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Examining Racial and Ethnic Disparity in Prosecutor's Bail Requests and Downstream Decision Making

Connor Concannon
The Graduate Center, City University of New York

EXAMINING RACIAL AND ETHNIC DISPARITY IN PROSECUTOR'S BAIL REQUESTS AND DOWNSTREAM DECISION MAKING

by

CONNOR CONCANNON

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This manuscript has been read and accepted for the Graduate Faculty in Criminal Justice in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

_____	_____
Date	Chongmin Na
	Chair of Examining Committee
_____	_____
Date	Valli Rajah
	Executive Officer

Supervisory Committee:

Besiki Kutateladze

Frank Pezella

Don Stemen

Hung-En Sung

THE CITY UNIVERSITY OF NEW YORK

ABSTRACT

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Connor Concannon

Advisor: Chongmin Na, Ph.D

Rigorous academic research into prosecutorial and judicial decision making has been taking place for over three decades, but a great deal remains unknown about the mechanics of prosecution. A majority of the work done by prosecutors occurs outside of public view, and most research focuses on the 'back end' of the adjudication process, leaving unanalyzed numerous decision points made upstream of the final plea and sentencing outcomes. Using unique data from the New York County District Attorney's Office that tracks 43,971 felony complaints, this research examines racial and ethnic disparity at multiple decision points during case processing, with a focus on the prosecutor's initial bail request.

Using a combination of regression modeling and analysis of predicted probabilities, and viewed through the lens of cumulative disadvantage theory, this study demonstrates that the effects of race and ethnicity vary by decision point and charge. Black defendants were found to have higher bail requests and increased likelihood of indictment, but along with Latino defendants, were found to be less likely to be detained prior to trial as compared to White defendants. The findings for Asian defendants were consistent throughout the decision points studied: they had lower bail requests, increased likelihood of favorable plea bargains, and decreased likelihood of imprisonment. The insights gleaned from this research may help

prosecutors understand how their initial actions influence final outcomes, and add to the national conversation on the use of cash bail.

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CHAPTER 1. INTRODUCTION

Every year, more than 2.3 million felony and 10 million misdemeanor criminal cases are prosecuted by over 2,300 individual prosecutor's offices (Natapoff 2012). In each of these cases, prosecutors have broad discretion to make decisions that affect the defendant, his or her liberty, the outcome of the case, and the defendant's future. The prosecutor has always been an influential player in the criminal justice process. Former Supreme Court Justice Robert Jackson remarked almost 70 years ago that the prosecutor "has more control over life, liberty and reputation than any other person in America" (Johnson 2016). Another author once referred to plea bargaining as the "single most unreviewed decision" in the entire criminal justice system (Gottfredson 1988).

Both statements still ring true. In addition to plea negotiations, there are many decision points at which a prosecutor can choose one course of action or the other, each of which can affect the final outcome of the case. Despite the enormous volume of prosecutions, there has been relatively little focus on the process that precedes guilty pleas, and "what research existed remained scattered and limited...more collaborative work was needed to unite shared ideas" (Johnson et al. 2016, 480). Prior research of the prosecution process has historically focused on pleas and sentencing, and nearly all studies examine just a single decision or outcome among many that occur during the course of a prosecution. A review of the literature revealed that within the small number of peer-reviewed publications on aspects of prosecution outside of plea bargains and sentencing, half of them focused on the initial screening decision and most examined only a single discretion point (Kutateladze & Andiloro 2014). The current research builds off of the recommendations of prior researchers by examining multiple decision points, with a focus on the influence of bail requests on intermediate and final case outcomes.

This research expands upon past prosecutorial discretion work by examining the bail request patterns of prosecutors in conjunction with downstream outcomes. A growing body of research is studying the possible sequential effects of bail and other decision making, and this research aims to add to the body of research by incorporating one of the first post-arrest decision points. The scope of bail is enormous, with an estimated 11 million individuals detained prior to conviction annually worldwide, and nearly half a million individuals detained daily in the United States (Dobbie et al. 2018). The impact of bail is just as large. Defendants who are unable to post bail are more likely to lose housing, employment, as well as plead guilty and be imprisoned compared to defendants who are released on their own recognizance (Dhami 2002).

Most jurisdictions in the United States rely on a money bail system, and bail hearings are typically conducted quickly, sometimes without the benefit of representation. During these hearings, the judge will consider the nature of the offense, weight of evidence, prior record of flight or noncompliance with court orders, and the defendant's ability to pay bail (Foote 1954). Bail hearings usually occur shortly after arrest, and judges may have limited information to use in their decision making. Because the defendant and available evidence can vary so widely, judges wield significant discretion in evaluating each defendant's circumstances and making decisions about release (Dobbie et al. 2018). Further, judges are known to set bail with dangerousness in mind, despite admonitions by the Supreme Court not to consider bail as a preventative crime-fighting tool (Heaton et al. 2016).

The term 'bail' is sometimes used interchangeably with 'pretrial detention', as the defendant is unable to pay the bail amount set by the judge, resulting in pretrial detention. The current study separates the two concepts by examining the prosecutor's bail request in conjunction with the judge's decision. This is an important distinction because of the sequential

nature of the pretrial process. Decisions about pretrial detention follow decisions by the prosecutor about bail. Were this research to exclude bail, it would be difficult to identify the cumulative effect of downstream outcomes, as they all flow from the initial bail request submitted by the prosecution. Judges are also known to be receptive to prosecutor's recommendations at sentencing (Devers, 2011; Kurlychek 2019); it stands to reason that judges might do the same with bail recommendations. Examining bail and subsequent outcomes will allow this research to identify any potential accumulating effects of early decision making.

This research is a detailed analysis of prosecutorial decision making within felony prosecutions in the New York County (Manhattan) District Attorney's Office, from 2013 to 2017. This study consists of a quantitative examination on the impact of legal and extralegal factors on a number of discretionary points throughout the life of a prosecution. This study examines over 40,000 prosecutions over a five-year period. The data extracted for this study contained markers for five discretionary decision points over the life of a case. This study builds off the recommendations of past research and makes a unique contribution to a field already rich with findings. Taken as a whole, this research illuminates previously unknown mechanisms at work in prosecution, and could inform the research community, practitioners, and the general public about the importance of fair and just decision making throughout the prosecution process.

The purpose of this study is to expand the body of knowledge around prosecutorial decision making with regard to bail requests, for the benefit of both the research community and practitioners. This study heeds the recommendations of experts in prosecution research to examine the cumulative effects of prosecutorial and judicial decision making on intermediate and final outcomes of criminal cases. By crafting improved measures of discretion and examining the prosecution process beginning with decision making regarding bail, this research adds to a

growing body of literature on the accumulating effects of discretionary decision making in prosecution. The findings are directly applicable to the policies and practices of prosecutor's offices nationwide.

CHAPTER 2. LITERATURE REVIEW

Extant Findings on Discretion and Racial Disparities

Contemporary research has made great progress in examining and understanding race-group differences in some of the most critical decision points in the criminal justice process. Most research finds Black and Latino defendants are at significant disadvantage net of legal factors, but the field still struggles to agree what mechanisms work to create disparate outcomes. (Kutateladze et al. 2014, p. 516). Oftentimes, research concludes that minority groups are worse off than white defendants. Still, as Spohn (2000) states, "forty years of research [on race and sentencing] has not settled the debate" (p. 2). Likewise, the quality of research is a good indicator of how to assess the results. Similarly, Baumer (2013) describes the body of research as "voluminous, variable in methodological rigor, and typically ambiguous in its conclusions" (p. 231). A number of pre-1990s studies with inconsistent or null findings regarding racial disparities have been largely discredited because of methodological or model specification issues (Spohn 2000). Given the relatively consistent finding that racial disparity exists even after taking into account legal factors, most research on the justice process has focused on defendant race as a source of disparity.

This focus is warranted, since minority groups are overrepresented in the criminal justice system relative to their numbers in the general population. More recent empirical research rarely finds no indication of defendant race playing a part in prosecutorial decisions (Johnson 2016, Spohn 2000). The framing of a particular study may affect the eventual results. For instance, Baumer argues that a few underlying rationales motivate almost all research on race: detecting

racial discrimination, evaluating the effect of policy interventions on different racial groups, or assessing how race influences criminal justice actors (2013, p. 24).

Though research consistently finds disparities between racial groups, the strength of the findings has varied quite a bit. Perhaps this lends credence to contemporary research findings that argue race and gender effects tend to vary on the type of offense committed (Johnson 2016, Shermer & Johnson 2010). Kutateladze et al. (2014) suggested that the inconsistency in prior findings reflect the variety of decision points examined, methods of operationalizing race and discretion, and the types of prosecutions under examination. For example, Kutateladze et al. (2014) held that most prior prosecutorial decision making research has been restricted to sexual assault or domestic violence cases, which arguably have unique circumstances that make it difficult to generalize their decision making outcomes to other case types. Along the same lines, recent research has become even more sensitive to detecting racial disparities in certain situations among certain types of defendants (Johnson 2016, Spohn 2000). The combination of victim and defendant race was found to be influential in determining whether prosecutors file charges in sexual assault cases (Free 2002). Paternoster (1984) has also shown Black defendants were more likely to receive the death penalty when victims were White. Some of the less-studied decision points that indicate some level of racial disparity include why and how prosecutors decide to file mandatory-minimum charges, achieve case dismissals, and whether to seek the death penalty (Kutataledze 2014, Paternoster 2003). Increasingly, scholars are taking note of the successive points of disparate treatment for minority groups during the justice process (Kutataledze 2014).

The consistency in findings regarding minority groups and case outcomes has not settled the debate regarding the source and mechanisms of racial disparities. The field is still divided as

to whether minority groups are punished more harshly than similarly situated whites, or whether racial disparities are the result of differing levels of crime severity (Shermer and Johnson 2010). Some studies indicate disparities in outcomes between races, even after legally relevant factors are considered, while others contend there is no difference in treatment between races, and still others argue that any difference is indirect, conditional on other factors, or sometimes moderated through other variables (Spohn 2000, Baumer 2013, Steffensmeier et al. 1998, van Wingerden et al. 2016). On the other hand, some research finds mediating effects of race on outcomes. Bridges and Steen (1998) found preliminary evidence of a significant relationship between race and negative associations among probation officers. More recently, Petersen (2017) found that homicide cases with minority victims were less likely to result in arrest, and defendants were in turn less likely to be charged under death penalty-eligible statutes.

An important set of variables commonly examined in prosecutorial discretion research are usually legally-relevant variables, or those that should influence a prosecutor's actions: the gravity of the offense, the defendant's prior convictions, or prior noncompliance with court directives. The impact of these factors is often in the expected direction: more prior convictions or serious charges impact discretionary decisions (Kutateladze et al. 2014). For instance, Wooldredge et al. (2015) found a clear increase in the bail amount as charge severity increased. The reverse has also been empirically tested: Shermer and Johnson (2010) found that property offenses were two times more likely to receive charge reductions than violent offenses. Collectively, the body of previous research has found that legally relevant factors are the primary drivers of prosecution outcomes, but also that racial disparity exists at varying levels and times throughout the process.

Recent research characterizes the link between race and socioeconomic status as one that permeates life and determines one's chances of success (Free 2002, p. 24). Socioeconomic status is an important factor in research on crime and punishment. The link between race and socioeconomic status is also well known. Most criminal justice research also finds connections between race and socioeconomic status and criminal justice outcomes, and some research suggests that cumulative disadvantage may be manifested in additive, multiplicative, or exponential effects (Kurlychek 2019). The interaction effects between defendant race and other characteristics has long been a hallmark of sentencing research (Spohn 2000). Interactions between race and other defendant characteristics such as employment status, gender, education, age, body language, income, defender type, and trial status have all been found to result in disparate treatment (Free 2002; Steffensmeier et al. 1998). Few studies have fully examined the interactions of specific characteristics of the prosecution, judge, and defense attorney in relation to the defendant. As Baumer (2013) states, many otherwise methodologically sound studies "omit some potentially very important confounders, including socioeconomic status, victim race, jurisdictional context, and the nature and quality of the evidence" (p. 20). As a result, many studies may be estimating coefficients for race that are significantly biased by the non-inclusion of other salient factors.

With few exceptions, most prior research on prosecutorial discretion does not model the multitude of non-racial interaction effects. Free (2002) points out that many studies assume an additive model when considering the effects of legal and extra-legal factors on prosecutorial outcomes. Early research argues that the additive model assumes racial differences are constant across various levels of case type and other attributes (Miethe 1986). More recent research that does include interaction effects (Franklin 2010) do so manually, based on some theoretical

assumption or intuition of the researcher. In fact, prosecutorial discretion may manifest itself in interaction or indirect effects in addition to direct, additive effects.

Over the past several decades, scholars have extensively examined racial disparities in the criminal justice process, though the focus has been mainly on pleas and sentencing decisions (Kutateladze et al. 2014). There are several possible reasons for the focus on the final stages of criminal prosecution. Sentencing is where 'real' punishment is disbursed. Legislatures and the media focus on the culmination of the criminal process, and data is often readily available to researchers via sentencing commissions about the final disposition and related sentence (Sacks 2014).

The field has built a solid base of research on race-group differences at some of the most important points in the process of prosecution. These findings are not without caveats. Two key limitations of the extant literature is the focus on isolated decisions and mainly those at the end of the prosecution process. To examine just a single point in the middle or end of the justice process might mask disparities that originate at other points. The field has recommended analyzing prosecution as a "dynamic set of interrelated decision making points" (Baumer 2013, Kutataledze 2014). The focus on the last stages of the process discounts the influence of prior actions by courtroom actors and the previous outcomes that resulted in a final disposition and sentence. One such important discretionary decision is bail. If the field has collectively found that racial disparity exists at these points, it stands to reason that disparities exist in earlier decision making and are worthy of further study.

Cumulative Disadvantage and Pretrial Detention

One of the key early decisions made by a prosecutor is whether to request bail, and at what amount. Likewise, a judge must weigh a variety of factors to determine which type of release conditions, including detention awaiting trial, are appropriate to ensure the defendant's return to court. The impact of these decisions is enormous. The United States Supreme Court recognized the importance of freedom prior to conviction allows an "unhampered preparation of a defense, and serves to prevent the infliction of punishment prior to conviction" in *Stack v. Boyle*, 342 U.S. 1, 4 (1951), and early criminal justice research identified the deleterious effects of pretrial detention on the defendant's ability to mount a successful defense (Foote 1954).

Despite being one of the earliest decisions made by a prosecutor, research into bail practices has been limited, especially when compared to the amount of research into sentencing practices. Among the relatively small number of discretion studies outside of plea bargaining and sentencing, a recent meta-analysis found that most of those studies were limited to initial screening decisions, and that only a handful of studies at the time examined more than one decision point (Kutateladze et al. 2014, p. 516) As Turner and Johnson (2007) argue, the lack of focus on bail does not detract from its importance. The existing research on bail practices (distinct from pretrial detention) has consistently found that Black and Latino defendants are subject to higher bail amounts than White defendants even after controlling for offense severity and prior criminal history (Ayres and Waldfogel, 1994; Turner and Johnson, 2007).

The scope of pretrial detention is vast. A majority of jurisdictions in the United States participate in a monetary bail system (Pretrial Justice Institute 2017). Nationwide, over 450,000 people are awaiting trial in jail due to an inability to post bail (Cohen and Reaves 2007). This represents one-fifth of all incarcerated people in the United States. Likewise, the vast majority of

people detained prior to trial are detained because they cannot afford to post bail (Cohen and Reaves 2007). Bail is also used across the spectrum of criminal charges and in relatively small increments - a recent study of Philadelphia bail practices found nearly one-third of detained defendants were charged with a misdemeanor offense, and over half of the sample would be able to secure their release for less than $1000 (Stevenson 2018).

Understandably, the use of monetary bail schemes can disproportionately affect the poor, which results in race and wealth-based disparities in detention. For example, comprehensive meta-analyses consistently find minority groups and the poor at elevated risk of pretrial detention (Spohn 2000). Common sense and recent research indicate that socioeconomic status is related to pretrial detention - those with less money are less likely to be able to pay bail, and are more likely to be held in custody. This may adversely impact minority communities or those of a lower socioeconomic status as a side effect. Relatedly, research has often found decreased rates of favorable plea bargaining among minority or detained defendants (Kutateladze et al. 2014). Those with fewer resources are more likely to be held in custody, more likely to receive an unfavorable plea bargain, are encumbered with a criminal record, and so on.

The full impact of bail and pretrial detention is not just in the immediate effects of a loved one being detained. Pretrial detention acts as an influential mediator that significantly influences downstream outcomes. For example, defendants held in pretrial detention have shown increased likelihood of being convicted, being incarcerated, and receiving longer sentences after conviction (Sacks et al. 2015). After the criminal justice process concludes, defendants who have been detained show deteriorated familial bonds, lower odds of employment, lower wages, and other psychological issues related to their detention (Allan et al. 2005).

Bail and pretrial detention do not exist in a vacuum. The importance of bail on plea negotiations and dispositions is paramount. Upwards of 90 percent of prosecutions end in a plea (Devers 2011), and similarly high numbers of those are via negotiated plea bargain (Flanagan 1990). Pretrial detention may have the unintended consequence of making a defendant more likely to plead guilty. Defendants who are detained awaiting trial may be more likely to take plea offers to secure immediate release than defendants who are free awaiting trial. Although release from custody is tempting, a plea might also result in long-term harms like heavy fines, strict probation requirements, or decreased employment prospects (Stevenson 2018). Over the past decade, the number of studies examining the impact of upstream decision making has increased, but the number still pales in comparison to the sentencing-focused research. Understandably, there are still gaps in the cumulative disadvantage research, particularly with regards to the cumulative decisions made in a prosecution and the techniques used to examine those decisions.

Focusing on race and a select group of discretionary decisions may inadvertently decrease the attention paid to other important contextual or structural factors and decisions. Factors outside of the control of the prosecutor and judiciary that govern their everyday work may hold immediate sway over discretionary decisions, and are certainly important topics to study. Legislatures may enact new sentencing or oversight guidelines, or appellate courts may restrict prosecutor's practices. Organizational dynamics can influence discretionary decision making; supervisors or office policies provide direct oversight on the prosecution of offenses. In large prosecutor's offices, there may even be various intra-organizational philosophies for certain types of decisions. Organizational philosophies on the 'going rate' of the multitude of offenses likely impact decision making.

Prior research on pleas and sentencing is robust, but still incomplete in many ways, a fact acknowledged by a leading researcher who admitted that the field "[knew] less today than we did in the 1970s and 1980s" (Forst 1999). Some of the existing measures of prosecutorial discretion lack specificity and may be measuring another actor's discretion instead. The field could be improved through more nuanced measurement of key variables. Pretrial detention is a prime example in the literature, where the decision to detain a defendant is often up to the judicial authority to determine the defendant's track (Kutateladze et al. 2014). It may be inappropriate to measure a prosecutor's behavior based on the decision of pretrial detention, so future research should take advantage of better measurements of prosecutor's discretion authority. In this case, the prosecutor's request regarding pretrial detention, separate from the judicial determination may be a better indicator of their discretion. A plausible reason is that key discretionary points were not examined, "due to the fact that most recommendations and motions are made orally, and thus no written records are maintained" (Saulters-Tubbs 1993). The field is rich with similar measurement shortcomings that should be addressed in line with the recommendations of leading researchers that new research take advantage of enhanced measurement and data expansion (Johnson 2016).

To date, most research has focused on the end of the justice process, rather than the entire continuum. Much of the prior research has focused on the phenomena of plea bargaining and sentencing, understandably because the vast majority of criminal prosecutions end in pleas (and thus sentences). A focus on these decisions is certainly warranted, but it comes at the expense of furthering understanding of other points in the process. Piehl expressed concern (2007) that few studies examine the "inequities that precede sentencing." The field has recently recommended expanding future research to examine a more complete continuum of prosecutorial decisions, and

the accumulating effects of those decisions. A concept related to examination of the cumulative effects of decision making is the snowballing effect of disparity on certain groups referred to as 'cumulative disadvantage' (Kutateladze et al. 2014).

Theoretical Perspectives

Recent research has underscored the need to examine the accumulative effects of decision making on downstream outcomes. "Cumulative disadvantage" or "accelerating bias" in the context of prosecution refers to a series of events during the process that make negative future events more likely. It was first coined by Merton (1968) to describe how scientists might advance or decline in the field on the basis of their early opportunities and work. Kurlychek and Johnson (2019) further define it as "within and across time" (p. 292). The immediate negative effects of these outcomes are more likely to impact future outcomes as well. For example, defendants who are detained pretrial are more likely to plead guilty, and those who plead guilty are more likely to have difficulty finding future employment (Wooldredge 2012).

The idea that upstream decision making can affect later outcomes and snowball into harsher outcomes, especially for minority defendants, is not new. For example, Hagan (1974) concluded that while extra-legal characteristics such as race and gender were influential in determining outcomes, a future direction for research would be how these extra-legal characteristics impact the outcome at each stage of the process, and how those disparate outcomes can accumulate. Similarly, Hagan found evidence that individuals with low socio-economic status were less likely to receive favorable ratings from probation officers, and Lizotte (1978) identified the inability to pay bail as a central point in his theoretical 'model of discrimination' of the criminal justice system which in turn affected the final outcome of the

case. Contemporary examples of cumulative disadvantage to criminal justice are numerous. Research has found disparities accentuated by upstream decision making in the law enforcement and corrections domains as well. However, the ability to undertake empirical research on cumulative disadvantage has recently advanced thanks to improvements in data collection and analytical techniques. Analysis of cumulative disadvantage differs significantly from the traditional cross-sectional design of most prior research. This idea requires a change in research design and execution - most studies examine a single criminal justice decision or event without regard to upstream or downstream events.

There are competing viewpoints of the mechanisms of cumulative disadvantage. One side holds that the effects refer to "temporal growth in existing inequalities", while another envisions additive and interactive relationships (Kurlychek & Johnson 2019). Together, the field recognizes that some combination of static and dynamic factors influences future possibilities and outcomes, and that these factors change over time. Further, these disadvantages can accumulate to systematically disadvantage certain individuals or groups. The distinction between the two viewpoints is important, because each requires a different type of data and approach. For example, if a study measures growth in inequality, longitudinal data are needed. For instance-based inequality, models capable of estimating both direct and indirect effects are key (Kurlychek & Johnson 2019).

Previous research argues that criminal courts are ripe for the cumulative production of bias, thanks to the organizational structures and norms that develop. Sutton (2013) describes further that "...authority between supervisors and street-level decision makers are weak and often ignored." and that the most crucial decisions are made by actors with the least authority and early in the process (p. 1209). Each of the criminal justice system actors - the police, prosecutor,

judge, and defense - have their own unique set of constraints and priorities that are applied in each case. Kutateladze et al. (2014) argues that each of these actors and their vested decision making power has contributed to racial disparities in prosecution. This perspective contends that criminal justice actors attempt to gather information about the harm caused by the crime, the defendant's level of culpability, and perceptions of future dangerousness. In addition, practical concerns like organizational capacity and the maintenance of working relationships have been found to influence decision making (Steffensmeier et al. 1998). Focal concerns theory argues that all of these factors are blended together by courtroom participants and used in their decision making.

There are a number of other theoretical frameworks that attempt to explain prosecutorial decision making. One of the early theories regarding the behavior of attorneys in divorce proceedings held that decisions were made with the "shadow of the trial" in mind, where potential penalties may be much higher (Mnookin and Kornhauser 1979). The theory has since been extended to explain actions in criminal proceedings, and contends that both the defense and prosecution teams evaluate the strength of evidence and likelihood of a positive outcome, which informs their decision making during the pre-trial phase. Cheng et al. (2015) note that the theory has been increasing in popularity among scholars from the fields of economics, criminology, and law. At the same time, recent work has criticized the theory, particularly because the theory originates from civil law, where the stakes and discovery rules are quite different from criminal law (Johnson 2016).

Recent work notes the growing popularity of the shadow of the trial framework among criminological theorists, but also the lack of consistent empirical findings on the topic (Bushway 2014). One oft-cited test found support for the shadow theory (Smith 2005), but other scholars

recently examined the same data with different results. According to Johnson (2016), the shadow model is “attractive because of its simplicity” and adaptability to statistical modeling, but still has serious shortcomings and contradictory evidence.

One of the early contemporary theoretical frameworks was developed by Albonetti (1987). Her research was the first to link elements of uncertainty avoidance theory with attribution, establishing causal attribution theory as a mechanism to explain judicial decision making (Pinchevsky 2016). Courtroom actors may also share common goals of reducing uncertainty. To manage uncertainty judges develop ‘patterned responses’ that are the product of an attribution process influenced by causal judgments.

Structural organizational theories hold that rational choice models are useful in understanding discretion. In order for decisions to be fully rational, those decisions must be made with knowledge of all possible alternatives. Because complete knowledge is impossible, actors attempt to reduce uncertainty by relying upon rationality that is the product of habit and social structure. Established procedures, division of labor, and hierarchy of authority all contribute to decision making. In a large urban court, there is a well-defined division of labor. These formal and informal structures absorb uncertainty resulting in bounded rationality. For prosecutors, this may take the form of establishing “going rates” for particular levels of crime or perceived culpability. Johnson (2016) posits that judges are primarily concerned with defendant culpability and community protection. Prosecutors may prioritize the notions of future dangerousness and “doing justice” (Eisenstein 1977, Johnson 2016). Defense attorneys and defendants also of course have their own priorities and goals. Hawkins (1981) posits that “decision makers attempt to tailor outcomes to fit the circumstances of each case, but in practice, they do not have complete information about the crime and the defendant. Prosecutors and judges develop

'perceptual shorthand' to aid their decision making (O'Neil et al. 2015). The interplay of each actor's concerns has so far been studied mainly from the prosecutor's perspective, and not holistically. Recent critics also question how intangible concepts such as culpability and dangerousness can be empirically tested and validated.

A related perspective that builds off of Albonetti's causal attribution theory is Steffensmeier's focal concerns theory (1998). This framework contends that three primary concerns guide judicial decision making: perceptions of defendant's blameworthiness, goals of protecting the community, and practical constraints associated with their decisions (Pinchevsky 2016). The elements of the theory can take many forms. Blameworthiness of the defendant can be found in the seriousness of the offense, the degree of harm caused, the defendant's criminal history, and whether the defendant was an active participant or a leader in the crime. Similarly, the focus on community protection involves predictions about future dangerousness and incorporates latent perceptions about the demographic and ethnic characteristics of the defendant (Steffensmeier et al. 1998). Practical concerns about the resources of the courtroom, maintaining good working relationships, or costs of incarceration on both society and the defendant's family round out Steffensmeier's focal concerns theory.

Johnson (2016) also highlights a unique perspective derived from political science research that examines the interplay between court actors. The court community theory highlights the shared need of court actors to move cases through the justice system. As a result, the adversarial parties establish norms, standard operating procedures, and clear divisions of labor emerge within the court process. It stands to reason that discretionary decisions made by prosecutors are at least somewhat influenced by the workgroup in which they operate, and the ongoing relationships between all parties. However plausible it might be, this theory seems to

directly contradict focal concerns theory. Further study is needed to determine exactly how these two theories coexist.

While some theoretical frameworks focus on the behavior of individual criminal justice actors, other scholars have devised theoretical frameworks to describe criminal justice agency philosophies. Beichner's (2005) system efficiency model manifests itself with high case rejection rates, early dispositions, and frequent guilty pleas. In contrast, jurisdictions operating under the legal sufficiency model would accept all cases in which the elements of the crime are present, and have a correspondingly high dismissal rate. A third model, trial sufficiency, posits that many cases would be rejected at screening, and high numbers convicted at trial.

Recent research suggests discretionary decision making is fluid and subject to change when constraints on discretionary decision making are imposed. Vance and Oleson (2014) coined the term 'hydraulic discretion' to describe their findings regarding prosecutorial charge bargaining before and after the implementation of sentencing guidelines. When the District of Columbia imposed sentencing guidelines for certain offenses, the discretion available to prosecutors was reduced. As a result, some prosecutors began exercising more discretion upstream - specifically relating to charging decisions and charge bargaining - negotiating with the defense counsel about the plea charges, which were not subject to specific guidelines, but which have significant impact on the eventual sentence. The researchers used the term 'hydraulic' to signify the decrease in discretion available at one decision point was compensated for with increased discretionary authority at another. The researchers make clear that the empirical evidence of hydraulic discretion is minimal at best, but it is an important concept to consider in the study of prosecutorial discretion.

The existing body of research on prosecutorial discretion is rich, and there is no shortage of possible theoretical explanations for the many decisions that occur in millions of prosecutions each year. But with a large number of potentially competing theoretical frameworks also comes an inconclusive or contradictory body of empirical results. Future research should seek to more thoroughly test these theories, and where possible, test whether specific elements of each theory can be combined appropriately. There are a multitude of theories explaining the reasons for prosecutorial decision making. The introduction of new tools and techniques will help to clarify some of the contradictory findings and illuminate areas for further study. However, few studies have fully examined the cumulative effects of race on decision making. The current study will examine prosecutorial and judicial decision making through the lens of the cumulative disadvantage theory.

Research Questions & Hypotheses

This research was driven by several research questions. There is already a large body of evidence on the legally relevant and extra-legal factors that influence prosecutorial decision making in plea bargaining and sentencing. There is a relatively small body of research on the numerous prosecutorial decisions that precede these stages. There is less research still on the cumulative effect of decisions made at each stage of prosecution, and how these contribute to the eventual disposition of a case. Therefore, the primary research question was to explore ***what factors contribute to decisions such as bail requests, pretrial detention, indictment, plea bargaining, and sentencing, and how these factors accumulate into case disposition.*** A better understanding of these relationships would contribute to the field and potentially inform the conversation on criminal justice reform.

A number of hypotheses based on the primary research question were tested during the course of the research. First, I hypothesized that Black and Latino defendants would be subjected to more outcome-specific disadvantages such as increased bail amounts, detention rates, higher indictment rates, fewer plea bargains, and more sentences to incarceration than similarly-situated White defendants. There is a wealth of evidence regarding racial disparities in criminal justice processing, and the vast majority of the literature finds some evidence of racial disparity to the detriment of Black and Latino defendants at many stages of the criminal justice system (Kutateladze et al. 2014, Kurlychek & Johnson 2019). Some research also indicates inequality differs by crime type; defendants charged with federal drug and weapons violations have been found to experience more punitive outcomes (Johnson and Betsinger 2009, Starr and Rehavi 2014).

While a great deal of research exists on siloed decision points such as pleas and sentencing during a prosecution, statistically significant evidence of racial and ethnic disparity could depend on the stage at which the data were collected (Free 2002). For example, race and ethnicity may not be significant at case screening, but may be significant at later stages (Kutateladze & Andiloro 2014; Baumer et al. 2000). In line with the possibility that racial disparity might not be found at all decision points, I next hypothesized that the accumulative effects of racial disparity - i.e. racial disparity embedded in prior decision making such as pretrial detention - would be a significant predictor of downstream outcomes. Termed “cumulative disadvantage” by the research community, this theory considers the criminal justice system as a sequential set of decisions and outcomes which can become increasingly punitive, especially among Black and Latino defendants. Bail is a critical juncture in the process, and an increasingly important part of the conversation on criminal justice. I expected to find significant relationships

between bail and pretrial detention and later decision points. For instance, I hypothesized that a higher amount of requested bail would increase the likelihood of pretrial detention, but also expected that the bail request would later significantly increase the likelihood of indictment and incarceration, and decrease the likelihood of favorable plea bargaining. By taking previous researcher's advice to examine the criminal justice system as an interconnected set of decisions, this research would make a significant contribution to the field.

Research on the impact of race in criminal justice processing has also identified the impact of racial stereotypes, with Black and Latino defendants perceived as violent or gang members. Less is known about the experience of Asian defendants in the criminal justice system. Seminal research has characterized Asian-Americans as a "model minority" based on educational and professional success and underrepresentation in serious or violent crime (Wong 1998, Kutateladze et al. (2014). The lack of focus on Asian Americans is unfortunate, as the group is the fastest-growing minority group in the United States, and an estimated 10,000 Asian Americans are imprisoned (Johnson and Betsinger, 2009). The positive stereotype carries different connotations than stereotypes of Black or Latino individuals, and there is a paucity of research on the topic of Asians in the criminal justice system. In light of this unique status, an analysis of Asian American defendant's experiences with criminal justice processing is warranted and sorely needed. Similar to the work of Kutateladze et al. (2014), I hypothesized that Asian defendants would be subject to less punitive outcomes than White defendants.

I expected to find a complex set of relationships between decision making and race in the criminal justice system. It is entirely possible that improvements in measurement minimize or decrease racial disparities, but it is also possible that after changes in operationalization of key variables, the racial disparities in outcomes noted by many prior researchers persist, or are

perhaps even more prevalent. In performing this research, I hoped to contribute to the rich body of research on prosecutorial decision making by filling an important gap in the literature on the cumulative effects of decision making.

The current research built upon the recommendations and theoretical groundings of past research. If support is found for all three hypotheses, there will be a significant contribution to the extant literature regarding the cumulative effects of prosecutorial and overall criminal justice decision making. Prosecutors as a field will also benefit from a new understanding of the mechanisms at work in the complex process of prosecution. The findings, combined with the knowledge that the research was the result of a close collaboration with prosecutors, will ensure that district attorney offices throughout the country will be more receptive to examining and optimizing their own practices to counteract the effects of cumulative disadvantage.

CHAPTER 3. DATA AND METHODS

Sample

The research consisted of a quantitative examination of the cumulative effects of numerous intermediate discretionary decisions on final case outcomes within a sample of roughly 45,000 felony cases prosecuted by the New York County District Attorney's Office (DANY) in New York County, New York between 2013 and 2017. The research was made possible thanks to the robust data collected by DANY. The office has a nationwide reputation for its use of technology and data to inform decision making (Brown, 2014). The author previously served as Deputy Director of Analytics in both the planning and information technology departments, and worked closely with executive leadership and information technology staff.

This research builds on the foundation laid by previous research on prosecutorial discretion in Manhattan conducted by Kutateladze and Andiloro at the Vera Institute of Justice (2014). The Kutateladze and Andiloro study was the result of an 18-month collaboration between DANY and the Vera Institute of Justice and concluded in 2014. The author participated throughout the study - conveying what data was and was not available, explaining case processing nuances to Vera researchers, and eventually crystallizing the findings for DANY executive staff. Further, roughly two years after the conclusion of the Vera study, DANY executive staff asked the author to replicate the Vera study to understand if any of the predictors of key outcomes had changed in light of numerous policy shifts at DANY. I then began replicating the Kutateladze and Andiloro Vera study, and eventually expanded upon it to include new data sources, more nuanced dependent variables, and organizational independent variables.

The resulting internal replications were presented multiple times to DANY executive staff, and the findings kick-started internal policy discussions and spin-off analytics requests.

The data set includes nearly all cases accepted for prosecution during the study time frame, although a few reasonable restrictions were placed on the data set. First, the data excludes prosecutions commenced for the purposes of out-of-state warrants, those handled by the Office of the Special Narcotics Prosecutor, those where defendants were under the age of 16, and those where companies or other entities were prosecuted for criminal offenses. Further, the data set was restricted to cases prosecuted by one of six 'Trial Bureaus' within the Trial Division at DANY, as opposed to prosecutions handled by the Investigations Division. DANY has long focused on white-collar crime and has a robust investigative arm. However, these cases are much different than the 'street crime' type offenses prosecuted in the Trial Division, and DANY's case management system did not capture as much data for Investigations Division prosecutions.

The data was drawn from DANY's case management system, which system was built in-house by the IT department and extensively modified over the course of almost 30 years, and contains rich information about the defendant, his or her criminal history, characteristics of the prosecutor and his or her prior decision making, charges, court events, and outcomes of the prosecution. The data was extracted from cleaned and aggregated analytic-friendly databases derived from the case management system, and used by the planning department in day-to-day analysis and reporting. This dataset more than meets the threshold set by Vance and Oleson (2014) when they wrote that the ideal dataset would include nuanced information on original charges, case processing measures, as well as conviction charges.

In addition to the robust data available for analysis, I made use of my access to key personnel at DANY to iterate on operationalizing key concepts and improving models of

prosecutorial and judicial decision making. During my employment, I generated countless reports and other data products regarding office operations, trends in case processing, performance measurement tools, and forecasts to support executive decision making. As a result, I formed close working relationships with many senior prosecutors, case processing, information technology, and executive staff. During the preliminary stages of this research, I met with stakeholders throughout the office to discuss data issues, and the factors prosecutors consider in their decision making. I presented early results to executive, managerial, and line-level staff numerous times throughout my tenure at DANY. This approach proved to be very useful in improving results, but most importantly, by achieving buy-in from the practitioner group. All of these conversations and suggestions improved my understanding of the prosecution process and resulted in a more robust study. The following section describes the methodological approach and the independent and dependent variables in detail.

Method & Analytic Strategy

The analysis was divided into two parts to address the primary research questions regarding the main effects of defendant race on discretionary decision making, as well as the cumulative effects of defendant race on downstream decision making. This approach built upon the research of Wooldredge et al. (2015) and Kutateladze et al. (2014). I first created a series of linear and logistic regression models. Next, I analyzed the predicted probabilities of the dependent variables, how they differed between races, and how upstream decision making impacted downstream outcomes. This section describes the approach and reasoning behind each set of models.

To investigate racial and ethnic differences in consecutive decision points, I created a series of multivariate regression models for each of the five separate decision points. Within each decision point, I created three regression models - the first with only race as an independent variable, the second with race and all legally-relevant and other control variables, and the third with race, control variables, and measures of prior decision making. This approach is similar to that employed by Kutateladze et al. (2014) and allowed the researcher to identify the significance and magnitude of relevant factors on each outcome. Each model built upon the previous one(s) and included measures of the decision points preceding it in an effort to model the cumulative effects of discretionary decision making. The exception to this was the bail request model. Because the prosecutor's bail request was the first decision point, there was no prior decision making to include in the analysis. Four of the five regression models used logistic regression because the outcome was binary. The exception was the bail request model. Because the outcome of interest was the prosecutor's bail request expressed in dollars, linear regression was used.

The first model examined the impact of legally-relevant factors such as criminal history and charge severity as well as extra-legal factors such as demographics on the prosecutor's requested bail amount. Second, I estimated a binary logistic regression model to predict the likelihood of pretrial detention - the judge's decision whether to set bail or release the defendant on his or her own recognizance. In addition to the independent variables used in the first model, the second model also used the prosecutor's bail request as a predictor. By doing so, I was able to identify the impact of adding prior decision making on model performance. Third, I created a binary logistic regression model to estimate the likelihood that a felony defendant was indicted - the decision to formally charge a defendant with a felony offense in supreme court. In addition to

the independent variables discussed above, the prosecutor's bail request amount and pretrial detention status were included in the third logistic regression model.

Fourth, I created a binary logistic regression model to determine the factors that influenced whether an indicted felony case which concluded with a guilty plea was a 'plea bargain'. In this research, a 'plea bargain' was operationalized as a plea to a lesser charge than the one for which the defendant was indicted. For example, a defendant who was indicted on a class B felony, and pled to a class D felony, would be classified as a plea bargain. Similarly, a defendant indicted on any felony charge, who then later pleads to a misdemeanor would be classified as a plea bargain. The sample for this model was restricted to indicted felony cases which ended in a plea, about 33 percent of the total sample (14,000 prosecutions). This was necessary for a number of reasons. First, the sample was restricted to indicted felony cases because the policies of the New York County District Attorney's Office dictate that no defendant charged with a felony can plead to a felony without being indicted. As such, any defendant in the sample who was not indicted, and was convicted by plea of guilty, would erroneously be classified as receiving a plea bargain. In practice, this is not a correct interpretation. Those defendants may not have been indicted because the evidence did not warrant a felony disposition, a diversion or 'off-ramp' disposition was negotiated, or any number of other possibilities. Overall, about 40 percent of the original sample was indicted (18,000 cases). Within the indicted felony subset, roughly 80 percent of the cases ended with a plea (14,000) and 30 percent (4,200 cases) secured a plea bargain. As in the previous models, prior decision making such as the prosecutor's bail request, pretrial detention, and indictment decisions were included to uncover possible accumulative effects of prior decision making in the decision to offer a plea bargain.

Fifth, I estimated a logistic regression model to determine the factors that influenced whether a convicted and sentenced felony defendant was sentenced to jail or prison time. As in the fourth model, the sample for this model was restricted to indicted felony defendants who were sentenced, or about one-third of the original sample (14,000 cases). The sentence model sample size was nearly identical to the sample size in the plea bargain models, as most defendants who pled to charges in supreme court are sentenced. Defendants who pled but were not included in the sentence data may not have been sentenced by the time the data was extracted. Both of these sets of models used the indicators of prior decision making, except for indictment. Because the supreme court models included only indicted defendants, I did not include the measure of indictment.

The final two models examined stages of the prosecution that applied only to a subset of the total cases in the data set. This introduced a clear example of selection bias - the outcomes of the plea bargaining and sentencing may be related to the mechanisms that made the case eligible for selection into the sample. This represented 'censored data' in that the independent variables are measured for all cases, but the dependent variable of interest - plea bargaining or sentencing - is measured only for a subset of the original sample. Cases in supreme court may differ significantly from those not in supreme court through severity, defendant culpability, and prior decision making. The field has long recognized the impact of selection bias on criminal justice outcome research, specifically around the effects of race (Wooldredge 1998).

One common approach to dealing with this selection bias is Heckman's (1976) two step correction. This approach involves two models, the first of which estimates the likelihood that a case is selected into the sample, followed by inserting a correction factor known as the inverse

Mills ratio, into the second model, which is estimating the dependent variable of interest (Bushway et al. 2007).

In the current research, the first model estimated the likelihood that a case was included in the sample of indicted prosecutions, and the second model used this likelihood as a control variable in the plea and sentencing models. This approach has been used throughout social science and criminological research, as well as in research examining the various stages of criminal justice processing (Wooldredge & Thistlethwaite, 2004). These adjustments might help compensate for the selection bias that occurs when examining this subset of cases. I chose to also estimate the standard logistic regression models without the Heckman correction to understand the impact selection bias had on final outcomes.

The performance of these models, as well as the unique effect of prior decision making, was informative in assessing how prosecutors wield their power and how the effect of prior decision making influences the outcomes of criminal prosecutions. The results of the initial models also informed the second thread of this analysis, which analyzed the predicted probabilities of prosecutorial outcomes across race groups.

To investigate possible cumulative disadvantage, I next calculated predicted probabilities from the regression models to predict membership in different combinations of outcomes. As described by Kutateladze et al. (2014), this approach allowed me to explore the probabilities of multiple negative outcomes, and compare how these predictions differ between race and ethnic groups. This approach was also used by Sutton (2013), who compared predicted probabilities of incarceration, and found "systematic and striking" evidence of cumulative disadvantage, particularly among defendants who were detained, and that those effects "echo across subsequent

decisions." (p. 1218). By examining predicted probabilities of discretionary decisions, prior research has found evidence of cumulative disadvantage.

The current research sought to uncover new insight about the mechanisms of the criminal justice system that contribute to disparate impact. The combination of a robust data set and nuanced methodology improved the legitimacy of the current study. Together, this research contributed to the field by illuminating possible evidence of cumulative disadvantage in the criminal justice system.

Independent Variables

I used a number of independent variables to assess the impact of defendant race on prosecutorial decision making. The independent variables were categorized as demographic variables, criminal history variables, case characteristics, and processing measures. I first examined demographic factors such as defendant age, race, and gender. Although these factors should act as control variables, prior research has shown significant variation in criminal justice outcomes between men and women, young and old, and minority compared to White defendants (Spohn, 2000; Kutateladze et al, 2014).

Nearly 85 percent of defendants in the sample were Black or Latino. The demographic variables were critically important, but were also subject to serious limitations. Most importantly, defendant race was only available in very broad categories and often entered by arresting officers based on their perceptions. I also collapsed two categories - Black-Hispanic and White-Hispanic into the Latino category, which is a significant limitation. In a diverse urban setting such as Manhattan, these categories severely under-represented the true racial and ethnic composition of the population and defendants. This same limitation was found in Kutateladze et

al. (2014) with data from the same jurisdiction, and the authors argue that although the available data is sub-optimal, it is "appropriate for examining differences tied to the racial perceptions of court actors" (p. 524). As is common in criminal justice research, I used White defendants as the reference category, and created dummy variables for the remaining racial groups. Despite these limitations, the race variable served as a useful indicator for the examination of prosecutorial discretion. I also examined the defendant's age and gender. Again, I used dummy variables, with '1' indicating the defendant was male. I also created four age groups - defendants under 18, between 18 and 25, and defendants over 35. The reference group was whether a defendant was between 26 and 35.

The nature of the offense is captured in a multi-faceted field that contains both the content of the offense, as well as the severity. First, the penal law offense of the most serious, or 'top charge', was collapsed into ten categories such as assault, burglary, and robbery. Next, the penal law class was appended to the charge category, creating an example category like 'Class D burglary'. Finally, certain statutes under New York State CPL 70.02 are classified as violent and bring with them the possibility of additional punitiveness if convicted (New York State Criminal Procedure Law, Sentence of imprisonment for a violent felony offense). For violent charges, this was appended to the category, resulting in an example of 'Class C Violent Burglary'. Prosecutors and judges may both be formally or informally constrained at different points when prosecuting a violent offense, and it was important to make that distinction in the data set. Charges which appeared infrequently were grouped into an 'other' category. A total of 15 different charge categories were generated. This variable was also transformed into a dummy variable with a Class E grand larceny as the reference group.

The choice of this reference category illustrates the importance of close researcher-practitioner collaboration. Common practices include using the most frequent category, or the first alphabetical entry as the reference, although no specific standard exists (Grace-Martin, n.d.). In this case, the most frequent charge type was a Class B drug offense. During a working session, senior prosecutors revealed their perceptions of this offense as the reference category. From the practitioner's point of view, while drug offenses are most common, they can involve a wide variety of circumstances, defendants and outcomes. Further, drug offenses are much more likely than property or violent offenses to end with a program disposition of some sort. After conferring with stakeholders, I instead chose the next most frequent variable, a Class E grand larceny.

The next set of variables measured prior criminal history. The criminal history variables were well-known 'legally-relevant' variables, i.e. I expected to see significant variation based on differences in criminal history or the severity of criminal history. Prior research has used both numeric counts of prior criminal history, as well as binary flags indicating the presence of criminal history. The current research expanded the field by crafting more nuanced criminal history variables in consultation with senior and executive-level prosecutors. Specifically, I created three indicators of criminal history - reflecting each defendant's prior misdemeanor, felony, and violent felony convictions at the time of the instant offense. Further, these counts were collapsed or 'binned' into groups that prosecutors identified as meaningful. For instance, a defendant's prior misdemeanor convictions were coded as zero, one to two, three to four, five to ten, eleven to twenty, and more than twenty. On the other hand, violent felony conviction history was coded as zero, one, or more than one. Felony convictions were similarly binned, with an upper limit of ten. In working meetings with prosecutors, their experiences have driven them to internally codify these ranges for previous criminal history. Finally, I created a binned variable

measuring New York State bench warrants. This variable measured the number of cases for which the defendant failed to appear one or more times, and the judge issued a warrant. This variable did not measure the number of times the defendant failed to appear within each case. With all of these criminal history variables, I expected to find increasingly punitive actions or outcomes as these values of variables increased.

The independent variables in this research differed significantly from those in the Kutateladze and Andiloro Vera research (2014), most notably with regard to the scope and breadth of criminal history data used in each study. The data for the prior research was extracted between 2012 and 2013, when the analytics team at DANY had access to far less information about the defendant. For example, Kutateladze and Andiloro's study included measures of prior arrests and prior incarcerations, though these were only prior Manhattan arrests and incarcerations, as statewide data was not available at the time. The data for the current study included criminal convictions from throughout New York State, which was available to the DANY analytics team via a data feed from the New York State Department of Criminal Justice Services, established years after the Kutateladze and Andiloro study.

As a result, the criminal history information in the current study is much more expansive. For example, 24 percent of White felony defendants and 47 percent of Black felony defendants in the current study are categorized as having one or more prior felony convictions. Kutateladze and Andiloro reported that 10 percent of White felony defendants and 24 percent of Black felony defendants had a prior felony conviction (Table 10, p. 74). The prior research had significant limitations with regard to criminal history data that the current study did not. Separate models estimating the likelihood of pretrial detention that do not include the criminal history variables

result in odds ratios consistent with the Kutateladze and Andiloro study, suggesting that the prior research inadvertently suffered from a form of omitted-variable bias.

Another set of criminal history-related variables concerned whether the defendant, at the time of the offense, was tracked internally by the Crime Strategies Unit as a 'crime driver' in Manhattan. Specialized software known as the 'Arrest Alert System' helped prosecutors and analysts organize persons of interest and push out notifications if any of those individuals are arrested in New York City (Tallon et al. 2016). Relatedly, the Arrest Alert System also contained information about whether the defendant was under New York State parole supervision at the time of the offense. These variables differed conceptually from counts of prior criminal history, and I expected them to offer more explanatory power in multivariate modeling.

Table 1 presents summary statistics for the independent variables. The sample was about eighty-three percent male, and the average age of defendants was 33 years old. In terms of criminal history, the average defendant had just under one prior felony conviction and five prior misdemeanor convictions. In addition, the average defendant had failed to appear 1.8 times in a prior New York County prosecution. According to available criminal history data, eighty-three percent of defendants had no prior violent convictions, roughly seven percent were under New York State Parole supervision, and twelve percent were flagged in internal intelligence databases as gang members or suspected 'crime drivers'.

Table 1: Descriptive Statistics for Independent Variables by Race and Ethnicity

	All Cases		Mean (SD)							
Variables	**Mean (SD)**		**White**		**Black**		**Latino**		**Asian**	
Defendant Characteristics										
Gender	.85	(.36)	.8	(.4)	.84	(.37)	.87	(.34)	.79	(.41)
Age < 18	.07	(.25)	.02	(.15)	.08	(.27)	.07	(.26)	.04	(.21)
Age 18 - 24	.23	(.42)	.15	(.36)	.24	(.42)	.24	(.43)	.22	(.41)
Age 35+	.38	(.49)	.46	(.5)	.38	(.49)	.36	(.48)	.35	(.48)
Instant Offense										
Class B Drugs	.14	(.35)	.1	(.3)	.14	(.35)	.16	(.37)	.04	(.2)
Class D Violent Assault	.11	(.31)	.12	(.32)	.1	(.3)	.11	(.31)	.15	(.36)
Class D Forgery	.06	(.24)	.04	(.19)	.08	(.27)	.04	(.19)	.08	(.27)
Class C Violent Robbery	.06	(.23)	.03	(.17)	.07	(.25)	.05	(.22)	.02	(.15)
Class D Grand Larceny	.05	(.22)	.08	(.28)	.05	(.21)	.04	(.19)	.15	(.35)
Class D Burglary	.04	(.2)	.05	(.21)	.04	(.19)	.04	(.2)	.03	(.17)
Class D Drugs	.03	(.18)	.08	(.27)	.02	(.14)	.04	(.2)	.04	(.2)
Class D Weapons	.04	(.19)	.03	(.16)	.04	(.19)	.04	(.2)	.01	(.1)
Class C Violent Burglary	.03	(.18)	.04	(.19)	.03	(.16)	.04	(.2)	.01	(.12)
Class E Contempt	.03	(.18)	.03	(.17)	.03	(.18)	.04	(.19)	.03	(.16)
Class B Violent Robbery	.03	(.16)	.01	(.11)	.03	(.16)	.03	(.16)	.01	(.09)
Class E Theft	.02	(.14)	.02	(.14)	.02	(.15)	.02	(.13)	.04	(.19)
Class D Robbery	.02	(.15)	.02	(.13)	.03	(.16)	.02	(.14)	.01	(.09)
Other Charges	.23	(.42)	.23	(.42)	.22	(.41)	.24	(.42)	.27	(.44)
Criminal History										
Felony Convictions - 1	.15	(.35)	.11	(.31)	.16	(.37)	.14	(.35)	.06	(.23)
Felony Convictions - 2	.09	(.28)	.05	(.22)	.1	(.3)	.08	(.27)	.01	(.07)
Felony Convictions - 3	.06	(.24)	.03	(.16)	.07	(.26)	.06	(.23)	.01	(.06)
Felony Convictions - 4	.04	(.2)	.02	(.13)	.05	(.22)	.04	(.2)	.01	(.06)
Felony Convictions - 5+	.06	(.24)	.03	(.16)	.08	(.27)	.05	(.23)	.01	(.03)
Misdemeanor Convictions 1 - 2	.15	(.35)	.13	(.33)	.15	(.36)	.16	(.36)	.1	(.3)
Misdemeanor Convictions 3 - 4	.08	(.27)	.06	(.24)	.08	(.27)	.08	(.27)	.02	(.12)
Misdemeanor Convictions 5 - 10	.12	(.32)	.09	(.29)	.12	(.33)	.12	(.32)	.02	(.13)
Misdemeanor Convictions 11 - 2	.08	(.27)	.06	(.24)	.09	(.28)	.08	(.27)	.01	(.11)
Misdemeanor Convictions 21+	.08	(.26)	.04	(.2)	.1	(.3)	.05	(.21)	.01	(.1)
Violent Convictions - 1	.13	(.33)	.05	(.22)	.15	(.36)	.11	(.31)	.02	(.14)
Violent Convictions - 2+	.05	(.22)	.02	(.15)	.07	(.25)	.04	(.2)	.01	(.04)
Bench Warrants - 1	.15	(.36)	.11	(.31)	.16	(.37)	.16	(.36)	.06	(.24)
Bench Warrants - 2	.09	(.28)	.05	(.22)	.1	(.3)	.09	(.29)	.02	(.14)
Bench Warrants - 3	.05	(.22)	.02	(.15)	.05	(.23)	.06	(.23)	.01	(.09)
Bench Warrants - 4	.03	(.18)	.02	(.13)	.04	(.19)	.03	(.18)	.01	(.09)
Bench Warrants - 5+	.06	(.24)	.03	(.16)	.08	(.27)	.05	(.22)	.01	(.08)
Other Factors										
Pending Case	.3	(.46)	.19	(.39)	.33	(.47)	.31	(.46)	.14	(.35)
Domestic Violence	.12	(.33)	.11	(.32)	.12	(.32)	.14	(.34)	.1	(.3)
Crime Driver	.12	(.33)	.03	(.18)	.15	(.36)	.11	(.32)	.04	(.21)
Defense Atty. - 18B	.11	(.31)	.08	(.27)	.12	(.32)	.11	(.31)	.07	(.25)
Defense Atty. - Legal Aid	.56	(.5)	.55	(.5)	.57	(.5)	.55	(.5)	.52	(.5)
Defense Atty. - Other	.27	(.44)	.2	(.4)	.28	(.45)	.27	(.44)	.18	(.39)
N	43,971		4,660		23,124		14,983		1,204	

Dependent Variables

The five discretionary decisions of interest were the prosecutor's bail request, pretrial detention, decision to indict, plea bargaining, and sentencing. Table 2 below presents the distributions of the dependent variables, and this section describes each variable in detail.

Table 2: Descriptive Statistics for Dependent Variables by Race and Ethnicity

	All Cases		Mean (SD)							
Variables	**Mean (SD)**		**White**		**Black**		**Latino**		**Asian**	
Bail Request	9.66	(.93)	9.46	(.94)	9.72	(.91)	9.66	(.93)	9.29	(.93)
Pretrial Detention	.69	(.46)	.62	(.49)	.72	(.45)	.69	(.46)	.5	(.5)
Indictment	.41	(.49)	.36	(.48)	.43	(.5)	.41	(.49)	.29	(.46)
Plea Bargain	.29	(.46)	.26	(.44)	.29	(.45)	.31	(.46)	.36	(.48)
Imprisoned	.67	(.47)	.57	(.49)	.69	(.46)	.66	(.47)	.39	(.49)
N	43,971		4,660		23,124		14,983		1,204	

The first discretionary decision I examined was the amount of bail requested by the prosecutor. In practice, an Assistant District Attorney (ADA) drafts a complaint based on the information delivered by the arresting officer. The ADA examines the facts and circumstances of the instant offense, and once the defendant's criminal history is available, drafts a complaint with the charges and alleged facts of the case, and makes a bail recommendation that will be delivered to the arraignment judge a few hours later. On average, the entire process between arrest and criminal court arraignment takes place in less than 24 hours (McKinley, 2014). In most instances in the study jurisdiction, the ADA drafting the complaint and the ADA presiding over arraignments are not the same person, and the arraignment ADA has little or no familiarity with the case. This necessitates a written, electronic bail request. This data is entered as part of the complaint drafting process and passed on to the arraigning ADA and presented to the judge. The Bureau of Planning and Management at DANY makes regular use of this data, and was able to parse out the exact dollar amount requested by the ADA. The mean bail request was just under

$30,000 and the median bail request was about $15,000. Because the variable exhibited significant skewness, I applied a log transformation to the bail request to make the variable appropriate to multiple linear regression analysis. Table 2 suggests significant differences in the bail request variable across the four racial and ethnic groups.

The second discretionary point I examined was pretrial detention. Within 24 hours of arrest, at criminal court arraignment, the defendant is informed of the charges against him or her, the prosecutor makes an argument about whether the defendant should be subject to bail or released on his or her own recognizance. The defendant's lawyer presents their arguments for a lower bail amount, or no bail at all. Judges may also have access to pre-arraignment screening reports and documentation. It falls on the judge to decide whether to set bail for the defendant or to release him or her. While not a pure measure of prosecutorial discretion - the prosecutor is one of at least three parties involved - this is a critical stage in the process. Defendants held in custody may be unable to fight the charges against them, may suffer serious consequences related to employment or housing, and suffer the indignity of detainment prior to conviction. Within the sample, roughly 70 percent of defendants are detained after criminal court arraignment.

The third discretionary point I examined in the research was indictment. After being charged with a felony and criminal court arraignment, an ADA chooses whether to elevate the complaint to a felony indictment in supreme court, or to reduce the charges to a misdemeanor and prosecute the matter in criminal court. Within the sample, roughly 40 percent of defendants are indicted in supreme court.

The fourth discretionary point examined in this research was plea bargaining. Prosecutors have significant discretion regarding the charges to which they allow the defendant to plea.

Prosecutors may insist the defendant plead to the 'top charge' - the most serious charge on the complaint, or may offer a reduced plea, depending on the level of harm and culpability of the defendant. Within the sample, among indicted defendants who pled guilty, roughly 30 percent of pleas were to reduced charges.

The final discretionary point I examined in this research was sentencing. After plea or conviction, prosecutors have significant discretion regarding sentencing. Although the sentence is determined by the judge, they are influenced by the arguments of the prosecutor and defense counsel. Ideally, the data would have included the prosecutor's sentencing recommendation in addition to the actual sentence imposed. Unfortunately, this information was not available as data on sentencing recommendations is not captured in the study jurisdiction. Conversations with senior prosecutors indicated one reason for the lack of data is that the sentencing recommendation is both fluid and constrained at the same time. On one hand, the prosecutor's sentencing recommendation can change based on the anticipated plea charges or as a result of ongoing negotiations between the defense counsel and the prosecutor. On the other hand, for some offenses, or among defendants with prior felony convictions, New York State sentencing guidelines dictate the broad terms of the sentence, or the window of incarceration that must be imposed. Prosecutor's sentencing recommendations are not captured in this data, so the variable was operationalized as whether the defendant was ultimately sentenced to a term of jail or imprisonment. Within the sample of indicted and sentenced defendants, about two-thirds were sentenced to new jail or prison time. The fact that only the sentence imposed is available is a serious limitation. It was difficult to attribute the concept of prosecutorial discretion to sentencing outcomes given the multiple constraints and the lack of more specific data.

The data set used for this analysis was robust and contained novel types of discretionary decisions and predictors. With improved measurement of key independent and dependent variables, I hoped to expand the field by providing more insight into the mechanisms that drive prosecutorial and judicial decision making.

CHAPTER 4. RESULTS

Bivariate Analysis

I performed initial bivariate tests between the dependent variables and race variables. These tests revealed statistically-significant relationships between the dependent variables and race characteristics in the sample. For example, although Black and Latino defendants comprise 52 and 34 percent of the sample, respectively, both groups are detained at a rate of about 70 percent. Similarly, a Kruskal-Wallis chi-squared test indicates a significant relationship between the prosecutor's requested bail amount and the race of the defendant. Significant relationships also exist between race and the downstream dependent variables. For example, over 40 percent of Black and Latino defendants were indicted (43 and 41 percent respectively), compared to 36 percent of White defendants and 29 percent of Asian defendants.

Similarly, there was significant variation in plea bargain rates by race. Over 35 percent of indicted Asian defendants who pled guilty received a plea bargain, compared to 26 percent of White defendants. Finally, over two-thirds of sentenced black and Latino defendants were sentenced to terms of incarceration, compared to 57 percent of White defendants and 39 percent of Asian defendants. The presence of statistically-significant relationships in these simple tests was far from a confirmation of the hypotheses, but certainly indicated a need for further testing and analysis.

Multivariate Results

This section details the results of multivariate regression models concerning five separate decision points - the prosecutor's requested bail amount, pretrial detention, indictment, plea bargaining, and sentencing. For each of the decision points, several models were estimated. First,

a race-only model was created to establish a baseline. Next, a second model containing all independent variables concerning the instant offense and defendant's characteristics was created. Finally, a third model retained all the case and defendant measures, and added indicators of upstream decision making. For example, the third model in the pretrial detention group included the measure of the prosecutor's bail request, as well as race and other relevant independent variables. The performance of each of these models is discussed and presented in tables. Model diagnostic tests indicate no harmful levels of multicollinearity. Specifically, the variance inflation factors among all variables were below the standard ceiling of four (Wooldridge, 2009).

Bail Request

The first set of models concerned the amount of bail requested by the prosecutor. A log-transformation was applied to the bail request feature due to significant skewness. The transformation eliminated the skewness found in the original variable. A linear regression model was then fit using the 'lm' command in the R statistical software package.

Following Kutateladze et al.'s (2014) prior research, the first model used only the race variables to predict the bail request. The intercept indicated a baseline value of roughly 9.5, which equates to a non-transformed bail request value of about $13,350, which is exactly the mean of the original variable. The model indicated Black and Latino defendants were associated with higher, and Asian defendants lower, bail request amounts than the White defendants. The model was statistically significant, but without any other independent variables, had an extremely low r-squared value of 0.01. This model offers no explanatory value but was useful in assessing the performance of subsequent models.

The second bail request model added a number of independent variables concerning the instant charge, defendant's criminal history, and case processing measures. This model was statistically significant and the r-squared value indicates that it explains about 26 percent of the variation in requested bail amounts.

Some of the variables with the highest estimated association with bail request amounts are based on the defendant's instant offense. Violent charges such as robbery and burglary were estimated to be associated with an increase of 1.1 logged units (or about $15,000) to the transformed bail request amount. Defendants with felony convictions increased the logged predicted bail request value. Similarly, defendants with misdemeanor convictions, violent convictions, or prior bench warrants had increased bail request amounts. However, the increases seemed to plateau at a certain point. For example, defendants with three prior bench warrants experience roughly the same increase in requested bail amount as those with four or more prior bench warrants. This may be a result of a prosecutor's mentality that defendants either have or do not have a criminal history, and that the prosecutor does not necessarily act upon the volume of criminal history alone. Also, the number of defendants with three or more felony convictions (or violent convictions or bench warrants) may be quite small, thus increasing the standard error of the estimates. Those flagged as 'crime drivers' by the Crime Strategies Unit or on parole supervision also experienced increased predicted bail request amounts.

A number of variables were associated with a decrease in the requested bail amount. Defendants charged with domestic violence had bail request values about 16 percent below defendants not charged with domestic violence offenses when all other variables were held constant. Similarly, defendants who were charged in ECAB had bail request values about 30 percent lower than defendants charged outside of ECAB.

The addition of these independent variables increased the explanatory power of the model, and substantively changed the impact of the race variables. In the second model, black defendants experienced an increase in the geometric mean of the bail request about four percent higher than white defendants when holding other variables constant. Conversely, Asian defendants were estimated to experience a six percent decrease in the geometric mean of the bail request compared to white defendants. The requested bail amount among Latino defendants did not differ significantly compared to the reference group when holding the independent variables constant.

Taken as a whole, the models confirmed some initial assumptions. First, race alone explained little in predicting bail decisions. But consistent with prior research, race was significantly related to decision making (Kutateladze et al. 2014. The large coefficients of legally-relevant factors such as charge severity and criminal history were evidence of their primary influence in this decision point. Second, the addition of explanatory values greatly increased the predictive power of the model, although the addition of these variables does not completely mitigate the impact of race. The second model explained about 26 percent of the variance in the transformed requested bail amount. Separate analyses excluding race performed at about the same level. The results suggest that a significant amount of the decision making at this decision point is driven by legally-relevant factors, but also that bail requests differ significantly by race.

Table 3: Bail Request Linear Regression Coefficients and Standard Errors

	Bail Request	
Variables	**Model 1**	**Model 2**
Intercept	9.46*** (.02)	9.11*** (.02)
Demographics		
Black	0.27*** (.02)	0.04* (.01)
Latino	0.20*** (.02)	0.01 (.02)
Asian	-0.19*** (.03)	-0.06* (.03)
Gender		0.18*** (.01)
Age < 18		-0.08*** (.02)
Age 18 - 24		-0.01 (.01)
Age 35+		-0.06*** (.01)
Instant Offense		
Class B Drugs		0.21*** (.02)
Class D Violent Assault		0.21*** (.02)
Class D Forgery		-0.01 (.02)
Class C Violent Robbery		0.61*** (.02)
Class D Grand Larceny		0.26*** (.02)
Class D Burglary		0.21*** (.03)
Class D Drugs		0.01 (.03)
Class D Weapons		-0.05 (.03)
Class C Violent Burglary		0.70*** (.03)
Class E Contempt		0.30*** (.03)
Class B Violent Robbery		1.14*** (.03)
Class E Theft		0.02 (.03)
Class D Robbery		0.22*** (.03)
Other Charges		0.53*** (.02)
Criminal History		
Felony Convictions - 1		0.32*** (.01)
Felony Convictions - 2		0.41*** (.02)
Felony Convictions - 3		0.40*** (.02)
Felony Convictions - 4		0.47*** (.03)
Felony Convictions - 5+		0.56*** (.02)
Misdemeanor Convictions 1 - 2		0.17*** (.01)
Misdemeanor Convictions 3 - 4		0.16*** (.02)
Misdemeanor Convictions 5 - 10		0.18*** (.02)
Misdemeanor Convictions 11 - 20		0.18*** (.02)
Misdemeanor Convictions 21+		0.15*** (.02)
Violent Convictions - 1		0.08*** (.02)
Violent Convictions - 2+		0.11*** (.02)
Bench Warrants - 1		0.07*** (.01)
Bench Warrants - 2		0.06*** (.02)
Bench Warrants - 3		0.10*** (.02)
Bench Warrants - 4		0.09*** (.03)
Bench Warrants - 5+		0.08*** (.02)
Other Factors		
Pending Case		0.13*** (.01)
Domestic Violence		-0.16*** (.01)
Parole Supervision		0.26*** (.02)
Crime Driver		0.20*** (.01)
In ECAB		-0.30*** (.01)
Adjusted R2	.012	.263
N	35,179	35,179

Pretrial Detention Models

Turning to pretrial detention, I next estimated a binary logistic regression model to predict whether a defendant would have bail set in his or her case and held in custody following arraignment. Just over two-thirds of defendants in the sample were detained following their arraignment. This analysis does not consider whether the defendant was subsequently able to post bail, only the decision that occurred at arraignment that resulted in some duration of pretrial detention. In practice, most defendants who have bail set in their case are bussed to Rikers Island. Even if the defendant is able to post bail immediately, this analysis would consider that defendant 'detained' by virtue of his or her bail amount, regardless of ability to pay.

The first pretrial detention model used race as the only independent variable. As expected, the model estimated Black and Latino defendants at increased risk, and Asian defendants at decreased risk of pretrial detention. Also unsurprisingly, the model performed poorly. The accuracy of the model applied to a test set did not differ meaningfully from the base rate. The second model added a number of independent variables and increased the explanatory power of the model.

In model two, the odds ratios suggest Black and Latino defendants were associated with a nine percent decrease in the likelihood of being detained compared to White defendants. There was no significant difference between Asian and White defendants at the $p < .05$ level. Male defendants were almost 75 percent more likely to be detained than female defendants. In terms of age, all defendants were less likely to be detained than the 25-34 age cohort, with those under 18 about 40 percent less likely to be detained.

The variables that were associated with an increase in the likelihood of pretrial detention were not unexpected. Legally-relevant factors that increased the odds of pretrial detention were

serious criminal history, a violent instant offense, whether the defendant had another pending case in Manhattan, parole status, or was flagged as a 'crime driver'. Some of the predictors had larger odds ratios than others. For example, a defendant charged with a violent robbery was over twelve times more likely to be detained than the reference group. In contrast, the next highest odds ratios belonged to defendants with 10 or more misdemeanor convictions, who were about five times as likely to be detained compared to defendants with no prior misdemeanor convictions. Similarly, felony conviction history was a significant predictor, though the odds ratios did not increase based on the number of convictions. Defendants with a felony conviction - regardless of bin - were about two times more likely to be detained than those without felony convictions.

Factors that associated with a decreased in the likelihood of pretrial detention were whether the defendant was under the age of 18, and non-violent weapons offenses. Defendants under the age of 18 were about 40 percent less likely to be detained than older defendants, whereas grand larceny or non-violent weapons offenses (oftentimes defendants who possessed 'gravity knives' or box cutters but did not commit a violent act) were significantly less likely to be detained. One unexpected result was the non-significant odds ratio for violent conviction history.

The third pretrial detention model used the same independent variables as the second model, and added the (logged) bail request value as an additional predictor. The odds ratio was statistically significant and large, suggesting that the requested bail amount is an important factor in determining pretrial detention. Similarly, the model accuracy on the test set improved by about four percent as compared to the model without the bail request independent variable.

The second model had an accuracy value of 76 percent, and the third model had an accuracy value of 79 percent. Overall, the third pretrial detention model improved classification accuracy (those predicted to be detained that actually were) by 15 percent over the null model, and by three percent over model two. The -2 log likelihood value decreases steadily over the three models, indicating an improvement in how well the observations were explained.

In contrast to prior research, these models indicate that Black and Latino defendants are at lower risk of pretrial detention than White defendants, which may be driven by the relatively small number of White defendants in the sample. This finding is echoed in the literature, as Metcalfe and Chiricos (2018) found when they stated "...the data-set was composed of a majority of blacks...that the lack of [significant differences] could be attributed to the smaller white sample" (p. 247). Black and Latino defendants comprise over 85 percent of the data set, so it is possible that this overrepresentation had some impact on the coefficients and subsequent interpretations. There are also significant differences between the two data sets, despite being collected at the same agency in nearly the same time period.

That Black and Latino defendants were found to be less likely to be detained is noteworthy for a number of reasons. Prior research in the same jurisdiction by Kutateladze and Andiloro (2014) indicated that Black and Latino defendants were more likely to be detained than White defendants. However, the Kutateladze and Andiloro study and data set differed in numerous significant ways from the current study. First, Kutateladze examined both felony and misdemeanor charges in their pretrial detention model, whereas the current research examined only felony charges. Second, Kutateladze examined only a subset of all felonies, namely "...robbery, weapons, burglary, drugs and domestic violence cases" (p. 41). These charges encompass less than half of the total felony volume in the current study's dataset. Finally, this

study examined felony prosecutions that commenced between 2013 and 2017, whereas Kutateladze et al. examined those that concluded between 2010 and 2011. As discussed previously, the current research also differs significantly with respect to the scope of the criminal history data used as independent variables. These factors explain the apparent discrepancy between the previous and current research.

Together, the pretrial detention models continue the theme from the bail request models - legally-relevant characteristics such as charge severity and criminal history are primary determinants of outcomes, but that racial disparity is still present. In contrast to the bail request model, which found Black defendants were subject to higher bail requests than White defendants, the pretrial detention model revealed that Black and Latino defendants were significantly less likely to be detained than White defendants. This finding is also contrary to the majority of prior research, including the 2014 Kutateladze and Andiloro study. The second pretrial detention model indicated that the prosecutor's bail request is an influential predictor of pretrial detention, and that even when controlling for this upstream decision making, Black and Latino defendants were still at decreased risk of pretrial detention compared to similarly-situated White defendants.

Table 4: Pretrial Detention Logistic Regression Odds Ratios and Standard Errors

	Pretrial Detention		
Variables	**Model 1**	**Model 2**	**Model 3**
Intercept	1.62*** (.03)	0.45*** (.08)	0.00*** (.2)
Demographics			
Black	1.54*** (.04)	0.91* (.04)	0.85*** (.05)
Latino	1.39*** (.04)	0.91* (.05)	0.87** (.05)
Asian	0.63*** (.07)	0.92 (.08)	0.93 (.09)
Gender		1.96*** (.04)	1.79*** (.04)
Age < 18		0.60*** (.06)	0.60*** (.06)
Age 18 - 24		0.90** (.04)	0.91* (.04)
Age 35+		0.75*** (.04)	0.77*** (.04)
Instant Offense			
Class B Drugs		1.26*** (.05)	1.01 (.06)
Class D Violent Assault		1.95*** (.06)	1.72*** (.06)
Class D Forgery		0.93 (.06)	0.90 (.07)
Class C Violent Robbery		3.62*** (.07)	2.19*** (.08)
Class D Grand Larceny		1.05 (.07)	0.78*** (.07)
Class D Burglary		1.81*** (.08)	1.53*** (.09)
Class D Drugs		0.94 (.08)	0.89 (.08)
Class D Weapons		0.63*** (.08)	0.65*** (.08)
Class C Violent Burglary		3.86*** (.1)	2.04*** (.1)
Class E Contempt		3.08*** (.1)	2.65*** (.11)
Class B Violent Robbery		12.92*** (.14)	4.70*** (.15)
Class E Theft		1.26* (.1)	1.28* (.1)
Class D Robbery		1.83*** (.1)	1.60*** (.11)
Other Charges		2.70*** (.05)	1.78*** (.05)
Criminal History			
Felony Convictions - 1		2.21*** (.05)	1.69*** (.05)
Felony Convictions - 2		2.12*** (.07)	1.42*** (.07)
Felony Convictions - 3		2.36*** (.09)	1.61*** (.09)
Felony Convictions - 4		2.55*** (.11)	1.67*** (.11)
Felony Convictions - 5+		2.69*** (.1)	1.58*** (.11)
Misdemeanor Convictions 1 - 2		2.04*** (.04)	1.85*** (.04)
Misdemeanor Convictions 3 - 4		2.44*** (.06)	2.18*** (.06)
Misdemeanor Convictions 5 - 10		3.21*** (.06)	2.83*** (.06)
Misdemeanor Convictions 11 - 20		4.52*** (.08)	3.94*** (.08)
Misdemeanor Convictions 21+		5.56*** (.1)	5.02*** (.1)
Violent Convictions - 1		1.11 (.06)	1.04 (.07)
Violent Convictions - 2+		1.05 (.1)	0.98 (.1)
Bench Warrants - 1		1.61*** (.04)	1.56*** (.05)
Bench Warrants - 2		1.66*** (.06)	1.59*** (.06)
Bench Warrants - 3		1.76*** (.08)	1.66*** (.09)
Bench Warrants - 4		1.63*** (.11)	1.52*** (.11)
Bench Warrants - 5+		1.67*** (.09)	1.57*** (.09)
Other Factors			
Pending Case		1.70*** (.03)	1.52*** (.04)
Domestic Violence		0.95 (.05)	1.11* (.05)
Parole Supervision		2.58*** (.09)	2.00*** (.1)
Crime Driver		1.35*** (.05)	1.12* (.05)
In ECAB		0.69*** (.04)	0.90** (.04)
Defense Atty. - 18B		1.42*** (.07)	1.62*** (.07)
Defense Atty. - Legal Aid		1.01 (.05)	1.18** (.06)
Defense Atty. - Other		0.88* (.06)	1.00 (.06)
Bail Request			2.88*** (.02)
Accuracy	.680	.760	.790
-2LL	-21,614	-17,005	-15,280
N	35,177	35,177	35,177

*p < .05. **p < .01. ***p < .001

Indictment Models

Most research on the charging process focuses on initial charging after arrest, or charge bargaining near the conclusion of the case. Indictment as a discretionary decision point is infrequently studied, although indictment is the subject of a significant amount of case law relating to prosecutorial discretion. Specifically, that the decision to indict was a "...discretionary determination that the interests of the state are served…" (Lieb 2014, 1036) that presented opportunities for "vindictive" prosecution if defendants did not comply with prosecutor's plea offers. (*Blackledge v. Perry*, 1974). Indictments are also known to be publicized to promote general deterrence (Brown 2006).

To illuminate the factors associated with indictment, I created a series of binary logistic regression models to assess the factors that were influential in determining whether a felony complaint was elevated to supreme court via an indictment. Within this sample, just over 40 percent of cases were indicted.

As in prior models, the first model included only race as an independent variable, and the coefficients suggested that Black and Latino defendants were at increased risk, and Asian defendants at decreased risk of indictment. The performance of this model was not an improvement over the null model. The second model added a number of additional independent variables, and significantly improved the ability to predict whether a defendant was indicted.

Model two suggested that Black defendants were associated with an 11 percent increase in the likelihood of indictment as compared to White defendants. There was not a difference between Latino and Asian and White defendants at the $p < 0.05$ significance level. That the race estimates are fairly stable even after accounting for prior decision making is notable. These results, in conjunction with the pretrial detention models, suggest that even though Black

defendants are less likely to be detained than Whites, they are more likely to be indicted, net of other factors such as criminal history and charge. This is another prime example of the importance of examining multiple decision points.

Albontetti's seminal research on the charging process concluded that prosecutors reject a significant number of cases at screening and attempt to "avoid uncertainty" by filing charges on cases with favorable odds of conviction (Albonetti 1987). Rejection of a significant percentage of cases at screening has historically not been the case in Manhattan (Kutateladze & Andiloro 2014). It may be possible that prosecutors used indictment as a case screening tool by choosing not to indict certain cases that did not seem convictable in supreme court. If nearly all cases are accepted and Black defendants are more likely to be indicted, these results suggest an additional layer of cumulative disadvantage.

The factors associated with an increased likelihood of indictment were similar to those that increased the likelihood of the dependent variable in prior models - violent charges, prior criminal history, and whether the defendant had another pending New York County case. As in prior models, the odds ratios varied quite a bit between the variables. For example, violent felony charges such as robbery and burglary increased the risk of indictment three fold compared to defendants in the reference group. In contrast, defendants who were on parole supervision at the time of the arrest were about 46 percent more likely to be indicted than those not on parole supervision. Prosecutions that involved domestic violence, or those cases that were charged in ECAB (compared to at the prosecutor's desk) were less likely to be indicted. Domestic violence defendants were at almost 60 percent lower risk of indictment than defendants not charged with domestic violence. The second model was able to predict indictment with 64 percent accuracy,

an eight percent increase over the baseline. Similarly, the AUC value increased 30 percent, from 0.52 to 0.68.

The third indictment model included all the independent variables from the second model, and added the (logged) bail request amount, and whether the defendant was held in pretrial detention following arraignment. The addition of these two variables improved the relevant performance metrics compared to the second model - the accuracy of the predictions on a hold-out set improved by nine percent, from 64 percent to 70 percent, and the AUC value improved by 11 percent, from 0.68 to 0.76.

The odds ratios indicated that defendants who are held in pretrial detention are over twice and a half times as likely to be indicted compared to defendants who are not held in pretrial detention. Similarly, an increase in the requested (logged) bail amount in concomitant with an increased likelihood of indictment. Since the feature is log-transformed, interpretation is somewhat different. Assuming a 10 percent increase in the requested bail amount, the likelihood of indictment increased by over 20 percent (UCLA n.d.).

The criminal court models suggest weak or mixed evidence of cumulative disadvantage, with Black defendants more likely to experience punitive outcomes and more likely to be indicted, but less likely to be detained than White defendants. Taken as a whole, the criminal court models coincide with some aspects of previous research and diverge from others. For example, Wooldredge (2015) found significant mediating effect of bail amount on the likelihood of pretrial detention, and these results suggest bail request is an important predictor of pretrial detention, as well as indictment. These results also show Black defendants at decreased overall risk of pretrial detention compared to White defendants, while most, but not all, research concludes Black defendants have higher odds of being detained pending trial (Kutateladze 2014,

Sutton 2013). The pretrial detention model in the current study shows Black defendants are less likely to be detained directly. Given that Black defendants are subject to higher bail requests, and higher bail requests predict pretrial detention, it is possible that future analyses using path analysis or other causal inference techniques could accurately quantify a significant indirect effect. However, the current study shows the net impact of race on pretrial detention is negative.

The distinction is important for researchers and policymakers alike - pretrial detention rates may exhibit racial disparity, but that does not necessarily mean that pretrial detention is the source of the disparity. This is an important finding, because pretrial decision making is an established junction point in the criminal justice process. Pretrial detention restricts a defendant's ability to mount a vigorous defense, and can lead to more punitive outcomes downstream (Sutton 2013). There is also evidence that the pretrial decisions are made with limited information and the process is subject to less formal oversight than trial or sentencing phases (Schlesinger 2005). This finding was also echoed during the author's meetings with practitioners, who conveyed that early decisions such as bail, are made with limited or fluid information. For instance, a case that looks serious upon intake may reveal a different fact pattern once video or other pieces of evidence are collected and analyzed. Because defendants are arraigned within 24 hours of arrest, there is very little time prior to arraignment to collect or analyze evidence. These results suggest that one of the earliest decisions in the process - the prosecutor's bail request - increases the likelihood of punitive outcomes. However, this research did not formally test any indirect effects or statistical significance of possible indirect effects. Overall I found Black defendants at higher risk of more punitive outcomes at two of the three possible outcomes in criminal court.

Table 5: Indictment Logistic Regression Odds Ratios and Standard Errors

	Indictment		
Variables	**Model 1**	**Model 2**	**Model 3**
Intercept	0.55*** (.03)	0.34*** (.07)	0.00*** (.18)
Demographics			
Black	1.37*** (.04)	1.11** (.04)	1.11* (.04)
Latino	1.28*** (.04)	1.07 (.04)	1.08 (.04)
Asian	0.76*** (.08)	0.87 (.08)	0.91 (.09)
Gender		1.37*** (.03)	1.10* (.04)
Age < 18		1.34*** (.05)	1.69*** (.06)
Age 18 - 24		1.02 (.03)	1.05 (.04)
Age 35+		0.94 (.03)	1.02 (.03)
Instant Offense			
Class B Drugs		2.20*** (.05)	1.96*** (.05)
Class D Violent Assault		0.98 (.05)	0.74*** (.06)
Class D Forgery		1.28*** (.06)	1.38*** (.06)
Class C Violent Robbery		1.72*** (.06)	0.94 (.06)
Class D Grand Larceny		1.86*** (.06)	1.68*** (.07)
Class D Burglary		2.10*** (.07)	1.76*** (.07)
Class D Drugs		1.41*** (.07)	1.47*** (.08)
Class D Weapons		0.68*** (.07)	0.72*** (.08)
Class C Violent Burglary		3.28*** (.07)	1.79*** (.08)
Class E Contempt		1.10 (.09)	0.80* (.09)
Class B Violent Robbery		3.23*** (.08)	1.12 (.09)
Class E Theft		0.70*** (.09)	0.61*** (.1)
Class D Robbery		1.18* (.08)	0.91 (.09)
Other Charges		2.12*** (.04)	1.32*** (.05)
Criminal History			
Felony Convictions - 1		1.23*** (.04)	0.88*** (.04)
Felony Convictions - 2		1.27*** (.05)	0.85** (.05)
Felony Convictions - 3		1.34*** (.06)	0.90 (.06)
Felony Convictions - 4		1.48*** (.07)	0.95 (.07)
Felony Convictions - 5+		1.63*** (.06)	0.97 (.07)
Misdemeanor Convictions 1 - 2		1.50*** (.04)	1.23*** (.04)
Misdemeanor Convictions 3 - 4		1.34*** (.05)	1.08 (.05)
Misdemeanor Convictions 5 - 10		1.47*** (.04)	1.15** (.05)
Misdemeanor Convictions 11 - 20		1.42*** (.05)	1.06 (.06)
Misdemeanor Convictions 21+		1.34*** (.06)	1.00 (.06)
Violent Convictions - 1		1.04 (.04)	0.98 (.04)
Violent Convictions - 2+		1.00 (.06)	0.91 (.06)
Bench Warrants - 1		1.06 (.03)	0.95 (.04)
Bench Warrants - 2		1.01 (.04)	0.90* (.05)
Bench Warrants - 3		1.00 (.06)	0.87* (.06)
Bench Warrants - 4		1.02 (.07)	0.91 (.07)
Bench Warrants - 5+		0.85** (.06)	0.77*** (.06)
Other Factors			
Pending Case		1.08** (.03)	0.91** (.03)
Domestic Violence		0.42*** (.04)	0.43*** (.05)
Parole Supervision		1.46*** (.05)	1.13* (.05)
Crime Driver		1.29*** (.04)	1.07 (.04)
In ECAB		0.60*** (.03)	0.74*** (.03)
Defense Atty. - 18B		1.10 (.06)	1.15* (.06)
Defense Atty. - Legal Aid		1.02 (.05)	1.15** (.05)
Defense Atty. - Other		0.99 (.05)	1.12* (.06)
Bail Request			2.14*** (.02)
Pretrial Detention			2.53*** (.03)
Accuracy	.580	.640	.690
-2LL	-23,780	-21,956	-19,886
N	35,178	35,178	35,178

*p < .05. **p < .01. ***p < .001

Plea Models

Turning next to the disposition of a sample of cases, I investigated cases that ended with a plea or a conviction, and estimated the likelihood of pleading to a lesser or reduced charge compared to the 'top' charge on the indictment. The sample is restricted to indicted felony cases that were disposed of via a plea of guilty - all unindicted felony cases that ended in a plea would be reduced pleas, as the Manhattan District Attorney's Office internal policies do not allow pleas to felony charges without an indictment. Viewed this way, the sample is 14,601 cases (one-third of the total sample) and approximately 30 percent of the sample pled to reduced charges.

The supreme court models in this research also used an updated set of charge variables. Using the same multi-faceted charge characteristics described above, the plea and sentencing models used the indictment charge rather than the arraignment charge for greater precision. Only a subset of arraigned cases are indicted, and the indictment charges can differ, sometimes drastically, between the two events. Therefore, it would be inappropriate to use the criminal court arraignment charge as a predictor of supreme court outcomes, as the arraignment charge might no longer accurately represent the circumstances of the prosecution.

The sample and method differed significantly from Kutateladze and Andiloro (2014) in that all felony cases were examined, and the dependent variable signified whether the final plea charge was a lower class than the original indictment charge. Kutateladze and Andiloro's research in the same jurisdiction examined both felony and misdemeanor cases, although only drug cases, and modeled the likelihood of plea offers, rather than actual outcomes. Kutateladze and Andiloro's research notes that "DANY's data collection efforts with respect to plea offers to a lesser charge significantly improved in 2012-2013, which may make it possible to conduct plea

offer analyses in the future" (2014, p. 117), and the data set for the current study made use of those improvements.

These distinctions are important to consider when comparing to previous research. This sample is also noteworthy because nearly 90 percent of cases in supreme court end in a plea or conviction. This distribution is similar to the 95 percent often reported for the Federal system, and in line with many other state systems (Devers, 2011).

As with prior discretion points, the first model used only race to predict the likelihood of a reduced plea. The model suggested Asian defendants were associated with an increase in the likelihood of a lesser plea than similarly situated White defendants. There was no significant difference between Black and White defendants at the $p < 0.05$ level. The model did not perform well, but served as a baseline to compare subsequent models against. The second model added a number of control variables. As in prior sections, the addition of these independent variables significantly improved the performance of the model. The accuracy of the predictions was about 75 percent, an increase of about seven percent over the null model, and the AUC increased to 0.73. Asian defendants were about 60 percent more likely to receive a reduced plea compared to White defendants. There was no significant relationship between Black and Latino defendants and reduced pleas at the $p < 0.05$ level.

Some of the findings were unexpected. For example, violent charges increased the likelihood of a reduced plea. Defendants indicted on weapons or assault charges were nearly 12 times more likely to plea to a reduced charge than the reference group. Similarly, some criminal history factors appeared to increase the likelihood of a reduced plea at lower levels. For example, defendants with one felony conviction were about 30 percent more likely to plea to a reduced charge as compared to defendants without a prior felony conviction, although this was not found

in defendants with more than one felony conviction. I found a similar relationship between violent convictions and reduced pleas - those with one, or one or more violent felony convictions were more likely to plea to reduced charges. Conversely, each step in the misdemeanor conviction variables appeared to make defendants less likely to plea to reduced charges.

A number of factors lowered the likelihood of a reduced plea. Defendants identified as 'crime drivers', with other pending cases, or above 35 years old were associated with a decrease in the likelihood of a plea bargain. Surprisingly, none of the defense attorney types were significantly related to the dependent variable at the $p < 0.05$ level.

The third plea model added two variables concerning prior decision making: the (logged) requested bail amount, and the pretrial detention indicator. An increase in the prosecutor's bail request was associated with a decrease in the likelihood of a decreased plea, while the pretrial detention flag was not statistically significant at the $p < 0.05$ level. The accuracy and AUC performance metrics do not improve compared to the second model.

The fourth model incorporated the Heckman correction for sample selection bias. As discussed above, a non-random selection of cases proceeds to the plea bargaining stage, and it is important to correct for this bias. The Heckman model indicated similar findings as the third model. Black and Latino defendants did not appear to be significantly less likely to receive a plea bargain at the $p < 0.05$ level, but Asian defendants appeared to be more likely to receive plea bargains, although the odds ratio was much lower than the third model.

Similarly, the odds ratios for the instant offense were generally consistent with those in the third model, although the magnitude decreased for nearly all variables. Defendants charged with more serious or violent offenses were more likely to receive a plea bargain. That more serious charges were more likely to result in plea bargains might be an indicator of prosecutorial

overcharging at the indictment stage. The looming spectre of trial has been theorized to influence both the prosecution and defense, and both sides might be amenable to plea bargains, especially within violent charges where the stakes are higher in terms of sentencing guidelines and future impact on the defendant. Higher plea bargain rates for violent charges might also be the result of the defendant's counsel seeking to secure the best plea agreement possible for their defendant. Surprisingly, defendants with more serious misdemeanor criminal records were more likely to receive a plea bargain, and no significant relationship was found between felony conviction groups and likelihood of plea bargain. Defendants with higher bail requests were less likely to receive plea bargains in the Heckman model, and those that were detained were slightly more likely to receive plea bargains. This contrasts to the third model, where pretrial detention was not significant.

Finally, although the plea models do not suggest any direct racial disparity regarding Black and Latino defendants, they do also mirror earlier findings from previous models about the increased likelihood of positive outcomes with regard to Asian defendants. Asian defendants were over ten percent more likely to receive a reduced plea bargain, and were more likely to receive lower bail requests than White defendants. This finding is in line with Johnson & Betsinger's (2009), who found that Asian defendants were treated similarly, if not more leniently, than White defendants. It is also important to consider that Asian defendants accounted for less than two percent of the sample so the results should be interpreted with caution.

Together, the plea models suggested interesting patterns about the mechanics of prosecution. In contrast to the criminal court models, the top charge played a much more significant role and the impact of felony criminal history variables was minimized in the supreme court models. This suggests that the plea bargaining is charge-focused at this stage, rather than

defendant-focused. Once the prior decision making is incorporated, and Heckman correction was applied, the impact of defendant criminal history decreased further, suggesting that the impact of these factors occurs in criminal court and not in supreme court. Models that included prior decision making did not significantly outperform those without prior decision making variables, again suggesting the factors under consideration in supreme court differ from those in criminal court.

Table 6: Plea Bargaining Logistic Regression Odds Ratios and Standard Errors

	Plea Bargaining							
Variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**	
Intercept	0.38***	(.17)	0.16***	(.34)	1.73	(.18)	1.26	(.18)
Demographics								
Black	1.07		0.92		0.92		1.00	(.01)
Latino	1.15	(.09)	0.98	(.09)	0.98	(.01)	1.02	(.01)
Asian	1.44*	(.17)	1.62**	(.17)	1.64**	(.03)	1.06*	(.03)
Gender	0.00	(.07)	0.87	(.07)	0.90	(.01)	0.98	(.01)
Age < 18			0.22***	(.11)	0.21***	(.02)	0.86***	(.02)
Age 18 - 24			0.91	(.06)	0.90	(.01)	1.00	(.01)
Age 35+			0.74***	(.06)	0.73***	(.01)	0.96***	(.01)
Instant Offense								
Class B Drugs			3.38***	(.12)	3.45***	(.02)	1.18***	(.02)
Class C Violent Robbery			17.87***		20.81***		1.50***	(.02)
Class D Grand Larceny			1.82***	(.15)	1.88***	(.02)	1.07**	(.02)
Class D Burglary			1.60**	(.16)	1.64**	(.02)	1.07***	(.02)
Class D Violent Assault			4.40***	(.15)	4.77***	(.02)	1.20***	(.02)
Class D Forgery			2.68***	(.15)	2.68***	(.02)	1.12***	(.02)
Class C Violent Burglary			15.28***	(.15)	18.06***	(.02)	1.54***	(.02)
Class B Violent Robbery			19.41***	(.17)	24.57***	(.02)	1.48***	(.02)
Class D Drugs			1.41	(.18)	1.36	(.02)	1.03	(.02)
Class C Violent Weapons			11.92***	(.17)	14.96***	(.02)	1.38***	(.02)
Class D Violent Assault			11.95***	(.18)	15.99***	(.03)	1.39***	(.03)
Class E Vehicular			1.09	(.21)	1.01	(.03)	1.01	(.03)
Class C Violent Assault			26.72***	(.18)	30.94***	(.03)	1.61***	(.03)
Class D Weapons			6.14***	(.17)	6.14***	(.03)	1.26***	(.03)
Class D Identity Theft			1.67*	(.21)	1.71**	(.03)	1.10***	(.03)
Class D Robbery			1.94***	(.2)	2.09***	(.03)	1.10***	(.03)
Other Charges			2.52***		2.72***		1.12***	(.01)
Criminal History								
Felony Convictions - 1			1.33***	(.07)	1.43***	(.01)	1.03*	(.01)
Felony Convictions - 2			1.03	(.1)	1.13	(.01)	1.01	(.01)
Felony Convictions - 3			1.11	(.11)	1.21	(.02)	1.00	(.02)
Felony Convictions - 4			1.13	(.12)	1.26	(.02)	1.04	(.02)
Felony Convictions - 5+			0.97	(.12)	1.10	(.02)	1.00	(.02)
Misdemeanor Convictions 1 - 2			0.71***	(.07)	0.71***	(.01)	0.97**	(.01)
Misdemeanor Convictions 3 - 4			0.59***	(.09)	0.60***	(.01)	0.96**	(.01)
Misdemeanor Convictions 5 - 10			0.61***	(.09)	0.62***	(.01)	0.96**	(.01)
Misdemeanor Convictions 11 - 20			0.62***	(.1)	0.61***	(.02)	0.96*	(.02)
Misdemeanor Convictions 21+			0.80*	(.11)	0.79*	(.02)	1.01	(.02)
Violent Convictions - 1			1.34***	(.07)	1.35***	(.01)	1.04***	(.01)
Violent Convictions - 2+			1.46***	(.11)	1.49***	(.02)	1.03*	(.02)
Bench Warrants - 1			0.97	(.07)	0.98	(.01)	1.00	(.01)
Bench Warrants - 2			1.07	(.08)	1.08	(.01)	1.00	(.01)
Bench Warrants - 3			1.16	(.1)	1.18	(.02)	1.00	(.02)
Bench Warrants - 4			1.20	(.13)	1.24	(.02)	1.00	(.02)
Bench Warrants - 5+			1.24*	(.11)	1.27*	(.02)	0.99	(.02)
Other Factors								
Pending Case			0.94		0.96		0.99	(.01)
Domestic Violence			1.55***	(.09)	1.56***	(.02)	1.06**	(.02)
Parole Supervision			1.37***	(.08)	1.45***	(.01)	1.05***	(.01)
Crime Driver			0.84**	(.07)	0.86*	(.01)	0.99	(.01)
In ECAB			1.07	(.05)	1.02	(.01)	1.00	(.01)
Defense Atty. - 18B			1.03	(.12)	0.98	(.02)	1.00	(.02)
Defense Atty. - Legal Aid			1.02	(.1)	0.97	(.02)	1.00	(.02)
Defense Atty. - Other			1.04	(.11)	0.99	(.02)	1.00	(.02)
Bail Request			0.00	(.03)	0.78***	(.01)	0.98	(.01)
Pretrial Detention					1.01	(.02)	1.04*	(.02)
Accuracy	.700		.750		.750		.760	
-2LL	-7,070		-6,119		-6,087		-7,624	
N	11,861		11,861		11,861		14,253	

*p < .05. **p < .01. ***p < .001

Sentence Models

The final set of models analyzed whether convicted defendants were sentenced to new terms of jail or imprisonment, or a non-incarcerative sentence. The sample was restricted to indicted and convicted felony defendants who were sentenced (n = 11,626, 25 percent of the original sample). Within the sample, about 66 percent of defendants were sentenced to new terms of incarceration. This measure is stable over the course of the five years of the data set.

As in prior models, I first estimated a logistic regression model predicting sentence type using only race as an independent variable. Like other race-only models, this model showed a slight, but statistically non-significant, improvement in classification accuracy and AUC values. The odds ratios indicated that Black and Latino defendants were about 50 percent more likely to be sentenced to new terms of incarceration as compared to White defendants. Likewise, Asian defendants were about 50 percent less likely to be incarcerated than White defendants. Additional independent variables significantly altered these findings however.

The second model added the standard case measures and changed some of the relationships between race and incarceration. Neither Black nor Latino defendants differed significantly at the $p < 0.05$ level. Asian defendants were associated with a 25 percent decrease in the likelihood of incarceration compared to White defendants. Characteristics that increased the likelihood of incarceration followed a similar theme as previous models. Prior misdemeanor and felony convictions and parole or 'crime driver' status significantly increased the odds of incarceration. Defendants charged with all types of violent offenses were significantly more likely to be sentenced to jail or prison. Surprisingly, a defendant's prior violent felony convictions were not significantly related to new terms of incarceration. The factors that made

defendants less likely to be incarcerated were drug, forgery and vehicle crimes, as well as domestic violence cases and defendants under 18 or above 35 years old.

The third model added three separate measures of prior decision making - bail request, pretrial detention, and whether the defendant pled to a lesser charge. As expected, defendants with increased bail requests or who were held in pretrial detention were associated with a higher risk of incarceration. The fourth model applied the Heckman correction, which produced similar results as the plea bargain Heckman model - coefficients that were subdued in magnitude but generally the same direction. However, two measures of prior decision making - bail requested and pretrial detention - retained large odds ratios, with defendants held in pretrial detention estimated to be 35 percent more likely to be sentenced to jail or prison than those not initially detained.

Defendants who pled guilty to a reduced charge were significantly less likely to be sentenced to incarceration. This is understandable given the consistent finding that negotiated pleas produce significant discounts in sentence severity (Piehl 2007). Further, the research community has identified prosecutorial discretion as a significant predictor of sentencing outcomes, and that judges often rely on prosecutor's sentencing recommendations when considering the final sentence (Devers, 2011; Kurlychek 2019). The standard logistic regression model estimated defendants who received a plea bargain were nearly 20 percent less likely to be sentenced to jail or prison, while the Heckman model estimated these defendants were just two percent less likely. It stands to reason that defendants who were granted a plea bargain by the prosecutor also negotiated some aspect of the sentencing recommendations, and the plea bargain had a significant impact on the eventual sentencing.

Likewise, the magnitude of the odds ratio in the pretrial detention models decreased between the third model and the Heckman model, but remained an important predictor of sentencing outcomes. This is also a finding consistent with the literature, which finds that pretrial detention "substantially conditions other punishment decisions" (Kurleycheck 2019, p. 301).

The significant impact of charging, defined in this model as the top indictment charge, aligns with prior research regarding the impact of the prosecutor's decision making on sentencing decisions. As the last step in the punishment process, a judge's sentencing behavior is impacted by multiple upstream decisions and outcomes, beginning with the police arrest behaviors and continuing through the prosecutor's heavily-weighted sentencing recommendations. Further, certain charges or circumstances may limit the number of available sentencing options available to the judge. This highlights the importance of prosecutor's charging and plea bargaining decisions, as they have outsized impact on subsequent decision making.

The performance metrics of the final sentencing model increased slightly from the second sentencing model with the addition of the features of prior decision making. The AUC value increased two percent from 0.81 to 0.83 and the accuracy increased four percent to 77 percent. Compared to the null model, the AUC value increased over 50 percent and the accuracy 16 percent. Together, the sentencing models established the primacy of the offense and prior decision making on sentencing outcomes. Similar to prior supreme court models, no Black or Latino disparities were found. However, defendants with increased bail requests, or those held in pretrial detention, were more likely to be imprisoned.

Table 7: Sentencing Logistic Regression Odds Ratios and Standard Errors

	Sentencing			
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Intercept	1.33*** (.06)	0.34*** (.37)	0.00*** (.2)	0.26*** (.18)
Demographics				
Black	1.68*** (.07)	0.87	0.89	1.00 (.01)
Latino	1.49*** (.07)	0.92 (.09)	0.95 (.01)	1.01 (.01)
Asian	0.49*** (.15)	0.74 (.18)	0.68* (.03)	0.91*** (.03)
Gender		2.07*** (.07)	1.78*** (.01)	1.12*** (.01)
Age < 18		0.65*** (.1)	0.72*** (.02)	0.99 (.02)
Age 18 - 24		1.03 (.07)	1.06 (.01)	1.02 (.01)
Age 35+		0.73*** (.07)	0.74*** (.01)	0.95*** (.01)
Instant Offense				
Class B Drugs		0.77** (.11)	0.75** (.02)	1.01 (.02)
Class C Violent Robbery		2.04***	1.43*	1.05* (.02)
Class D Grand Larceny		0.81 (.14)	0.76* (.02)	0.97 (.02)
Class D Burglary		1.30 (.15)	1.13 (.02)	1.05* (.02)
Class D Violent Assault		1.13 (.14)	0.89 (.02)	0.95* (.02)
Class D Forgery		0.64*** (.14)	0.65** (.02)	0.96* (.02)
Class C Violent Burglary		1.73*** (.17)	1.23 (.02)	1.06* (.02)
Class B Violent Robbery		2.99*** (.18)	1.66** (.03)	1.07** (.02)
Class D Drugs		0.46*** (.15)	0.51*** (.02)	0.96 (.02)
Class C Violent Weapons		3.77*** (.2)	2.06*** (.03)	1.14*** (.02)
Class D Violent Assault		5.10*** (.22)	2.40*** (.03)	1.13*** (.03)
Class E Vehicular		0.12*** (.18)	0.12*** (.03)	0.72*** (.03)
Class C Violent Assault		1.52** (.18)	1.08 (.03)	1.03 (.03)
Class D Weapons		0.68* (.18)	0.72 (.03)	0.95* (.03)
Class D Identity Theft		0.59** (.19)	0.54*** (.03)	0.96 (.03)
Class D Robbery		1.09 (.19)	0.87 (.03)	0.97 (.03)
Other Charges		1.04	0.78*	0.97 (.01)
Criminal History				
Felony Convictions - 1		3.84*** (.08)	3.30*** (.01)	1.22*** (.01)
Felony Convictions - 2		4.40*** (.11)	3.34*** (.02)	1.23*** (.01)
Felony Convictions - 3		3.47*** (.13)	2.85*** (.02)	1.21*** (.02)
Felony Convictions - 4		5.24*** (.16)	3.87*** (.02)	1.24*** (.02)
Felony Convictions - 5+		9.08*** (.17)	6.64*** (.02)	1.28*** (.02)
Misdemeanor Convictions 1 - 2		1.25*** (.07)	1.14 (.01)	1.06*** (.01)
Misdemeanor Convictions 3 - 4		1.59*** (.1)	1.39*** (.02)	1.08*** (.01)
Misdemeanor Convictions 5 - 10		1.85*** (.09)	1.60*** (.02)	1.10*** (.01)
Misdemeanor Convictions 11 - 20		2.45*** (.12)	2.04*** (.02)	1.14*** (.02)
Misdemeanor Convictions 21+		3.20*** (.15)	2.69*** (.02)	1.16*** (.02)
Violent Convictions - 1		1.11 (.1)	1.11 (.01)	1.01 (.01)
Violent Convictions - 2+		1.06 (.16)	1.06 (.02)	1.00 (.02)
Bench Warrants - 1		1.40*** (.07)	1.30*** (.01)	1.04*** (.01)
Bench Warrants - 2		1.26** (.09)	1.19 (.01)	1.03 (.01)
Bench Warrants - 3		1.51*** (.13)	1.39** (.02)	1.02 (.02)
Bench Warrants - 4		1.35 (.16)	1.28 (.02)	1.03 (.02)
Bench Warrants - 5+		1.63*** (.14)	1.50** (.02)	1.03 (.02)
Other Factors				
Pending Case		1.42***	1.25***	1.02* (.01)
Domestic Violence		0.88 (.1)	0.82* (.02)	0.90*** (.02)
Parole Supervision		5.71*** (.19)	4.91*** (.01)	1.08*** (.01)
Crime Driver		1.47*** (.08)	1.37*** (.01)	1.04*** (.01)
In ECAB		0.93 (.06)	1.11 (.01)	1.00 (.01)
Defense Atty. - 18B		1.50*** (.12)	1.70*** (.02)	1.10*** (.02)
Defense Atty. - Legal Aid		1.18 (.1)	1.44*** (.02)	1.08*** (.02)
Defense Atty. - Other		1.31** (.11)	1.62*** (.02)	1.08*** (.02)
Bail Request		(.03)	1.78*** (.01)	1.14*** (.01)
Pretrial Detention			3.17*** (.02)	1.36*** (.02)
Plea Bargain			0.82*** (.01)	0.98* (.02)
Accuracy	.670	.750	.770	.760
-2LL	-7,347	-5,617	-5,219	-5,555
N	11,626	11,626	11,626	11,649

*p < .05. **p < .01. ***p < .001

Multivariate Results Discussion

The findings of the first thread of my analysis illuminated a general race effect on the prosecutor's requested bail amount, pretrial detention, and likelihood of indictment, net of legally-relevant and extra-legal factors, including markers of upstream decision making. The bail requests for Black defendants were significantly higher than those for similarly-situated White defendants, and significantly lower for Asian defendants compared to White defendants. These findings generally correspond with the extant research - that minority defendants are treated more harshly at some points during the criminal justice process, though the magnitude varies and some decision points show minimal or no evidence of statistically significant disparity. In contrast to the majority of previous research, I found Black and Latino defendants were less likely to be detained following criminal court arraignment. Apart from Asian defendants, I also found no significant race effect among Black or Latino defendants in the plea or sentence models, also in contrast to some prior research.

Taken together, the results of the five sets of models suggest the possibility of mixed or weak evidence of cumulative disadvantage in models that include pretrial detention. Recalling the pretrial detention models, I found that Black defendants were less likely to be detained compared to similarly-situated White defendants. This suggests that downstream outcomes like indictment, plea bargaining and sentencing do not manifest cumulative disadvantage, because all of these outcomes follow pretrial detention decision making. This is a novel finding for a number of reasons, especially in light of the prior research in the same jurisdiction.

There still exists the possibility of cumulative disadvantage via causal paths that do not include pretrial detention. Recalling the bail request models, I found evidence of significant racial disparity in bail requests with regard to Black and Asian defendants. Black defendants were subject to increased bail requests, and Asian defendants to decreased bail requests as compared to similarly-situated White defendants. Subsequent models revealed that bail requests were significant predictors of pretrial detention, indictment, plea bargains, and sentencing outcomes. Because Black defendants experienced increased bail requests, they were indirectly at increased risk of more punitive outcomes downstream than other defendants.

This research did not estimate the presence of any indirect effects, so the presence of any significant indirect effects is still unknown. Future research will need to employ path analysis techniques to test the indirect effects of defendant race on downstream outcomes. Because the estimated direction of race on pretrial detention for Black defendants was negative, the positive impact of increased bail requests was negated. Were this research to exclude pretrial detention, it might have found evidence of significant cumulative disadvantage. However, the current research did illuminate how race and ethnicity impact the requested bail amount, adding to extant findings that Black and Latino defendants are more likely to be subject to financial bail requirements, and are less likely to be able to post bail (Sacks 2014). The finding in the current research that Black defendants were subject to higher bail amounts, in conjunction with prior research around minority defendants being less likely to make bail, adds to the ongoing national conversations around the use of cash bail and pretrial detention.

The variation in racial and ethnic disparities across the discretionary points was not unexpected. The extant theories of cumulative disadvantage acknowledge the multitude of objectives, considerations and heuristics used by system actors to make decisions based on

existing information (Kurlychek & Johnson 2019). For example, police officers may consider dangerousness their highest priority whereas prosecutors may prioritize convictability and strength of evidence above all else. It is well established that charging and punishment processes can vary by the type of offense, defendant characteristics, and other situational factors (Shermer 2010). Research also suggests that the motivations of prosecutors shift depending on resource constraints, policy priorities, and public opinion (Miller 2008). It stands to reason that the motivations among prosecutors may vary by phase of the case and the constraints in effect during that time. Indeed, studies across jurisdictions highlight a common shift in prosecutor's primary motivation after charging from "can I charge the case" to "can I prove the case?" (Frederick & Stemen 2012). That the supreme court models, both with and without the Heckman correction, found no evidence of racial disparity among Black and Latino defendants may be an indication of the shift of focal concerns from charging to proving beyond a reasonable doubt.

The findings of some of the models differ significantly from prior research performed in the same jurisdiction by Kutateladze and Andiloro (2014) for a number of valid reasons. First, the Kutateladze and Andiloro study analyzed both misdemeanor and felony cases in the custodial sentence model, resulting in a sample of over 100,000 cases, which is 900% larger than the supreme court samples in the current research, which numbered just over 10,000 cases. Further, the Kutateladze and Andiloro study used the most serious charge at case screening to label cases as misdemeanor or felony, and created person, property, and drug categories based on charges present at screening. The current study did not replicate this aspect of Kutateladze and Andiloro's work, but instead used the top charge at indictment for the plea bargaining and sentencing models. This is an important distinction - less than half of felony charges accepted for prosecution are indicted, and the charges often differ significantly between screening and

indictment, as the prosecution has had time to gather evidence and interview witness and law enforcement. The prior research used a sampling of felonies that included only "...[felony] drug offenses, weapons offenses, domestic violence, burglary, and robbery" (p. v). Less than half of the cases in the current study's data set correspond to the charges or circumstances used by Kutateladze and Andiloro. As detailed previously, many independent variables used for the current study differ significantly from the Vera and Kutateladze et al. studies (2014). The data for the current study includes criminal convictions from throughout New York State, measures of parole and 'crime driver' status, and enhanced measures of the instant offense.

Finally, the research conducted by Kutateladze and Andiloro examined prosecutions disposed of in 2010 and 2011. The current study examined cases prosecuted between 2013 and 2017, after District Attorney Vance won a second term in office, and during a period of significant change in New York City criminal justice operations. District Attorney Vance took office in January 2010, and his predecessor, Robert M. Morgenthau, held the post for more than 30 years. District Attorney Vance has made numerous policy changes during his tenure, including some that concerned bail requests, not all of which were enacted immediately (Brown 2014). It is possible that some of the outcomes in the Kutateladze and Andiloro study reflected the policies and practices of the Morgenthau administration, whereas the current study reflects the practices of the Vance administration. Citywide, programs such as supervised release were expanded, and the movement to close or reduce the population at Rikers Island gained traction. Differences in the sources and number of key independent variables, combined with a significantly different sample, shed light on the apparent differences between prior research and the current study.

The current study used updated data and more robust measures of criminal history, instant offense, and other case characteristics than prior research, and these improved variables were the same as those available to and considered by prosecutors during their work. While the current study examined a different subset of cases than the previous research, I found that racial disparity was present, but not at the same magnitude, and in the case of pretrial detention, in the opposite direction as reported by the 2014 Kutateladze and Andiloro study. Through these analyses, I observed racial disparities that were lower than previously observed, and that evidence of cumulative disadvantage may not be as serious as the prior research describes.

The first portion of my analysis illuminated a number of circumstances that resulted in racial and ethnic disparities in criminal prosecutions. However, these analyses did not fully examine how punitive outcomes such as higher bail requests and pretrial detention could accumulate and exacerbate disparate outcomes. To provide additional insight into the mechanics of prosecutorial and judicial decision making, the second portion of my analysis examines the predicted probabilities of certain constellations of outcomes, building off the work of Kutateladze et al. (2014) and others.

CHAPTER 5. CUMULATIVE DISADVANTAGE

To provide additional insight into potential cumulative disadvantages that might occur across multiple stages of prosecution, I next analyzed the predicted probabilities of a series of possible outcomes while holding all variables at their mean. Building off the work of Kutateladze et al. (2014) and others, this approach allowed me to investigate how upstream decision making can affect downstream outcomes for various hypothetical subsets of the sample.

Table 8 reports the predicted bail request and probabilities of pretrial detention, indictment, plea bargaining and incarceration, of a hypothetical defendant while holding all other variables at their mean. Specifically, the hypothetical defendant in this table is male, has no criminal convictions, and is being charged with a class E grand larceny felony. Clearly, the logged bail request amount differs by race, with the amount for White defendants predicted to be 8.99 while for Black defendants the amount is predicted to be 9.03. Transformed from the log format, this equates to bail requests of $8,060 and $8,350 respectively. Asian defendants have the lowest predicted bail request - roughly $7,580. The regression models discussed previously indicate no significant difference between Latino defendants and White defendants - a finding that is demonstrated through the nearly-identical predicted bail request amounts. Similarly, the predicted probabilities of pretrial detention, indictment, plea bargaining, and sentencing echo the findings of the regression models. Black and Latino defendants are at somewhat reduced risk of pretrial detention, plea bargaining and incarceration, and at increased risk of indictment as compared to White defendants. Asian defendants are consistently at the lowest risk of punitive outcomes and have the highest probability of a favorable plea bargain.

Table 8: Predicted Outcomes for Hypothetical Defendants of Each Race

Defendant Race	Bail Request	Pretrial Detention	Indictment	Plea Bargain	Incarceration
Asian	$ 7,580	.356	.123	.224	.149
Black	$ 8,350	.358	.156	.137	.195
Latino	$ 8,140	.358	.150	.145	.203
White	$ 8,060	.388	.139	.148	.210

Criminal Court Outcomes

The amount of bail a prosecutor requests is critical to downstream outcomes. As the regression models discussed previously demonstrated, the requested bail amount was a statistically and substantively significant factor in predicting pretrial detention, and significantly higher for Black defendants, and lower for Asian defendants, as compared to White defendants. While the regression models identified the importance of bail requests, the models did not clarify under what circumstances the bail requests differ most. This section contains an examination of the predicted bail requests to demonstrate where the differences are most stark.

As in the regression models, the predicted bail request is substantially related to the defendant's criminal history. Figure 1 depicts this relationship for a hypothetical defendant charged with a class B violent robbery offense. For example, an Asian defendant with one felony conviction is predicted to have a bail request of about $32,900, whereas a Black defendant is predicted to have a bail request of $36,900. The disparity continues as the number of felony convictions increase: Black defendants with five or more felony convictions (just four percent of the sample) are predicted to have bail requests of approximately $45,700, while Asian defendants are predicted to have bail requests of $41,300. The figure also demonstrates a lull in the relationship between felony convictions and predicted bail request: defendants with two felony convictions are predicted to have the same requested bail amount as defendants with three

convictions. This may be an example of the 'perceptual shorthand' identified in prior research as crucial to front-line decision making (O'Neil et al. 2015). In the eyes of the prosecutor, there may not be a substantial difference between a defendant with two or three felony convictions, and the bail request amount is unchanged. However, after three felony convictions, the predicted requested bail amount increases at each step.

Figure 1: Predicted Bail Amounts by Race and Felony Convictions for Class B Violent Robbery

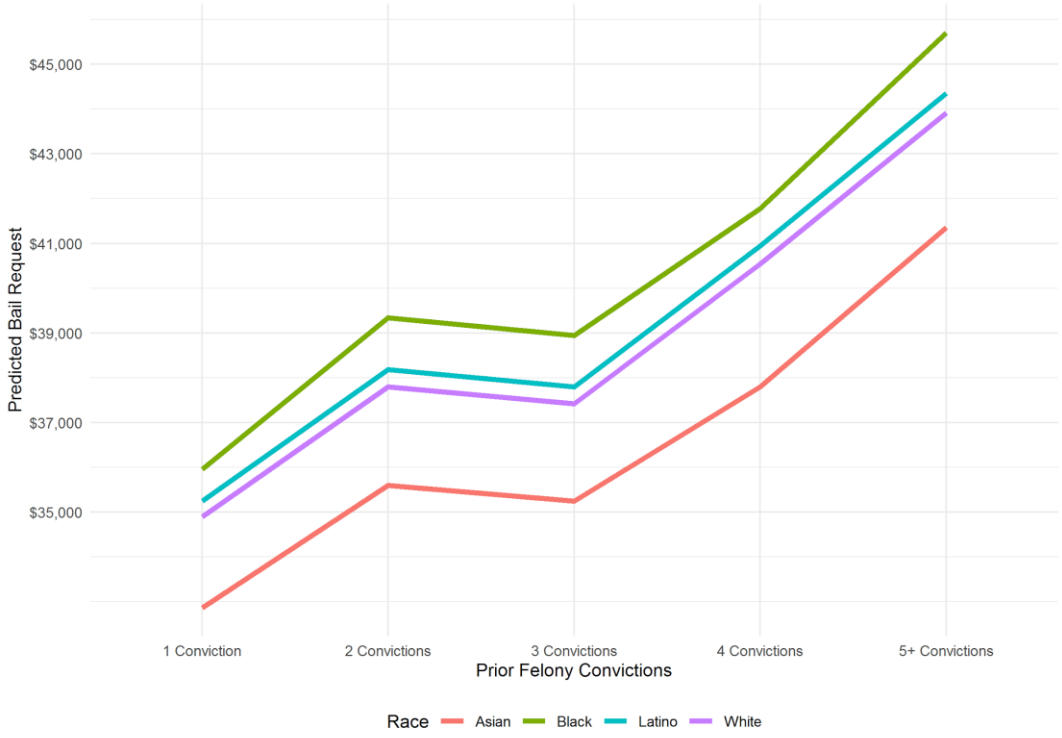


Table 9 depicts the predicted bail request amount based on the charge, using the hypothetical grand larceny defendant described previously. The table also includes the median amount by which the predicted bail request amounts for Black, Latino, and Asian defendants differ from those of White defendants. For example, the median predicted bail request amount for a Class B violent robbery charge is $270 greater for non-White defendants than White

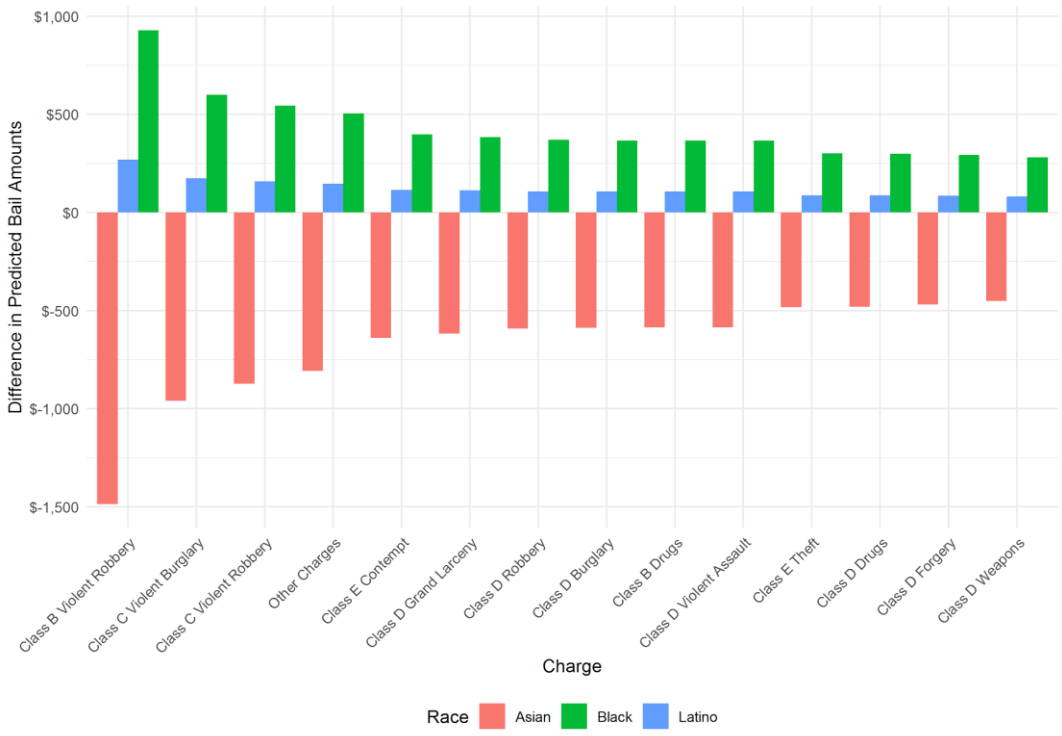
defendants. The three charges with the highest median difference between White and non-White defendants are violent robbery and burglary charges. This may be a result of perceptions of minority dangerousness coupled with charges that support the stereotype (Steffensmeier 1998). However, this figure is somewhat misleading as the starkly lower predicted bail request amounts for Asian defendants 'drag down' the median. Figure 2 depicts the difference in the predicted bail request amounts from a hypothetical White defendant for each race visually, ordered by the magnitude of the difference. The figure drives home the disparity between Asian defendants and all other race groups, as Asian defendants typically have bail requests at least $500 below White defendants. The figure also demonstrates how Black and Latino defendants have consistently higher requested bail amounts than White defendants, although Latino bail requests differ by far less than bail requests for Black defendants.

Reflecting on the regression models discussed previously, the difference in requested bail amounts between Latino and White defendants is not statistically significant. The same cannot be said for Black defendants, for whom the predicted requested bail amounts are between $250 and nearly $1,000 more than White defendants, depending on the charge. The range of predicted bail requests when considering Asian defendants is also cause for concern. The range of the predicted bail request amount between Asian and Black defendants is over $700 for Class D weapons offenses to nearly $2,500 for Class B violent robbery charges. Clearly, this examination of the predicted bail request values demonstrates how statistically significant racial disparity is quickly translated into dollars that can have a significant impact on the defendant's life and his or her ability to mount a defense against a prosecution.

Table 9: Predicted Bail Request Amount by Charge and Race and Ethnicity

	Predicted Bail Request				Median Difference
Charge	**Asian**	**Black**	**Latino**	**White**	**From White**
Class B Violent Robbery	$23,761	$26,175	$25,517	$25,247	$270
Class C Violent Burglary	$15,343	$16,901	$16,477	$16,302	$174
Class C Violent Robbery	$13,946	$15,362	$14,976	$14,818	$159
Other Charges	$12,917	$14,229	$13,871	$13,725	$147
Class E Contempt	$10,208	$11,245	$10,962	$10,846	$116
Class D Grand Larceny	$9,863	$10,865	$10,592	$10,480	$112
Class D Robbery	$9,468	$10,430	$10,168	$10,060	$108
Class D Burglary	$9,395	$10,350	$10,090	$9,983	$107
Class B Drugs	$9,367	$10,319	$10,060	$9,953	$107
Class D Violent Assault	$9,363	$10,314	$10,055	$9,948	$106
Class E Theft	$7,721	$8,505	$8,291	$8,203	$88
Class D Drugs	$7,675	$8,455	$8,242	$8,155	$87
Class D Forgery	$7,510	$8,273	$8,065	$7,979	$85
Class D Weapons	$7,216	$7,949	$7,749	$7,667	$82

Figure 2: Differences in Predicted Bail Request Amounts from White Defendants

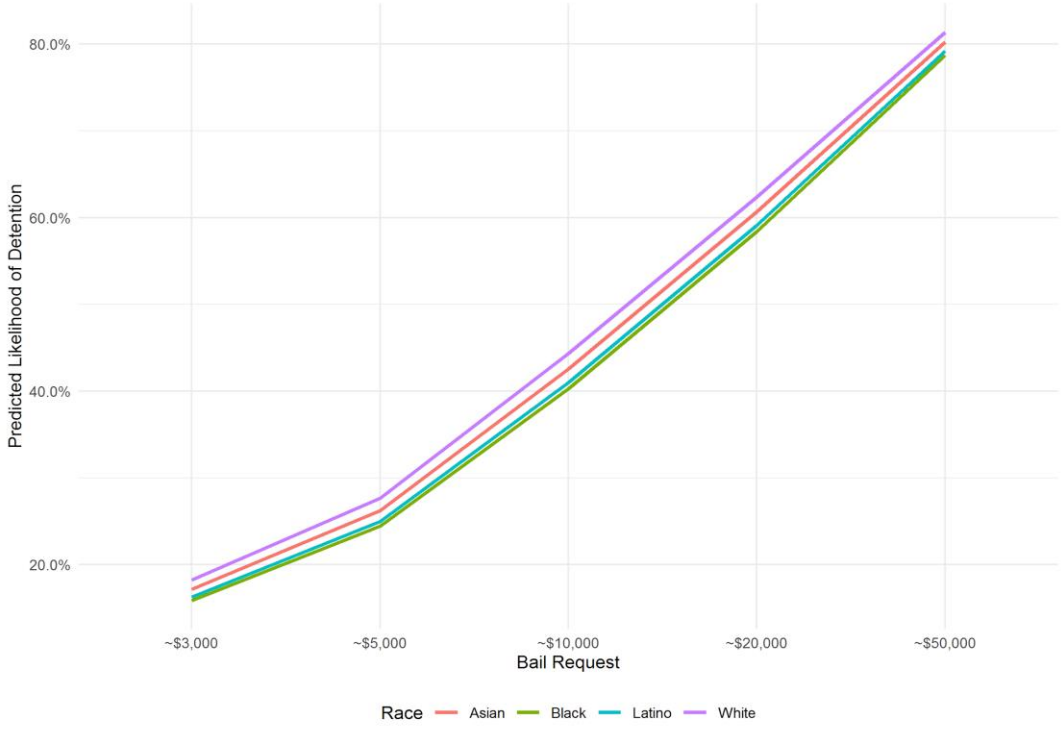


The next critical stage in a prosecution is arraignment. At this initial court appearance, the defendant is informed of the charges against him or her, and the prosecution makes their argument as to pretrial detention and bail amounts. As discussed previously, the sample contains only felony prosecutions for which some amount of bail was requested. At the time of the data collection, nearly all felony prosecutions had some monetary bail request. Since that time, bail reform has come to New York State and significantly altered practices. Beginning in January 2020, cash bail was no longer permitted for most misdemeanors and non-violent felonies and judges were instructed to release defendants under the least restrictive that would ensure their return to court (Merkl 2020). The law was quickly amended in April 2020 to include more crimes for which cash bail could be imposed, and the changes are scheduled to go into effect on July 1, 2020.

Given that the regression models uncovered significant disparity in requested bail amounts by defendant race, it stands to reason that this would unduly impact the likelihood of detention. Cumulative disadvantage theory also holds that outcomes at a prior step will influence outcomes at a subsequent step. This section explores the impact of requested bail amounts on likelihood of pretrial detention.

To assess the impact of the prosecutor's requested bail amount on likelihood of pretrial detention, I again created a hypothetical defendant with no criminal history and charged with a grand larceny offense. Next, I created a set of hypothetical bail requests, corresponding to the 25th, 50th, and 75th percentiles of the bail request variable. Finally, I predicted the likelihood of pretrial detention for each of the four race values, and for each combination of bail requests, resulting in 12 unique predictions of pretrial detention. As expected, increased bail requests resulted in increasing likelihood of pretrial detention. The results are depicted in Figure 3.

Figure 3: Impact of Bail Request on Predicted Likelihood of Pretrial Detention



To provide additional insight into possible cumulative disadvantages that might occur over multiple stages of prosecution, Table 10 reports predicted probabilities for 12 combinations of outcomes in criminal court processing. The prosecutor's bail request is first collapsed into three categories - high, medium, and low - corresponding to the 25th, 50th, and 75th percentiles of the logged bail request value. The next two outcomes are pretrial detention and indictment. Following Kutateladze et al. (2014), the table reports the predicted probability of all three outcomes by race, and orders the outcomes by the punitiveness. The punitiveness scale is somewhat subjective. I chose to consider pretrial detention more punitive than being indicted. For many defendants, this may be true. Pretrial detention represents an immediate and complete disruption to everyday life, while being indicted greatly increases the likelihood of an upcoming felony conviction, but does not have the same impact on everyday life as pretrial detention. This

generally follows Kutateladze et al. (2014), who held that "combinations that involve multiple disadvantages across individual outcomes are considered more punitive" (p. 535)

The most disadvantaged combination of outcomes involved a high bail request, pretrial detention, and indictment. The likelihood of this combination was greatest for Black and Latino defendants (48 and 47 percent, respectively). When holding all other predictors in the model constant, the predicted probability for this most punitive combination of outcomes was approximately three percent greater for Black defendants and two percent greater for Latino defendants as compared to White defendants. Generally, Black defendants were one to three percent more likely to experience more punitive outcomes than White defendants, especially at the upper end of the punitive matrix (combinations A-F). Consistent with other findings, Asian defendants were two percent less likely to experience this combination of outcomes than White defendants.

Separate analyses that excluded the bail request as an independent variable exhibited similar results. Specifically, when the prosecutor's bail request was not included in the model estimating the likelihood of indictment, but pretrial detention was retained, Black and Latino defendants were still more likely to be indicted. Without the bail request as a predictor, the odds ratio of pretrial detention increased significantly. Similarly, performing the same post-hoc analyses of predicted probabilities revealed similar trends as those described above. Black and Latino defendants were generally two to three percent more likely to experience punitive outcomes such as pretrial detention and indictment compared to similarly-situated White defendants.

While a difference of three percent in a predicted probability might not seem significant, the ramifications for large-scale criminal justice jurisdictions like Manhattan can add up. Again

looking to Kutateladze et al. (2014), applying these probabilities to my data suggests that an additional 694 Black defendants and 300 Latino defendants received the most punitive combination of outcomes than would have been expected if they had been White. Similarly, for Asian defendants, 24 fewer defendants received the most punitive combination of outcomes than would have been expected if they were White. Annually, this amounts to approximately 140 more Black defendants, 60 more Latino defendants and 5 fewer Asian defendants receiving the most punitive set of outcomes. Collectively, 200 more Black and Latino defendants per year and nearly 1,000 over five years received the most punitive set of outcomes than would have been expected if they were White. Overall, the pattern of findings suggests that Asian defendants tended to receive the least disadvantaged combination of outcomes, while Black and Latino defendants often received the most disadvantaged set of outcomes.

Table 10: Cumulative Disadvantage Based on Predicted Probabilities for Combinations of Criminal Court Outcomes by Racial Group

	Combination of Outcomes	White	Black	Latino	Asian
Most Punitive	A: High bail, detained, indicted	.520	.550	.540	.500
	B: Medium bail, detained, indicted	.390	.410	.410	.370
	C: Low bail, detained, indicted	.270	.300	.290	.260
	D: High bail, detained, not indicted	.520	.550	.540	.500
	E: Medium bail, detained, not indicted	.390	.410	.410	.370
	F: Low bail, detained, not indicted	.270	.300	.290	.260
	G: High bail, not detained, indicted	.300	.320	.320	.280
	H: Medium bail, not detained, indicted	.200	.220	.210	.190
	I: Low bail, not detained, indicted	.130	.140	.140	.120
	J: High bail, not detained, not indicted	.300	.320	.320	.280
	K: Medium bail, not detained, not indicted	.200	.220	.210	.190
Least Punitive	L: Low bail, not detained, not indicted	.130	.140	.140	.120

Supreme Court Outcomes

The second thread of my analysis is an examination of two discretionary decisions in supreme court - plea bargaining and sentencing. As described previously, for the purposes of this research, a plea bargain was defined as when a defendant pled to a lower-level charge than the one for which he or she was indicted, and sentencing was operationalized as whether or not a sentenced defendant was sentenced to a term of imprisonment or not.

In contrast to the racial disparities reported for criminal court outcome combinations, Black and Latino defendants are not at higher risk for any of the outcome combinations in comparison to similarly-situated White defendants. Excluding Asian defendants, the mean difference between the predicted probabilities for White defendants compared to Black and Latino defendants was one percent. Conversely, predicted probabilities for Asian defendants averaged seven percentage points lower than similarly-situated White defendants, and the value ranges from four to nine percentage points lower than White defendants.

Together, the analysis of predicted probabilities reveals significant cumulative disadvantage for Black and Latino, and significant positive advantage for Asian defendants, as compared to similarly-situated Whites. Black defendants are subject to higher bail requests, which can increase the likelihood of pretrial detention. Black defendants, and to a lesser extent, Latino defendants, are also more likely to be indicted than similarly-situated Whites. Asian defendants generally had lower bail requests, higher rates of plea bargaining, and lower rates of imprisonment. Further, defendants with increased bail requests or those that were detained pretrial are more likely to experience indictment and imprisonment. Although the supreme court models do not suggest adverse racial disparity, the criminal court models show evidence of significant disparities. This is consistent with Sutton's (2013) observation that the most crucial

decisions in the criminal justice process are made by actors with the least authority and early in the process (p. 1209). It is therefore not unexpected that racial or ethnic disparity within Black and Latino defendants was found early in the process, but not downstream.

Along with race and ethnicity, several other factors also explained significant variation in case processing outcomes. Consistent with prior research, defendants with more serious criminal histories, or those charged with more serious offenses, were more likely to experience punitive outcomes (Kutateladze and Andiloro 2014). These factors were much more influential than race or ethnicity in each of the models. However, overall I found significant racial disparity at multiple decision points that suggested evidence of accumulating disadvantage in the prosecution process, mainly through the impact of the prosecutor's bail request. Black defendants averaged significantly higher bail requests, while Asian defendants had significantly lower bail requests compared to white Defendants. Defendants who were subjected to higher bail requests were more likely to be detained, indicted, and sentenced to imprisonment than those with lower bail requests.

Table 11: Cumulative Disadvantage Based on Predicted Probabilities for Combinations of Supreme Court Outcomes by Racial Group

	Combination of Outcomes	White	Black	Latino	Asian
Most Punitive	A: High bail, detained, no plea bargain, imprisoned	.590	.560	.580	.490
	B: Medium bail, detained, no plea bargain, imprisoned	.490	.460	.480	.390
	C: Low bail, detained, no plea bargain, imprisoned	.390	.360	.380	.300
	D: High bail, not detained, no plea bargain, imprisoned	.310	.290	.300	.230
	E: Medium bail, not detained, no plea bargain, imprisoned	.230	.210	.220	.170
	F: Low bail, not detained, no plea bargain, imprisoned	.170	.150	.160	.120
	G: High bail, detained, plea bargain, imprisoned	.540	.510	.530	.440
	H: Medium bail, detained, plea bargain, imprisoned	.440	.410	.430	.350
	I: Low bail, detained, plea bargain, imprisoned	.340	.320	.330	.260
	J: High bail, detained, no plea bargain, not imprisoned	.590	.560	.580	.490
	K: Medium bail, detained, no plea bargain, not imprisoned	.490	.460	.480	.390
	L: Low bail, detained, no plea bargain, not imprisoned	.390	.360	.380	.300
	M: High bail, not detained, plea bargain, imprisoned	.270	.250	.260	.200
	N: Medium bail, not detained, plea bargain, imprisoned	.200	.180	.190	.140
	O: Low bail, not detained, plea bargain, imprisoned	.140	.130	.140	.100
	P: High bail, not detained, no plea bargain, not imprisoned	.310	.290	.300	.230
	Q: Medium bail, not detained, no plea bargain, not imprisoned	.230	.210	.220	.170
	R: Low bail, not detained, no plea bargain, not imprisoned	.170	.150	.160	.120
	S: High bail, detained, plea bargain, not imprisoned	.540	.510	.530	.440
	T: Medium bail, detained, plea bargain, not imprisoned	.440	.410	.430	.350
	U: Low bail, detained, plea bargain, not imprisoned	.340	.320	.330	.260
	V: High bail, not detained, plea bargain, not imprisoned	.270	.250	.260	.200
	W: Medium bail, not detained, plea bargain, not imprisoned	.200	.180	.190	.140
Least Punitive	X: Low bail, not detained, plea bargain, not imprisoned	.140	.130	.140	.100

CHAPTER 6. DISCUSSION AND IMPLICATIONS

The influence of the prosecutorial discretion on outcomes in the criminal justice system has been described as both increasingly relevant and under-studied (Metcalfe 2018). The role of the prosecutor is being newly scrutinized as a result of growing public interest in criminal justice, but also due to the widespread implementation of sentencing guidelines and other restrictions on judicial discretion. Prosecutors have nearly unbridled discretion to accept cases for prosecution, argue for or against pretrial detention, to alter or dismiss charges, and negotiate plea agreements (Kurlychek 2019). Since most prosecutions end in guilty pleas, the early decision making by prosecutor has an enormous impact on the options available to sentencing judges. The field has recognized that constraining judicial discretion through sentencing reforms has resulted in the unintended consequence of "leaving power and discretion of prosecutors largely unchecked and with minimal public oversight" (Metcalfe 2018, p. 223). Despite the interest in the profession, the mechanisms of prosecution have been termed a "black box" and contemporary excursions into the field are still referred to as "opening Pandora's box" or "unlocking the black box of prosecution" (Kutateladze 2016, Pfaff 2011, Vera Institute of Justice 2019). Decades of rich research have educated the research community and the public about the disparities around sentencing and imprisonment, but both groups are now yearning for more research into the entire prosecution process, with a focus on early decision making. In hopes of answering this call, the current study contributed to the field by acquiring unique and robust data, examining multiple decision points, and working directly with practitioners to understand their work and refine the analyses.

The current study investigated racial and ethnic disparity across multiple prosecutorial and judicial decision points using data on nearly all felony prosecutions commenced between

2013 and 2017 in New York County (Manhattan), New York. My findings lend credence to the continued focus on the effects of race on prosecutorial and judicial outcomes, especially within the early phases of the justice process. First, the five sets of models revealed evidence of racial disparity in bail requests, pretrial detention, indictment, plea bargaining, and sentencing outcomes net of other factors. With regard to bail requests, Black defendants were subject to higher bail requests, and Asian defendants subject to lower bail requests as compared to White defendants. Black and Latino defendants were found to be less likely to be detained than White defendants, and Black defendants were more likely to be indicted in supreme court. Conversely, in addition to lower bail requests, Asian defendants experienced higher rates of plea bargaining, and a lower likelihood of imprisonment compared to White defendants.

Along with race and ethnicity, legal indicators such as crime severity and prior criminal history were strongly associated with more punitive outcomes, findings that are consistent with a vast majority of prior research (Stolzenberg et al. 2013; Sutton, 2013). Specifically, defendants with more serious criminal histories, those flagged by DANY intelligence systems as 'crime drivers' or those charged with more serious offenses were more likely to experience punitive outcomes. These findings suggest that prosecutors and judges use a combination of legally relevant indicators of a defendant's history, as well as other defendant characteristics in decision making.

Second, during the analysis of five distinct discretion points, I found varying levels and directions of racial disparity, and in some cases no evidence of any racial disparity. This finding underscores the importance of studying multiple decision points in the prosecution process. It also emphasizes the need to continue expanding on multi-stage studies. Prior research on racial disparity in prosecution has been predominantly limited to single-stage studies focusing on

sentencing outcomes. As a result, the field is saturated with research on the mechanisms of sentencing, but lacks the same level of insight into the workings of prosecution prior to sentencing. There was evidence to suggest that upstream decision making was significant in predicting downstream outcomes. Whether racial disparity is found at the present decision or is the result of a preceding decision is an important distinction, knowing the true source offers important guidance to policymakers and researchers alike. Third, I worked directly with executive and senior prosecutors to craft and define the early stages of the study. This improved the operationalization of key legally-relevant independent variables, resulted in the inclusion of prosecutor's bail requests as a novel dependent variable, and built practitioner legitimacy for the author's work.

An unexpected finding of this research was that for pretrial detention, plea bargaining and sentencing, I found either no racial disparity or racial disparity in the opposite direction I was expecting. This finding contrasts with my first hypothesis, which predicted more punitive outcomes for Black and Latino defendants across all decision points. Instead, I found that Black and Latino defendants were at lower direct risk for pretrial detention, but Black defendants were possibly at increased risk of detention indirectly due to increased bail requests. Future path analyses will be required to confirm the existence of statistically significant indirect impacts of the prosecutor's bail request on the likelihood of pretrial detention.

That Black, Latino, and Asian defendants were found to experience disparate outcomes at some decision points and not others compared to similarly-situated Whites highlights the necessity of examining multiple decision points when studying prosecutorial and judicial decision making. If I had examined just plea bargaining and sentencing outcomes for this sample, I would have mistakenly concluded there was no evidence of racial disparity among

Black and Latino defendants in comparison to Whites, even though Black defendants were found to be subject to more punitive bail requests and indictment rates, and both Black and Latino defendants were found to be at reduced risk of pretrial detention compared to White defendants. Further, if I had used pretrial detention as the starting point in the sequence of decision making, I would also have erroneously concluded there was no evidence of racial disparity at both pretrial detention and subsequent decision points. Previous research has identified early decision making in the criminal justice process as especially crucial and often made by actors with the least authority, and therefore ripe for disparities (Sutton 2013). By examining and incorporating one of the earliest decisions made by the prosecution, I identified nuanced racial disparity in that Black defendants were subject to more punitive bail requests, and Asian defendants experienced less punitive bail requests, in comparison to similarly-situated White defendants. The disparities in bail requests between defendants of different racial and ethnic groups have both direct and indirect effects on subsequent decision making, which makes it an important decision point to study.

In line with my second hypothesis, I found some evidence of cumulative disadvantage for Black and Latino defendants. Similar to Kutateladze et al., I found that Black and Latino defendants were at slightly increased risk of experiencing "certain constellations of punitive decision making outcomes" (2014, p. 538). In particular, Black and Latino defendants had higher predicted likelihoods of punitive combinations such as high bail, pretrial detention, and indictment than White defendants. In contrast, in examining two key concluding decision points of plea bargaining and sentencing in supreme court, I found no evidence that Black or Latino defendants were subjected to more punitive outcomes. That Black and Latino defendants were treated more punitively at some decision points but not all highlights the importance of

examining multiple points in the prosecution process. The importance of analyzing multiple decision points is further solidified by my finding that the prosecutor's bail request had a positive and significant impact on the likelihood of pretrial detention, but that Black and Latino defendants were less likely to be detained pretrial when holding all other factors constant. These results suggest that race and ethnicity have significant direct effects on many of the outcomes I examined, but may also have indirect effects mediated through prior decision making.

My third hypothesis expected to find Asian defendants were less likely to experience punitive outcomes, as the group as a whole has not been tied to negative criminal stereotypes like Black and Latino individuals. I found strong support for this prediction. Black, Latino, and White defendants were all at increased risk of more punitive outcomes compared to Asian defendants. As expected, Asian defendants were subjected to significantly lower bail requests, more likely to receive favorable plea bargains, and less likely to be sentenced to terms of imprisonment as compared to similarly-situated White defendants. I also found Asian defendants at lowest risk for punitive constellations of outcomes compared to similarly-situated White defendants. This finding is consistent with much of the prior research on Asian defendants, which finds Asians are less likely to experience punitive outcomes such as incarceration as White defendants (Kurlychek & Johnson 2019). This finding is also consistent with the work of Kutateladze et al. (2014), which examined different outcomes, but also found Asian defendants at reduced risk of punitive outcomes. Similar findings have been theorized to be the result of a translation of positive stereotypes of Asians into positive outcomes for Asian defendants, and the opposite effect for Black and Latino defendants (Johnson & Betsinger 2009).

Overall, my findings offer qualified support for my theoretical predictions. For criminal court outcomes, I found Black defendants were subject to higher bail requests and more likely to

be indicted than White defendants. I found that Asian defendants were likely to have lower bail requests in comparison to similarly-situated White defendants, and more likely to receive favorable plea bargains and avoid imprisonment. I found some evidence of cumulative disadvantage by analyzing the predicted probabilities of certain outcomes for hypothetical defendants, and found that Black and Latino defendants were consistently more likely to experience combinations of punitive outcomes than White defendants. The criminal court findings are consistent with a focal concerns perspective, which posits prosecutors and judges make decisions with "...incomplete information, [and] race may serve as a key decision making proxy for offender dangerousness, threat, and culpability" (Kutateladze 2014, p. 540). Prior qualitative research in Pennsylvania also identified the use of racial stereotypes by court actors, who described the criminal records of young black males as "more serious and indicative of future crime risk" than other defendants, and younger or female defendants as "less dangerous and [risky] to community safety" compared to black males (Steffensmeier 1998, p. 788). These statements echo my findings, which consistently revealed that in addition to Asian defendants, female or older defendants had lower bail requests, and were less likely to be detained or imprisoned.

That I found no significant evidence of racial and ethnic disparity among Black and Latino defendants in supreme court outcomes, but did in criminal court outcomes, is consistent with a focal concerns perspective. With incomplete information available during the initial criminal court stages, prosecutors and judges may draw on stereotypes. Early case processing decisions such as bail and pretrial detention are made just hours after an arrest, when much is still unknown about the circumstances of the alleged offense, the defendant, and the victim. Supreme court processing differs significantly, and in Manhattan occurs long after the initial

decision making around bail and pretrial detention, after the relevant facts have been gathered and much more is known about the defendant and his or her culpability.

Research on cumulative disadvantage in the justice system is arguably still in its nascent stages, especially compared to the wealth of research on sentencing. However, my findings are largely in agreement with recent work on the topic, as well as cumulative disadvantage research performed using data from the same jurisdiction. For example, I found that Black defendants were at higher risk of more punitive outcomes such as higher bail requests and indictment (although indirectly through increased bail requests compared to White defendants). These two decisions are made early in the process of prosecution, echoing the findings of Sutton (2013), who reported that "[the] invidious main effects of race and ethnicity are strong in the earlier stage of the process...and these effects echo across subsequent decisions" (p. 1219). Similar to Kutateladze et al. (2014), I also found that certain combinations of discretionary decisions can accumulate to result in racial disparity in prosecution and sentencing.

In contrast to the 2014 research conducted by Kutateladze and Andiloro of the Vera Institute of Justice in the same jurisdiction, although at a different time, I found Black and Latino defendants were at lower risk for pretrial detention compared to similarly-situated White defendants. There are a number of plausible explanations for this apparent discrepancy. The current study uses all felony prosecutions arraigned between 2013 and 2017, whereas Kutateladze and Andiloro examined only "...[felony] drug offenses, weapons offenses, domestic violence, burglary, and robbery" (p. v) - a subset of felony prosecutions. Less than half of the cases in the current study's data set correspond to the charges or circumstances used by Kutateladze and Andiloro. The current study made use of nearly all available felony prosecutions during, save for a few reasonable exceptions.

In addition, the criminal history indicators used in the 2014 Kutateladze and Andiloro Vera research were significantly truncated and under-represented the true extent of all defendant's prior interactions with the criminal justice system. The data for the prior research was extracted in 2012, when the analytics team at DANY had access to far less information about the defendant. For example, the Vera study included measures of prior arrests and prior incarcerations, though these were limited to arrests and incarcerations that occurred in Manhattan, as statewide data was not available at the time. The data for the current study included criminal convictions from throughout New York State for the previous 30 years, which was available to the DANY analytics team via a data feed from the New York State Department of Criminal Justice Services, established after the Vera study.

Comparing the sample statistics from each report demonstrates the extent of the differences. Among felony defendants, Kutateladze and Andiloro's 2014 Vera research reported 10 percent of White defendants and 24 percent of Black defendants had at least one prior felony conviction (Table 10, p. 74). The current study categorizes 24 percent of White defendants and 47 percent of Black defendants as having at least one prior felony conviction. Clearly, the criminal history information in the current study varies. In addition, the current study used a number of indicators that were not available at the time of the Kutateladze and Andiloro Vera research, such as defendant parole status and 'crime driver' designation. Based on the author's knowledge of DANY data sources and technology, it is reasonable to expect significant differences between the two studies. Together, these data issues explain the seemingly large discrepancies between two studies from the same jurisdiction and similar time periods.

In addition to differing time frames, samples, and data sources, the current study took place in a different criminal justice context than the prior study. New York City Mayor Bill

DeBlasio enacted numerous citywide criminal justice reforms that altered criminal justice operations, and Manhattan District Attorney Cyrus Vance, Jr., enacted numerous policies to improve the Manhattan District Attorney's Office. For example, in 2016 a supervised release program was expanded from Brooklyn to citywide operations, resulting in 2,000 fewer defendants being detained awaiting trial (Center for Court Innovation 2020). Eligibility was restricted to those charged with non-violent felony or misdemeanor offenses; most of those who were admitted to the program were charged with grand larceny or drug possession (New York City Mayor's Office of Criminal Justice 2017). Finally, the New York County District Attorney's Office continues to build and expand alternatives to detention, alternatives to incarceration, and specialized treatment courts (New York County District Attorney 2018).

DANY also implemented new policies between the conclusion of Kutateladze and Andiloro's Vera Institute of Justice work and the current research. After the original research, District Attorney Vance appointed a Chief Diversity Officer and diversity committee, as well as mandated implicit bias training for all staff (New York County District Attorney's Office 2014). Outside of the immediate responses to the Vera research, the office was also continually refining it's approach to prosecution and doing justice. This included new units and applications for information sharing and alerting to prioritize the prosecution of 'crime drivers' (Brown 2014). DANY also adopted new policies on several types of offenses with historically disparate enforcement levels such as marijuana possession and 'turnstile jumping' (New York County District Attorney's Office 2018). Policies such as these signify a willingness to use the results of data and research to reform traditional criminal justice practices. Another set of reforms concerned the use of bail and the circumstances under which bail should be requested (New York County District Attorney's Office 2018). The policies for misdemeanor and felony

prosecutions were adopted in 2018, codifying some of the institutional philosophies and informal policies that were already in place. With all of these factors in mind, it is reasonable to expect the models in the current research to differ significantly from prior research conducted in the same jurisdiction.

The current research is generally consistent with decades of prior research, and is providing a worthwhile contribution to the field. The results of this research contribute to the field by offering evidence of variable effects of racial disparity during a single prosecution. My finding of a significant impact of initial decision-making like bail requests on downstream outcomes such as pretrial detention and indictment echoes Wooldredge's (2015) warning about the importance of considering the "subtle" processes contributing to minority overrepresentation in the criminal justice system (p. 217).

A finding of cumulative disadvantage for Black and Latino defendants, in some contexts, adds to the discussion of the frameworks that underpin theories around courtroom actor decision making. Even if discrete decisions made by authorities exhibit no obvious racial disparities, the indirect effects of their decision making on future outcomes is just as significant. For example, I found that Black defendants were at higher risk of pretrial detention vis-à-vis increased bail requests at prior stages, but were at decreased risk of pretrial detention directly. As noted by Kutateladze et al. (2014), further empirical study into cumulative disadvantage will uncover more racial disparities even when no significant main effects are found. As Travis (2014) discusses, most studies find modest racial effects at every decision point under examination. Future examinations of multi-stage case processing data should employ path analysis techniques to confirm the existence of statistically significant indirect paths to racial and ethnic disparity.

Policy Implications

This study assessed five distinct prosecutorial and judicial discretion points and the findings have the potential to significantly improve the understanding of one of the most under-studied aspects of the criminal justice system. The findings suggest that early decision making by the prosecutor and judge have a significant effect on the downstream outcomes of the case. Specifically, defendants with higher bail requests were more likely to be detained pending trial, and those detained pending trial were more likely to be indicted and be imprisoned at the conclusion of the case.

Given the wealth of literature on the impact of pretrial detention, the deleterious effects of pretrial detention are well known. Defendants detained awaiting trial are more likely to lose employment, housing, and family connections as well as more likely to plead guilty, and be sentenced to new, and more severe terms of incarceration (Cohen & Reaves 2007; Kurlychek & Johnson 2019; Sacks et al. 2014). However, this research makes clear that the prosecutor's bail request is an important step in determining downstream outcomes. Therefore, one policy implication for prosecutor's offices is the recognition of bail requests as an important determinant of downstream outcomes, most immediately pretrial detention.

The system of charging money for freedom prior to conviction is one that disproportionately affects the poor, exacerbating existing racial inequalities found elsewhere in the criminal justice system. The reliance on cash bail by the majority of the criminal justice system is at the forefront of the public debate on injustices found in the criminal justice system. The editorial boards of the Los Angeles Times, Washington Post, and New York Times have all advocated for the abolition of money bail practices (Doyle et al. 2019). Dozens of community bail funds - organizations that post bail for individuals - are active across the country

(Community Justice Exchange 2020). In addition, numerous professional groups representing prosecutors, defense attorneys, jail staff, pretrial administrators, and police chiefs have voiced their support for bail reform.

Another implication related to the impact of the criminal justice system on the poor are the findings regarding appointed defense counsel. Defendants with defense attorneys from the Legal Aid Society or 18B were associated with a significant increase in the likelihoods of pretrial detention and later imprisonment. Both public defenders and prosecutors suffer from excessive caseloads, to the detriment of all involved. Overwhelmed public defenders are unable to mount a vigorous defense for their clients, and overburdened prosecutors may neglect to turn over exculpatory evidence or be unable to separate the least culpable defenders for diversion. The caseloads of both groups create backlogs that delay trials and justice. Experts in the field of defense recommend legislatures increase the funding of both public defenders and prosecutors alike, and tying them together to provide a more fair adversarial system (Gershowitz & Killinger 2010).

More broadly, to reduce extra-legal sources of disparity, jurisdictions should adopt structured decision making tools and implement them with fidelity, while still being mindful of the limitations of such tools. Practitioners across the country are implementing a growing number of decision making matrices, risk assessments, and other tools in an attempt to reduce disparity and reliance on pretrial detention. These tools use historical data to label a particular defendant as low-to-high risk based on the actions of similar defendants. While risk assessments are appealing for their ability to help judges and prosecutors make more consistent and transparent decisions, they may also exacerbate existing inequalities in the criminal justice system through the use of historical training data. Researchers also recommend approaching risk

assessment with clear and unambiguous policy goals, and implemented with transparency and fairness (Barabas et al. 2019). Given the shortcomings of algorithmic risk assessments, some have called for their use to be discontinued, because they "further entrench racial and class biases within the pretrial process" (Doyle et al 2019, p. 16). Jurisdictions that do choose to implement these tools need to tread carefully, and be mindful to reject proxies of race and class as predictors of risk, among other best practices like community engagement, validation on a local sample, and continual assessment of a tool's performance.

Existing efforts to reduce disparity via legislative or informal bail schedules are not a panacea, and may be exacerbating existing class and wealth inequalities in the criminal justice system (Allen 2017). Critics argue that by replacing individualized decision making with impersonal matrices or bail ranges, the courts have ended up with a wealth-based detention system. Prosecutor's offices should seriously consider the impact of such formal or informal bail request guidelines, or, as is envisioned by New York State's 2020 bail reform laws, reduce the scope of bail from nearly all cases to only the most serious cases. For example, this study examined only felony cases that contained monetary bail requests - more than 95 percent of all felony cases prosecuted between 2013 and 2017. Were this study to be replicated after the implementation of the New York State bail reform laws, the volume of prosecutions subject to decision making about bail would be substantially decreased, and one might expect evidence of racial disparity and cumulative disadvantage to be concomitantly reduced, because bail is eliminated for a broad swath of offenses and circumstances.

This study differs from most in finding a somewhat unexpected relationship between race and pretrial detention, but adds value by illuminating the importance of bail request policies. It is well-established that judges tend to rely on prosecutor's sentencing recommendations during the

sentencing phase, so it stands to reason that the prosecutor's bail request is weighted heavily by the arraignment judge, and may have an outsized impact on both pretrial detention and subsequent decision making (Leiber et al. 2011). The research, advocacy, and reform communities should continue to call for much-needed reform of bail and detention practices.

Many authors have lamented the lack of transparency in decision making and oversight to which prosecutors are subjected, especially in light of the recent advances in transparency and oversight in policing and corrections. For example, there are many national initiatives dedicated to oversight and accountability reforms with regard to policing. In contrast, Frederick and Stemen (2012) note that "how prosecutors utilize their discretion [and] what goes into prosecutorial decision making...remains little understood outside the community of prosecutors" (p. 1). Similarly, as Johnson (2016) makes clear, prosecutorial power and decision making authority has increased significantly over recent decades. Today, more than nine of every ten convictions are secured via guilty pleas, rather than trial convictions, a number that has steadily increased from seven in ten in 1945. The combined lack of transparency and increasing ratio of pleas necessitates rigorous research into the mechanisms and effects of the practice of prosecution.

Although any amount of racial or ethnic disparity is concerning, the findings of this study paint a more positive picture of the Manhattan District Attorney's Office and judicial decision making than prior research conducted by Kutateladze and Andiloro at the Vera Institute. This research also identifies important decision points that do not exhibit patterns of racial disparity, such as plea bargains and sentencing. While this is not cause for celebration, it may help to focus the work of practitioners on areas which do exhibit significant racial disparity. The two studies are not directly comparable, but the current study adds value by constructing a sample and

expansive set of covariates that was directly applicable to the work of practitioners. Rather than examining hundreds of thousands cases at once, this study used a smaller cohort of cases - a date-bounded extract of all felony prosecutions that was of particular interest to the executive team. As described previously, this study was also able to accumulate a more robust set of independent variables, including those that were available to the prosecutor at the time of his or her decision making. Future research should strive to make the results directly applicable to practitioners and their areas of focus.

The current study is valuable for reasons unrelated to the exact magnitude of racial disparity found in criminal prosecutions. The Manhattan District Attorney's Office continues to attempt to mitigate racial and ethnic disparity in its practices. After the conclusion of the Vera study, DANY leadership requested an updated study of racial and ethnic disparities in its operations. The current research is the result of DANY leadership commissioning research by the internal analytics staff that continued to examine and question long-held practices and policies. The close working relationship between the DANY administration and the author was key to ensuring that analysis was well-received by the key stakeholders. From the author's perspective, I had a unique opportunity to conduct this research. While conducting the preliminary research, I was intimately familiar with the operations of the agency, and the data it generated. I needed no introduction to the specifics of the jurisdiction's processes, and spent relatively little time assembling and cleaning the data. Thanks to my working relationships, DANY stakeholders were highly engaged about the direction and interpretation of the research. This represents a step forward as prosecutors begin to use data in new ways to inform their decision making and policy making.

For many years, researchers lamented the lack of quality data that might explain prosecutorial decision making. Historically, robust criminal justice processing data was difficult to obtain. Prosecutor's offices are also understandably wary of researchers probing their files for evidence of disparate practices without adequate context. Previous work often examined only a subset of cases, singular decision points, or lacked adequate sample sizes. Johnson (2016) recommended that future research partner with prosecutor's offices to obtain high-quality data (p. 489). Several recent research projects have shown the promise that researcher-practitioner collaboration holds, and this research sought to answer the call for more (Johnson 2016, Kutateladze et al. 2014, Vera 2014). The National Institute of Justice has also recognized their importance by funding of over a dozen researcher-practitioner partnerships that "...help researchers and practitioners collaborate to inform criminal justice research efforts" (National Institute of Justice 2018).

A key finding from the researcher-practitioner collaboration literature is that successful researcher-practitioner partnerships have two key qualities: trust and time. Regarding trust, the field has coined the term 'drive by' to describe a feeling on the part of practitioners about the methods and relationship with researchers as an example of mistrust (Sullivan 2017). With time, practitioner's and researcher's anticipated timeframes can differ sharply, with practitioners eager for results in far less time than researchers feel is realistic, and both parties underestimating the significant ongoing time commitment necessary to successfully collaborate. This study was successful because both elements were present. Early portions of this analysis built upon an existing collaborative relationship between the internal analytics team and key stakeholders and allowed frequent iteration and presentation of intermediate results. For example, extending the

Vera discretion study internally allowed DANY stakeholders to provide significant direction about which measures of discretion to study and which samples were most appropriate.

In addition to crafting a study that was tailored to the mindset of prosecutorial leadership, the collaborative and iterative process also resulted in practitioner buy-in and increased legitimacy of the results. Combining the methodological rigor of the current research with DANY practitioner's broad view of operational nuances and relevant decision points resulted in a more robust study, and one that practitioners were able to use to inform operations and policy making. Few prosecutor's offices have a reputation for welcoming researchers to examine racial disparities, let alone asking the internal leadership and staff to continue examining the issue and apply the results to practice. This highlights the importance of criminal justice agencies embarking on research of all kinds, and using the results to inform decision making and policy making.

Limitations

This research was not without limitations. First, although the research was large in scope and included analysis of over 40,000 individual prosecutions, administrative data lacks some explanatory variables and nuanced information about the mechanics of the prosecution. For example, DANY does not capture any data regarding the evidence used for prosecution or strength of the evidence. Similarly, DANY does not capture reliable data on victims, extent of injuries, or other markers of crime severity beyond specific charges. Most harmful however, is the racial and ethnic categories available for analysis. In a diverse urban setting such as Manhattan, the available data severely under-represented the true racial and ethnic composition of the population and defendants. This same limitation is found in Kutateladze et al. (2014) with

data from the same jurisdiction, and the authors argue that although the available data is sub-optimal, it is "appropriate for examining differences tied to the racial perceptions of court actors" (p. 524).

An ongoing challenge for the field is the separation of disadvantages that took place outside of the criminal justice system, and those that occur within it (Kurlychek & Johnson 2019). This research did not account for the multitude of possible accumulative events and disparities prior to prosecution. Policing inequalities, single-parent households, socioeconomic status, educational attainment, and neighborhood disadvantage are relevant measures of disadvantage that function as proxies for defendant stability. The stability of a defendant, in turn, has been shown to affect the "absolute and trajectories of punishment over time" (Kurlychek & Johnson 2019, p. 309). Past research has established the primacy of criminal history in prosecutorial decision making, and also conceptualized markers of criminal history as indicators of disadvantage (Kutateladze & Lawson. 2017). This research used criminal history as a control variable. It also would have been reasonable to use criminal history as a marker of prior disadvantage. Future work in this area should continue to link disadvantage that takes place outside the criminal justice system to that which takes place inside.

Although this research did not include any direct measures of socioeconomic status, appointed defense counsel were associated with an increase in the likelihood of pretrial detention and subsequent imprisonment. This finding is supported by other research as well, which generally holds that appointed counsel suffer from high caseloads and a lack of resources, and speaks to the harmful linkage between indigence and punishment in the criminal justice system (Gershowitz & Killinger 2010).

Further, although this study used robust data, more nuanced dependent variables may have extended the research further. For example, this research defined a plea bargain as when a defendant pleads guilty to a lesser charge for which they were indicted. Contemporary research recommends measuring the "distance travelled" by a plea bargain, rather than simply the existence of it (Piehl & Bushway 2007). A defendant receiving a minor plea bargain - one with a slight reduction in severity and possible sentence - should not be categorized in the same way as a defendant who pleads guilty to a misdemeanor or non-criminal violation. It could be that although the current study suggests plea bargains themselves show no evidence of racial or ethnic disparity, the distance travelled by those plea bargains may be unequal across racial and ethnic groups. Similarly, measuring whether a defendant was sentenced to new jail or prison time ignores the length of time for which the defendant is sentenced. Subsequent research should continue to build nuanced measures of prosecutorial discretion and outcomes.

The current research explored the impact of cumulative disadvantage through linear and logistic regression models and analysis of predicted probabilities. Future research into cumulative disadvantage should continue to make use of "path analytic" models recommended by Johnson et al. (2016) to identify the sources and effects of discretionary decisions. Path analysis is an extension of the regression models discussed above, and the technique is often used when one or more variables are thought to mediate the relationship between two others (Imai 2010). One of the appealing aspects of path models is the ability to quantify the direct, indirect, and total effects of independent variables on the dependent variable. This insight is not available with the multiple regression models described here, which assumes all independent variables influence the dependent variable at the same time, and through the same direct pathways. Early versions of this research included path analysis models, but they were shelved in

favor of a more thorough examination of the predicted probabilities of prosecution outcomes. Following the contemporary research by Wooldredge (2016) and others, future researchers should investigate this method to better understand the direct and indirect pathways to prosecutorial outcomes.

Second, the unique study location may decrease the ability to generalize the results to other jurisdictions. With an estimated population of over 8 million, the New York City is the most populous city in the United States, and the study location (Manhattan) is the most densely populated borough within New York City. Manhattan is a 22 square mile island with an estimated daytime population of four million people, and DANY historically prosecuted in excess of 100,000 cases annually. By contrast, there are almost 3,200 different district attorneys and prosecutors offices throughout the United States (Natapoff 2012). Few of them are directly comparable to the Manhattan District Attorney's Office for a variety of reasons. The crimes prosecuted in Manhattan may be quite different from those prosecuted in rural or suburban areas. Manhattan's role as a financial and global center also likely influences the makeup of criminality, and thus the decisions of prosecutors. The size of the population in the jurisdiction results in a similarly large prosecutor's office, and likely results in some diffusion of central decision making authority compared to a smaller jurisdiction. The findings, conclusions, and implications for policy must be tempered with the study's focus on a single, highly unique jurisdiction. Further, DANY is unique in its ability to collect data and willingness to make it available for analysis. However, in light of the limited number of related studies to date, this research was all the more important to undertake and disseminate to researchers and practitioners alike.

The unique nature of Manhattan prosecution does not completely disrupt the ability to generalize the findings to other jurisdictions. Urban areas in the United States now account for over 80 percent of the population, up from 79 percent in 2000 (United States Census Bureau 2012). Additionally, the nation's 400 most urbanized areas grew by 14 percent between 2000 and 2010. These figures signify the growing urbanization of the United States, and how the findings with regard to prosecution in Manhattan are directly applicable to other urban prosecutors. Conversely, it was only through DANY's historical focus on data and technology that this study took place. Jurisdictions without similarly robust datasets or executive buy-in may be unable or unwilling to replicate the findings without manual data collection.

Conclusion

Nearly 30 years ago, a panel on sentencing assembled by the National Research Council concluded that future study of the punishment process required the collection of longitudinal data to understand the scope and specific impacts of disparate outcomes at different throughout the process (Kurlychek & Johnson 2019). Today the call for more still rings true. The overwhelming majority of empirical research is limited to snapshots of individual decisions, often ignoring upstream outcomes that may have limited downstream options. Comparatively little research has been conducted on the earliest decisions made by prosecutors, and how those choices impact the continuum of punishment.

The current study contributes to existing research on race and punishment in a number of important ways. It investigated prosecutorial discretion and racial disparity across multiple decision points using a robust data set from a large urban jurisdiction, informed by cumulative disadvantage theory. Rather than focusing on a single outcome, this research followed a cohort of over 40,000 felony defendants through five stages of prosecution. Further, this study built upon the work of Kutateladze and others, and analyzed seldom-investigated prosecutorial outcomes such as requested bail amount and indictment. The results indicated the presence of racial and ethnic disparity at multiple decision points for Black and Latino defendants as compared to White defendants, with pretrial detention disparities in the opposite direction than was expected. The results also illuminated disparities to the benefit of Asian defendants, who experienced reduced bail requests, higher rates of favorable plea bargains, and reduced odds of incarceration compared to similarly-situated White defendants. Further, analysis of the predicted probabilities suggests the presence of accumulating disadvantage for Black and Latino

defendants. Black and Latino defendants were more likely to experience more punitive combinations of outcomes than comparable White defendants.

Perhaps most importantly, this research was not only informed by similar prior research in the same jurisdiction, but was commissioned by the prosecutors under examination. Practitioner feedback received throughout the course of the study shed light on the typical foci of frontline prosecutors, case processing nuances, and data limitations. This cooperative model was built upon the foundation laid by Kutateladze and Andiloro's Vera Institute of Justice and resulted in an improved study.

Although extant research on discretion and prosecutorial and judicial decision making is rich, few studies have fully examined the various interconnected decision points, and how those decisions can contribute to disparities in final dispositions. The current study improved upon some of the limitations found in prior research, by analyzing how early decision making about bail can impact downstream outcomes. The findings reiterate the importance of continued societal focus on bail, both because of the immediate effects, and the impact of bail on downstream consequences. It is the author's hope that this study made a small contribution to the call for quality research into cumulative disadvantage and the mechanisms of prosecution, and that future studies will build upon it.

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