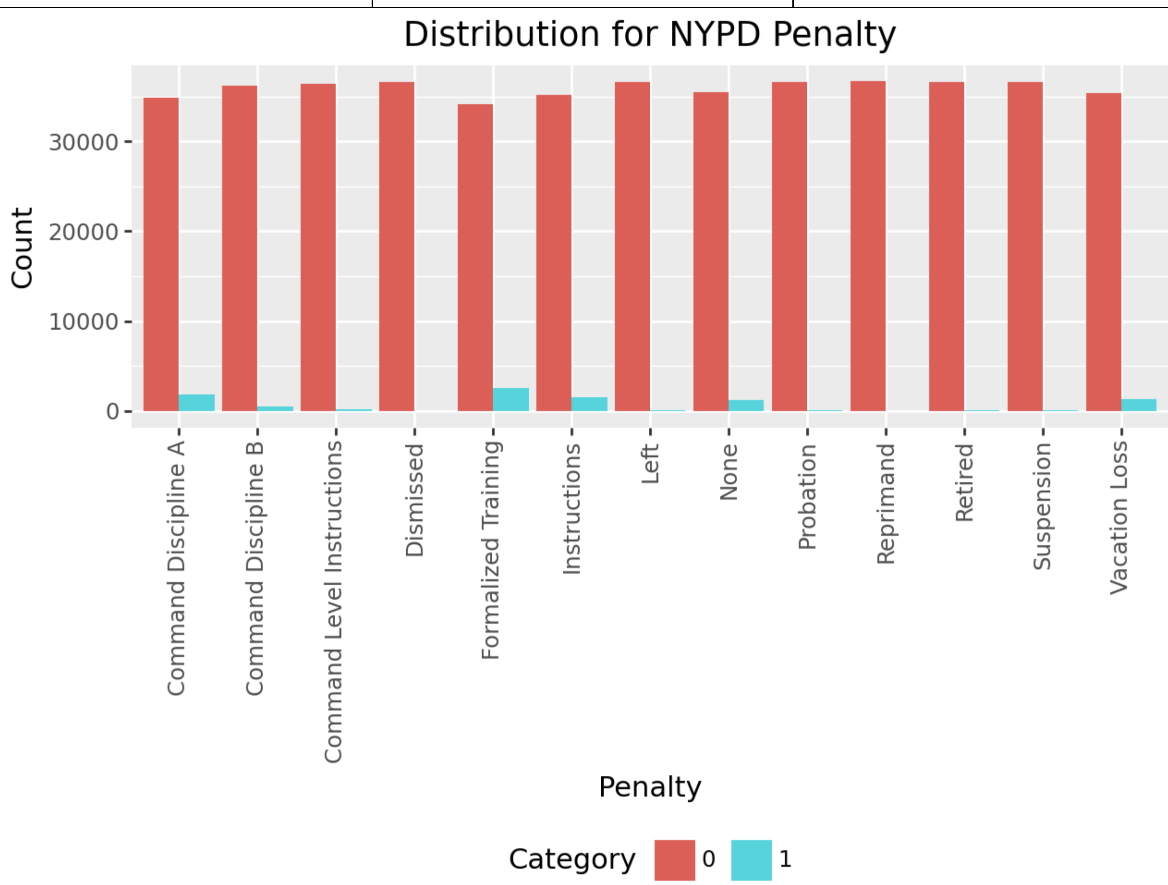
Complaint Disposition	**Count**
Unsubstantiated	17736
Substantiated	13458
Exonerated	3328
Unfounded	2144



The NYPD Officer Penalty variable was also highly variable and in string format. In terms of penalties, some officers received multiple types and for different durations. I dummy coded this variable to capture the types of penalties they received, which may result in a loss of granularity but keeping it in its original state would have been difficult for analysis. The resulting distribution can be seen below:

Table 2. NYPD Officer Penalty

Penalty	**0**	**1**
Vacation Loss	35371	1295
Command Discipline A	34872	1794
Command Discipline B	36159	507
Formalized Training	34100	2566
Instructions	35163	1503
None	35464	1202
Suspension	36624	42
Probation	36589	77
Retired	36582	84
Command Level Instructions	36442	224
Left	36553	113
Reprimand	36662	4
Dismissed	36647	19



Using only the Mapping Police Violence Project, there are only roughly 33 instances where there was media coverage over. Due to the scarcity of instances that fell under this criteria, I also incorporate data from the NYT Article Search API. Using the officer name and the search terms "AND (police OR officer OR NYPD) AND (misconduct OR force OR brutality OR violence)" while filtering for articles within a year of the misconduct instance, I scraped for any hits. Due to API rate limits, this aspect is not completely finished. Preliminary findings, however, suggest that there is scarce media reporting for most misconduct cases. Given the imbalance, I will likely have to use either cluster-based oversampling or synthetic minority oversampling technique (SMOTE) once API scraping is complete.

Furthermore, I also utilized z-score normalization for numerical data variables and (depending on data distribution), reset intervals for categorical variables prior to dummy coding. After cleaning, we have minimal missing data outside of Incident Hour (0.2%) and Precident of Incident Occurrence (1%), which can be imputed using MICE or dropped (given the small percentages).

Methodology

Our main target variables in this case are the categorical variables: CCRB Complaint Disposition and NYPD Officer Penalty. Our models thus need to be classifiers that are optimal for predicting multiclass variables and ideally are not sensitive to imbalance (given that is our biggest problem with our dataset).

As such, in this case, I will avoid using models such as Decision Tree (sensitive to imbalanced data). Instead, I will favor models such as Logistic Regression. While perhaps better for binary classification, it can be extended for multinomial cases. This, however, assumes a linear relationship, which may not be true. Alternatively, I could utilize k-Nearest Neighbors. Given that it performs better for smaller and low-dimensional datasets, I may have to utilize a smaller sample of my dataset and reduce my features, however.

Currently, my main feature is a dummy variable indicating whether there was media coverage or not. Additional features that will be assessed include but are not limited to: Officer Days on Force at the Incident, Precinct of Incident Occurrence, Officer's Total Complaints, Officer Rank at Incident, Type of Misconduct, Victim demographics, Officer demographics, Location of Incident, etc.

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