RACE, GENDER AND CONTEXT IN THE CRIMINAL LABELING OF D.U.I. OFFENDERS: THE INFLUENCE OF EXTRALEGAL VARIABLES AND POLICE BIAS ON DISCRETIONARY PLEA DECISIONS

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RESEARCH SUMMARY

This research seeks to add a new dimension to the growing body of literature investigating disparities in sentencing outcomes. Our study used multilevel modeling techniques to incorporate legal and extralegal individual-level variables with macro-level data in an examination of the factors influencing the formal application of the criminal label when identical non-criminal sanctions are available. Results suggest that proxy measures of police agency bias are predictive of unfavorable plea outcomes and subsequent application of a criminal label. Findings indicated that the likelihood of receiving an unfavorable criminal plea bargain was greater for men, nonwhites, defendants with a prior arrest, defendants arrested in areas with lower concentrated disadvantage, and defendants arrested in areas with greater racial disparity in traffic stops. Additionally, both levels of concentrated disadvantage and stop disparity conditioned the effect of race on plea outcome.

POLICY IMPLICATIONS

In policing, bias-based enforcement exists to a measurable degree, varies by community and has far-reaching consequences. The primary steps needed to identify causality and address these problems rely on examinations of the precise connections between police bias and resultant court outcomes. Increased understanding of the specific nature of bias can inform policy for information gathering, improvements in policing practices, and guidelines for discretionary sentencing processes.

KEYWORDS:

police bias, sentencing disparities, racial minority group threat, plea bargain, labeling theory, prosecutorial discretion
Extant research supports the prevalence of disparities in court sentencing based on immutable individual level characteristics including gender and race. Although this topic is far from novel, contemporary studies examining court outcomes, dispositions, sentencing, or plea bargaining, must contend with the emerging reality that contextual factors influence these outcomes in various ways we are now only beginning to understand. These intermediary factors play an important and scarcely examined role in the criminal justice system. This paper explores the contextual influence of agency-level police traffic stop disparities on plea bargaining outcomes at court. Maintaining a focus on criminal outcomes, we shift attention from the courts, to the “gatekeepers” of the criminal justice system and examine how problems of race disparity reach far beyond a police officer’s sphere of influence - as one would traditionally conceive it to be - and document how a police agency’s practices can adversely affect the criminal outcomes of defendant. The present research explores the application of a criminal construct in an examination of the legal and extra-legal predictors of sentencing disparities by reworking notions of prosecutorial discretion, widening focus of the courtroom community, and incorporating new measures of contextual bias. By examining individual and contextual effects on court outcomes and focusing our attention on decisions made in the courtroom to include those of the “gatekeepers” of the criminal justice system, this research builds upon and adds a new dimension to the growing body of sentencing literature.

Using hierarchical linear modeling we examine disparities in law enforcement practices to explore the extent to which police agencies’ practices affect plea outcomes in drunk driving cases; specific attention is paid to disparate influences of individual characteristics including race and gender. In this research we show an intimate relationship between police and prosecution unlike any traditional conceptions. By suggesting the direct and indirect mechanisms through which biases operate, we hope to draw attention to the importance of context on a prosecutor’s discretionary application of the criminal label. We argue that an obligation exists at all levels of a justice system to monitor disparities, as the effects of disparate treatment at any one point in the process will likely affect decisions made by other justice actors.

THEORY AND LITERATURE

LABELING

The driving force behind this research is the concept of criminal stigma and the latent dangers associated with stigmatization. During the years of 2001 and 2002, the State of Rhode Island (RI), the location from which these cases are drawn, presented a unique opportunity to examine aspects of formal labeling as most people (85%) arrested and charged for Driving under the influence of liquor or drugs\(^1\) (a criminal offense) were also charged with Refusal to submit to chemical test\(^2\), a civil offense carrying identical mandatory sanctions as the criminal offense\(^3\). Of

\(^1\) §31-27-2 of the RI General Laws
\(^2\) §31-27-2.1 of the RI General Laws
\(^3\) The criminal sanctions for DUI is identical for the civil (non-criminal) sanctions of Refusal to Submit to a Chemical Test, with the exception that DUI carries the possibility of jail. However, no one was sentenced to jail for a 1\(^{st}\) Offense DUI charge only.
particular interest to us was that approximately 95% of these defendants accepted a plea bargain in which one charge was dismissed in exchange for a plea of _nolo contendere_⁴ to the other. In essence, their plea determined whether or not they would be formally labeled a criminal.

Ultimately, the criminal label we are discussing represents a social construct. Laws are created and promulgated for the purpose of guiding behaviors, maintaining order, and defining specific unacceptable acts as crimes. As a result, these legal definitions are a reflection of the historical, religious and socio-political context of those who bear the power to define crime. Becker (1973) explained that the group maintaining social power defines that which is “other” through a process by which rules are defined and enforced; the capacity to label deviancy and the definition of that which is “other” is related specifically to differentials in power. Becker shifts our focus from the individual and social characteristics of deviants to the “process by which they come to be thought of as outsiders” and argues that “deviance is not a quality that lies in behavior itself, but in the interaction between the person who commits an act and those who respond to it (1973). Hence, the label _criminal_ is subjective and vulnerable to multiple sources of influence. Tittle (1975) argued that labeling closes off conventional, non-criminal, choices, options, and opportunities activating a transformation of self-image; when faced with “dwindling nondeviant alternatives,” deviance converges with this evolving concept of self, leading to further deviance. Accordingly, the important tasks for students of labeling are: (1) to determine how and why labeling occurs, (2) to establish the consequences of labeling, and (3) to understand the behavior of those directly involved in labeling (Tittle, 1975).

The labeling of an individual as criminal can have significant and detrimental effects in relation to both self-concept and societal reaction. Several decades of research provide support for these claims (see Bernstein _et al._, 1977; Klein, 1986). Labeling has been found to predict future deviance as well as more severe criminal case outcomes (see Adams _et al._, 2003; Bernburg _et al._, 2006; Chiricos _et al._, 2007; Ray and Downs, 1986). Kruttschnitt (1982) found the criminal label to be a strong predictor of criminal case outcome for women defendants. Schneider and McKim (2003) studied stigmatization from the probationer’s perspective finding that stigmatization is perceived to originate primarily from employers (or potential employers), law enforcement officers, and from the community. Johnson _et al._ (2004) found system involvement was positively related to later crime, and later deviant peer association.

Pager (2007) presented compelling evidence on the damaging consequences of one such label, (i.e., felon) and realized Becker’s idea that “the treatment of deviants denies them the ordinary means of carrying on the routines of everyday life open to most people” (1973), by demonstrating that a criminal label will most likely adversely affect one’s chances of obtaining gainful employment, especially if black. With compelling evidence of the impact of labeling and in line with directive of Tittle (1975), it becomes important to examine the specific nature of the application of the criminal label with attention to potentially disparate practices in the application of criminal sentences (labels).

LEGAL AND EXTRA LEGAL VARIABLES IN SENTENCING

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⁴ _Nolo contendere_ is a plea of no contest, which ultimately amounts to a guilty plea.
In the justice process, the societal labeling of individuals as criminal in determination and degree occurs through the process of sentencing. In theory, all determinations of the implementation of a criminal label through criminal sentencing decisions should be driven by legally relevant variables. If there were no entry of discretion into the process, one would expect only legally relevant variables to impact legal outcomes. Ideally, justice outcomes would be determined exclusively by legal factors including criminal history, case characteristics, strength of evidence, offense severity, type of crime, and presence of a victim willing to testify (see Britt, 2000). Across the board, sentencing research has confirmed that legal variables, including offense severity and criminal history, are major determinants of justice outcomes and constitute important statistical controls (Steffensmeier et al., 1993). In examining influence of legal variables on court outcomes, whether or not an individual has a prior record becomes a significant factor in the determination of additional convictions not only through its direct effect but also through its influence on access to private counsel and bail (see Daly, 1987; Myers, 1990; Myers and Talarico, 1986; Strauss, 1978).

However, disparity in the imparting of justice decisions does exist. Extralegal variables appear to also play a significant role in the determination of criminal justice outcomes. Although the research suggests that legal variables play a primary role in determination of justice decisions accounting for the bulk of variance in sentencing disparities, there are “multiple and often subtle ways in which race, ethnicity, gender, and class converge to influence decision making” (Zatz, 2000).

In accordance with the majority of current examinations of the influence of race in sentencing, Spohn’s (2000) meta-analytic study found that race and ethnicity play an important role in sentencing decisions. Black and Hispanic defendants - particularly those who are young, male, or unemployed - are more likely than their white counterparts to be sentenced to prison; in some jurisdictions, they also receive longer sentences or differential benefits from guideline departures than do similarly situated white defendants, suggesting that the “discrimination thesis cannot be laid to rest” (Spohn, 2000). Net of other factors, race appears to constitute an extralegal variable that has significant effects on sentencing outcomes where nonwhite defendants are treated more harshly than white defendants. (For research on racial disparities in see Farrell et al., 2009; Johnson, 2003, 2005, 2006; Johnson et al., 2004; Spohn, 2000; Spohn and Holleran, 2000; Ward et al., 2009b).

In addition to race, gender constitutes a significant extralegal factor influencing criminal justice processes; ultimately, research suggests that women and men are not treated equivalently or equitably. Women experience increased leniency as compared to men from arrest (see Smith et al., 1984; Visher, 1983), through pre-conviction decisions (see Albonetti, 1998a; Nagel and Hagan, 1983; Spohn et al., 1987), and sentencing (see Albonetti, 1997, 1998b; Farrell, 2004; Johnson, 2003, 2005; Kramer and Ulmer, 1996; Smith et al., 1986; Ulmer and Johnson, 2004). Even when legal factors including crime type and criminal history are controlled, female defendants are more likely to obtain departures downward from the dictates of sentencing guidelines, (Albonetti, 1998b; Farrell, 2004; Johnson, 2003, 2005; Kramer and Ulmer, 1996; Spohn and Fornango, 2009; Steffensmeier et al., 1993), are less likely to be incarcerated than men (Albonetti, 1998a; Johnson, 2006; Steffensmeier et al., 1993) and are more likely to have less severe sentences imposed (Albonetti, 1997, 1998b; Johnson, 2003, 2005). Adams and Cutshall (1987) found that although legal factors were most predictive of decision outcomes,
race and gender were significant predictors of a prosecutor’s *noelle prosequi* decision (dismiss all criminal charges) despite sufficient evidence to prosecute. Gender additionally appears to interact with race in determination of disparity where white women experience greater leniency as compared to nonwhite women across the criminal justice process. (For examples of research examining race and gender interactions see Daly and Tonry, 1997; Zatz, 2000).

**COURT CONTEXT**

Over the years, a significant body of literature has documented the presence of disparate treatment in the justice system despite attempts to limit potential bias through the enactment of sentencing guidelines and other measures. More recently researchers have begun to look at the role of court contextual factors and their influence in disparate justice practices. Research to date points to the significance of extralegal contextual factors including the influence of place, courtroom context, and courtroom worker characteristics (see Farrell et al., 2009; Fearn, 2005; Johnson et al., 2008; Johnson, 2003, 2005, 2006; Ward et al., 2009a). In one of the first examinations of social context using multilevel effects models Britt examined social context and racial disparities in punishment decisions, finding that: (1) punishment severity varies by court jurisdiction, even after controlling for offender and case characteristics; (2) racial disparities vary by court jurisdiction; (3) measures of social context explain little of the contextual variation in punishment decisions for all offenders; and (4) measures of social context do not explain racial disparities in punishment decisions (2000).

Court contextual examinations have primarily focused on the role of judges as court decision makers. However, court contextual factors and the examination of processual order are more complicated than just decisions made by judges. Studies have examined the role of prosecutorial discretion (see Farrell et al., 2009; Miller and Eisenstein, 2005; Misner, 1996; Spohn and Fornango, 2009; Ward et al., 2009a) finding significant effects for the influence of prosecutors as part of the courtroom workgroup. For example, Spohn and Fornango (2009) found differences among prosecutors in the implementation of downward departures for substantial assistance. The study also found differential use of departures based on defendant characteristics including race and gender, with white and female defendants experiencing increased leniency. Results potentially suggest leniency for what norms may have determined to be a more “desirable” or potentially less “threatening” defendant.

Ultimately, courtroom workers, including judges, prosecutors, defendants, etc., can be viewed as interdependent in their involvement in and influence on justice determinations. Norms are established among courtroom work groups as they interact in processing court outcomes (Eisenstein and Jacob, 1977). Here, interactions influence norm development and the behavior of courtroom actors. Specific focal concerns and going rates are established. The social organization and context of the courtroom community shapes justice outcomes and the determination of which individuals are labeled criminal and which are viewed as less threatening.

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5 For example, Spohn and Fornango (2009) found evidence for justice determinations based on court community determinations of defendant desirability. As the authors state, “Our results also imply that substantial assistance departures are used to mitigate the sentences of ‘sympathetic’ or ‘salvageable’ offenders and, more importantly, that AUSAs’ assessments of who is sympathetic or salvageable are similar.”
However, it becomes important to note that the justice trajectory begins earlier than the discretionary plea and sentencing decisions made by prosecutors and judges. Accordingly, it is potentially important to assume a more macro viewpoint when examining the social organization of justice communities or work groups. In such lies the opportunity to examine the role of police as initial arbiters of justice, examining the role of police as gatekeepers of the justice process and exploring the potential role police have on the specific implementation of the criminal label.

Reworking the Notion of Prosecutorial Discretion

Our research revealed an even more complicated prosecutorial discretionary plea bargaining process than existing literature suggests (For more thorough discussions on plea bargaining see Champion, 1989; Church, 1979; Goddard, 1972; Jones, 1973; Mnookin and Lewis, 1979; Rosett and Cressey, 1979; Schuhlhofer, 1984; Skolnick, 1975). Aside from deals which “bargain in the shadow of prosecutors' preferences, budget constraints, and political trends,” (Stuntz, 2004) this process is one in which the police play a primary role in the plea process acting as attorneys and negotiating pleas. In order to fully understand how we examine this process, some background information is necessary.

As noted earlier, this research examines only those defendants charged with the criminal offense of Driving under the influence of liquor or drugs (DUI) and the civil offense of Refusal to submit to chemical test (Refusal). Our first step at expanding the examination of how justice processes are implemented begins with these two charges. After a motorist is arrested for drunk driving, and charged with DUI and Refusal, they received two separate court summons at which they must appear for an initial arraignment. The criminal offense of DUI is heard in District Court while the civil offense of Refusal in under the jurisdiction of the Rhode Island Traffic Tribunal. At each of these arraignments the motorist/defendant (terminology depending on which court they are in) appears before a judge. In both courts a police prosecution officer presents the charges to the judge. These police prosecution officers are sworn police officers representing the city or town police agency where the defendant was arrested. At these arraignments defendants can plead guilty (in actuality nolo) or plead not guilty and request a trial. Defendants had the opportunity to speak with the police prosecution officers at this phase and in many cases could attempt to work out a plea agreement. Additionally, some defendants retained counsel prior to this arraignment, at which point the police prosecution officers may have negotiated the plea with the defense attorney. At this time, generally, the only plea agreements the police prosecution officers would be offering is the dismissal of Refusal charges in exchange for a plea to the criminal charges of DUI. This plea would cut the fines, length of license suspension, and community service hours in half, in comparison to two nolo pleas. This would be the preferred plea by police as this resulted in a criminal conviction and would be recorded as part of their official criminal record. Conversely, a plea to Refusal would require not only the dismissal of the DUI charge but also by law destruction of records pertaining to the arrest – just like it never happened.

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6 Formerly the Administrative Adjudication Court (AAC).
7 In some instances these police prosecution officers were lawyers, specifically police officers who possessed a law degree, but this was not a requirement nor the norm. A State educational incentive program existed for a period of time in RI which reimbursed police officers for attending college, up to and including a law degree. The law has since been amended and does not reimburse expenses toward a juris doctorate.
Although the exact numbers are not known, explorations in this area based on first hand observation and interviews with police prosecution officers indicated that only approximately half of cases were resolved in the above manner. The bulk of the remaining of pleas was resolved at the next pre-trial phase of the process. At this phase prosecution of the Refusal cases fell under the jurisdiction of the State Attorney General’s Office who dedicated Assistant Attorney Generals to handle all Refusal cases from this point in the process forward. Prosecution for the criminal DUI in District Court rested with the city or town solicitor, usually a politically appointed position, representing that jurisdiction. Police prosecution officers, however, remained intimately involved in the case, many times representing the police department in the absence of solicitor, as an attorney was not necessary to accept a plea or make deals. Thus, plea bargains were ultimately the result of negotiations between the defense, the Assistant Attorney General at RITT, and the town solicitor or police prosecution officer in District Court.

This increased level of police involvement begs increased scrutiny of disparate treatment and raises important questions. First, is disparate treatment present in the initial policing process? Second, how does the policing process influence the implementation of the criminal label and ultimately the plea decision process? And finally, are these disparities ultimately the result of police bias?

THE ETIOLOGY OF POLICE BIAS

Although a tacit awareness police racial bias permeates academic literature, measurements of this pervasive problem are difficult to attain and estimates are challenging to validate (see Alpert et al., 2007; Batton and Kadleck, 2004; Cashmore, 2001; Engel, 2005; Engel, 2008; Engel and Calnon, 2004; Howell et al., 2004; Novak, 2004; Ridgeway, 2006; Smith and Holmes, 2003; Smith et al., 1984; Visher, 1983; Wilson et al., 2004). Although "individual decision-making processes are influenced by societal-level processes" (Triplett, 1993), key aspects of social constructionism and the etiology of bias, are often absent in policing literature. This is of particular concern as bias is an integral part of policing. An in-depth theoretical discussion on the topic is not needed for our present purposes, but we do require understanding of the utility of bias in the context of police action.

The influential work of Mills (1940) on “situated actions” and his discussions on the “vocabulary of motive” provide the foundational work on which much academic literature on bias is rooted. Police in particular make routine use of stereotypes as “gesture, language, and attire” (Skolnick, 1966) as part of a larger a self-preservation defensive mechanism; these factors police “recognize as a prelude to violence” (Skolnick, 1966). Stereotyping as a “vital tool” (Loftfland, 1969) for making sense of and surviving in a social environment. Hill et al. (1985) deepen our understanding of this tool’s utility by arguing that “effective decision making requires the use of available social heuristics to make decisions possible and still rational in appearance” and that “typescripting” is one underlying heuristics used to reduce the “uncertainty” inherent in any judgment. Sealock and Simpson (1998) explain that “people, as social actors, are assigned roles according to ‘type,’ which is shorthand for any ascribed or achieved characteristic,” and that each “type” carries “a certain socially approved ‘script’ of behaviors that all similarly defined persons are expected to follow.”
We continue the “dynamic, sequential, and reflexive nature” (Hill et al., 1985) of this conceptual process, yet we diverge slightly and argue that operating within the conceptual framework of constructs (specifically a criminal construct) allows for a more dynamic explanation of how this justice process is realized. People invent concepts, models, and schemes to make sense of experience and, further, we continually test and modify these constructions in light of new experience (Schawndt, 1998). The criminal construct we present here is not merely a label, a profile, nor a typology. It is not a static assessment. Influenced by both social and cultural context, individual experience, and future predictions, it is the fluid result of an iterative reflexive process. Although vulnerable to (if not products of) multiple sources of bias, valid assessments and predictions of behavior are littered with societal misconceptions and filtered through one’s own biases. Because of selection bias and inevitable reaffirmation, the tautological nature of the criminal construct will remain relatively stable and familiar, changing slowly over time.

In addition to drawing multiple often overlapping “types,” these “scripts” Hill et al. (1985) only have meaning when embedded in a situational context. For example, race alone carries no script until contextualized by a time, place, and circumstance. We argue that the actions of minorities by “gesture, language, and attire” (Skolnick, 1966) likely play only a minor role when compared to their mere presence in a town in which they are “out of place.” Although it is generally established that the severity of the alleged offense is a key element in a police officer’s decision to arrest a suspect, extralegal factors are also thought to influence the arrest decision (Sealock and Simpson, 1998). We argue that police apply these constructs not only in decisions of whom to stop and search, but in critical arrest decisions, which Sealock and Simpson (1998) argue “initiates the arrestee’s involvement in the justice system,” and by extension, adversely affect later plea decisions and application of the criminal label.

Racial Profiling

One measurable manifestation of police bias can be seen in the examination of “racial profiling” or “any police-initiated action that relies on the race, ethnicity, or national origin rather than the behavior of an individual or information that leads the police to a particular individual who has been identified as being, or having been, engaged in criminal activity” (Ramirez et al., 2000). The terminology racial profiling is derived from profiles of drug carriers developed as part of the “war on drugs” and the belief by many police officers that minorities are most often carriers of drugs and contraband. While community leaders knew problems of stop, search, and arrest disparities existed, practitioners insisted that incidents were rare, and scholars admitted they knew “little about the extent of the problem” (Weitzer and Tuch, 2002). Increasing advocacy and public outcry over high profile incidents led to consent decrees and mandated responses. As a result, in thousands of communities nationwide traffic stop and search data were collected. Resultant data suggest the disparate treatment of nonwhite drivers by officers in decisions to stop and search (see Farrell et al., 2003; Novak, 2004; see Warren et al., 2006).

In a two-year comprehensive examination of search and stop disparities Farrell et al. (2003) collected data from Rhode Island law enforcement officers from 38 municipal, State and campus departments on every traffic stop. The data included general information about the motorists’ age, gender, race, the context of the stop, reasons for the stop, outcome, whether or not the motorist was searched and if contraband was found. Among other things the Farrell et al.
(2003) study revealed that nonwhite drivers were more likely to be stopped than white and roughly 2.5 times more likely to be subjected to discretionary searches. Additionally, it is from this study that we draw our measure of STOP DISPARITY. Although, not a complete measure of agency-level police bias, we believe stop disparity to be a good proxy measure of this concept. Ultimately, it is difficult to label disparity in policing decisions definitively as bias or specific discrimination. The decision to stop and ultimately to arrest an individual is complex and involves a variety of confounding factors. Claims of bias can be neither verified nor refuted without further examination of confounding variables and the complexity of police interactions. In the current study, we have attempted to control for factors found to influence police decisions including situational factors and seriousness of the crime committed as well as to integrate a more specific examination of the potential influence of context.

RACIAL THREAT AND RACIAL INTRUSION

Disparate treatment may be more complex than simple discriminatory race-based determinations and understanding the role of racial context is complicated. Through the guise of minority group threat and racial threat hypotheses, we can interpret potential explanations of racial disparities. Minority group threat is based on fear of losing dominance to a culturally dissimilar group (Jackson, 1989). Concern about crime is greatest among those who also indicate opposition to black economic and social advances and not necessarily among those who assess their risk of victimization to be highest (Jackson, 1989). King and Wheelock suggested that “individual perceptions of African Americans as threatening to economic resources is a strong predictor of punitive attitudes.” (2007) and that note that “respondents residing in areas with higher unemployment rates and places that experienced a recent increase in the size of the African American population are more punitive” (2007).

Baybeck argued that “multiple contexts need to be considered to assess racial threats effectively” (2006), as did Collins (2006) in an examination of the individual-level and contextual correlates of punitive attitudes in the United States. Parker et al. (2005) used census and arrest data to estimate the impact of multiple measures of racial economic threat; they present “important and conceptually distinct relationships between racial threat, concentrated disadvantage and the use of social control against blacks, particularly when compared to white arrests” (2005). Eitle et al. (2002) noted that the often observed association between the size of the black population and the amount of social control imposed on blacks has been interpreted as consistent with one of three conceptually distinct perspectives: (1) the political threat hypothesis, (2) the economic threat hypothesis, and (3) the threat of black crime hypothesis. Support for these hypotheses are varied. Eitle at al. (2002) found strong support for the threat of black crime hypothesis, but not for political and economic threat. Stolzenberg et al. (2004) found only qualified support for racial threat theory. (For more on racial threat see Jacobs and Carmichael, 2004; Smith and Holmes, 2003; Tolbert, 2003).

We draw on racial threat literature for explanations of why bias occurs in the justice system, understanding of what macro-level forces contribute to disparate treatment, and for insight as to how race interacts with context, including location, and even with potential victim population. Smith et al. (1984) provided “support for the thesis that police behave differently across status context.” In the study, Smith et al. (1984) found arrest decisions to be attributed more to race of victim, where arrests were more likely in situations involving white
complainants. It is possible that in areas with high transitory driving populations, police are reacting to a perceived threat of incoming motorists to specific and potentially, as Smith et al. (1984) suggested, white residents.

We diverge from the bulk of existing literature on racial threat by presenting a racial intrusion hypothesis which suggests that community-level measures of low heterogeneity and low concentrated disadvantage will interact with race to produce a situation in which arrested minorities are treated most harshly. We suggest that in more homogeneously white areas of low concentrated disadvantage, the representative police officers from the community take on protective roles, in which racial intrusions present a criminogenic threat. Further, the reaction to potential threats can be seen to extend beyond the police officer’s proximate duties of stop and arrest, to include, direct or indirect involvement in eventual court outcomes. We are able to make this theoretical leap because unlike other research in the area, the multiple locations examined are not policed by a single department; each city and town has its own police department and full-time officers, many of whom (if not most) reside (some by mandate) in the community in which they work, representing and protecting, to some extent, the lifestyle of the community and its residents.

**Conceptual Summary**

Ultimately, the ways in which individual characteristics and contextual factors affect criminal justice outcomes are varied and complex, but from the preceding review we are able to extract some enduring themes vindicating our explorations. A criminal label affects perceptions, life chances and job opportunities. Legal and extralegal factors including race, gender, and age play a significant role in these decisions, as do contextual factors such as economic conditions, crime rates (perceived and actual), heterogeneity of the population, court composition, and the socio-political atmosphere in which justice actors are embedded. Prosecutorial discretion plays a major role in court outcomes. Further, the intimate relationship with police confounds traditional conceptions of the justice process. The present research explores how the role of police racial bias affects outcomes in the latter stages of the justice process - specifically exploring who becomes a criminal and what factors contribute to the creation and maintenance of this construct. Research on racial profiling provides us with a measure of agency-level stop disparity, which we believe is a good proxy indicator of police agency-level racial bias. Application of this measure allows us to broaden scope of racial threat including an examination of racial intrusion.

**Hypotheses**

In positing outcomes, age, gender, race, as well as all controls for legally relevant case factors are expected to be significant predictors of criminal plea outcome. Based on prior research, we would expect increased punitiveness and thus an increased likelihood of a criminal plea for younger defendants (H₁), men (H₂), and nonwhite defendants (H₃). In examining legal and situational case factors, we would expect an increased likelihood of a criminal plea for defendants who have a prior arrest record (H₄), were driving on main roadways (H₅) and driving during daytime hours (H₆) due to the increased risk to other drivers (potential victims) based on time and place.
We also expect our contextual measures of stop disparity and concentrated disadvantage to significantly predict plea outcomes, with a predicted significant interaction with race only. Based on research, we expect that defendants will be more likely to receive a criminal plea in areas with greater concentrated advantage (H7) as police may more specifically target disadvantaged neighborhoods. We expect that defendants arrested in areas with increased stop disparity (a proxy measure of police bias) will be more likely to receive a criminal plea (H8). Based on the proposed theory of racial intrusion, we would expect nonwhite drivers to be more likely to receive a criminal plea in areas with decreased concentrated disadvantage (H9). Further, in examining our racial interaction variables, we would expect nonwhite drivers specifically to be treated more punitively in areas with increased stop disparity (H10). See Table 1 for a list of hypotheses and corresponding measures.

Table 1. Hypotheses and Corresponding Variables and Measures.

<table>
<thead>
<tr>
<th>Variables and Measures Examined</th>
<th>Hypotheses</th>
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<td><strong>Level 1</strong></td>
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<tr>
<td><strong>Defendant Characteristics</strong></td>
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<tr>
<td>Age</td>
<td>H1   Younger defendants will be more likely to receive a criminal plea than older persons.</td>
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<tr>
<td>Male</td>
<td>H2   Men will be more likely to receive a criminal plea than women.</td>
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<tr>
<td>Nonwhite</td>
<td>H3   Nonwhite defendants will be more likely to receive criminal plea than white defendants.</td>
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<td><strong>Legally Relevant Variables</strong></td>
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<tr>
<td>Prior Arrests</td>
<td>H4   Drivers with a prior arrest record will be more likely to receive criminal plea than offenders without a criminal record.</td>
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<td><strong>Main Road</strong></td>
<td>H5   Defendants arrested on main roadways pose more of a threat to the public and will be more likely to receive criminal plea than arrested on other roadways.</td>
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<tr>
<td><strong>Daytime Arrest</strong></td>
<td>H6   Defendants arrested during daytime will be more likely to receive criminal plea than those arrested at night.</td>
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<td><strong>Level 2</strong></td>
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<tr>
<td><strong>Contextual Measures</strong></td>
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<td>Concentrated Disadvantage</td>
<td>H7   Defendants arrested in areas with greater concentrated disadvantage more likely to receive criminal plea.</td>
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<tr>
<td><strong>Stop Disparity</strong></td>
<td>H8   Defendants arrested in districts with higher level of stop disparity will be more likely to receive criminal plea.</td>
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<td><strong>Cross-level Interactions</strong></td>
<td></td>
</tr>
<tr>
<td>Nonwhite Driver X Concentrated Disadvantage</td>
<td>H9   Nonwhite defendants in districts with higher levels of stop disparity will be more likely to receive criminal plea.</td>
</tr>
<tr>
<td>Nonwhite Driver X Stop Disparity</td>
<td>H10  Nonwhite defendants in areas with less concentrated disadvantage will be more likely to receive criminal plea.</td>
</tr>
</tbody>
</table>
RESEARCH DESIGN AND METHODOLOGY

The current study examines individual and situational case characteristics while using aggregate data from the police districts in which defendants were arrested to control for theoretically relevant factors hypothesized to influence court outcomes. By introducing into the model proxy measures of police bias, we attempt to reveal the extent to which bias affects plea outcomes and offer an additional piece of the puzzle that forms the backdrop for disparate court outcomes to better understand the creation and maintenance of the criminal construct.

To assess the community level effects on plea bargain outcomes, multi-level modeling techniques are utilized. The arresting city or town police departments and characteristics of the communities in which they serve represent the Level-2 units of analysis for the contextual factors in the hierarchical linear models. Through use of Hierarchical Generalized Linear Models (HGLM), individual-level effects can be assessed within the contextual framework to examine and control for the effects of poverty, crime, urbanization, racial heterogeneity to see what extent agency bias affects plea outcomes (see Raudenbush and Bryk, 2002 for more on HGLM). HGLM allows us to assess individual as well as interactive effects of defendant and police district contextual characteristics on the dichotomous outcome of plea decision (criminal versus civil plea). In addition, predicted probabilities were calculated; the results are discussed and presented. (For more on predicted probabilities using logit see Roncek, 1991; Roneck and Swatt, 2006).

RESEARCH SITE & SAMPLE SELECTION

These cases are drawn from the State of Rhode Island where approximately 85% of first time drunk driving offenders arrested for the criminal offense of DUI refuse to take a breathalyzer test and are additional charged with Refusal, the latter of which is a civil offense carrying identical sanctions as the criminal offense. Furthermore, approximately 95% of these defendants accept a plea bargain in which one of these two charges is dismissed in exchange for a nolo contendere plea to the other. Using logistic regression and multilevel modeling techniques, we investigate who fits the criminal construct and what factors influence an unfavorable criminal plea outcome versus the similar, and arguably more appealing, non-criminal alternative plea.

The current study examines the population of all adults (over 18) arrested in RI by a city or town police agency charged with both DUI (1st Offense) and REFUSAL over the two-year period spanning January 1st, 2001 through December 31st, 2002, who accepted one of the two

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8 HGLM analysis allows for the examination of both individual level defendant characteristics as well as community characteristics of the jurisdiction where each arrest was made. Accordingly, individual level characteristics (defendant characteristics) can be specifically examined as they are grouped within higher units of analysis (specific police district characteristics) where units of the same group may be more similar than units of different groups. The utilization of hierarchical models facilitates analysis that controls for potential correlation between the independent defendant level characteristics within specific communities, allowing for the analysis of both members and collective groups simultaneously.

9 Predicted probabilities were calculated using the equation $P(y = 1) = \frac{e^{\Sigma bx}}{1 + e^{\Sigma bx}}$
aforementioned plea bargains. It should also be noted that DUI is a misdemeanor offense and none of these cases involved bodily injury or death.

DATA

The data used in this research are drawn from several sources, one of which is the State of Rhode Island’s Adult Criminal Information Database, a repository used to manage all the information from RI’s criminal and administrative courts. The information extracted from this dataset were: arresting police agency, date of arrest, date of birth, criminal case number, administrative case number, state issued identification number, criminal case disposition, and administrative case disposition. Noticeably absent are race and gender and one of the biggest obstacles facing this research was that RI collects no data on gender or race in its court database, making any analysis of racial disparities extremely difficult. Fortunately for us, in July 2000, the RI legislature passed the Traffic Stop Statistics Act mandating a formal study to determine whether RI police agencies were racially profiling motorists. The RI Attorney General’s Office contracted with Northeastern University’s Institute on Race and Justice to provide assistance with data collection, program implementation and ultimately the analysis of data collected over the two-year period of 2001 through 2002 (see Farrell et al., 2003). During the study police officers recorded data on standardized forms for every motor vehicle stopped in the course of their shifts. Officers recorded information such as date, time, race, gender, roadway type, violation, etc. The stop data were compiled and made available quarterly to the public via Northeastern University’s Institute on Race and Justice website when the study was ongoing, and in its entirety at its conclusion. The data were perfectly suited for our purposes; since DUI arrests involve a motor vehicle stop, every case from the sample of DUI offenders arrested has a corresponding standardized form documenting the stop. By matching the administrative case number from the RI Court’s Database (which is simply a combination of the three-digit police agency identification number and the traffic citation number) with the corresponding information on the standardized forms, approximately 87% of the cases were matched. The remaining cases where an exact match could not be located, were matched on other information contained on the form, specifically, police agency ID, date of stop, year of birth, and outcome of stop (arrest); an additional 11% of the cases were matched by this method. Our final sample consisted of 768 (N) defendants.

DEPENDENT VARIABLE

For our analyses the criminal and administrative case disposition data were used to construct the dependent variable CRIMINAL PLEA, a dichotomous variable indicating the plea whereby the defendant pleas to the criminal DUI charge in District Court in exchange for the dismissal of the civil Refusal charge in the civil traffic court. A plea to either charge carries the same penalties (fines, community service, etc.), however, a plea in District Court carries the criminal label.

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10 The present research examines only city and town police agencies and specifically excludes arrest made by other police agencies with arrest powers. In other parts of the country, this exclusion would pose a significant problem, as county police and/or sheriff’s department take an active role in the enforcement of the laws examined here. In RI this is not the case.
12 http://www.irj.neu.edu/
INDEPENDENT MEASURES

AGE (a continuous variable) was calculated using the defendant’s date of birth at the time of arrest, as listed in the courts database. Race and gender data were extracted from the Northeastern University’s traffic stop data, from which the dichotomous variables NONWHITE and MALE\textsuperscript{13} were used for both models, with white and female, respectively, as the reference categories.

LEGAL CONSIDERATIONS

Legal considerations include both individual and situational controls. Criminal history is controlled by an inferential dichotomous variable, PRIOR ARRESTS, which was created using the state issued identification number from the courts database. Because these numbers are computer generated sequentially, numbers lower than the State ID number for the person arrested on 1/1/2001, were coded as having a prior criminal arrests.\textsuperscript{14} We acknowledge the literature that recommends using a prior offense score versus a simple dichotomy (United States, 2002) however, the available data were not conducive to such a score.

Legally relevant aggravating situational factors are included to control for the type of roadway and time of day. The logic behind this is that driving drunk on main roadways that are heavily traveled poses more of a threat to the public as does operating during the peak travel times. The dichotomous variable MAIN ROADWAY indicates an arrest that occurred on State numbered roadways (Rte.1, Rte.2, Rte.44, etc.), while all other roadway types serve as the reference. Likewise, the dichotomous variable DAYTIME ARREST indicates whether the defendant was arrested during the peak daytime travel hours (qualified as 6:00 am to 6:00 pm), with nighttime as the reference.

COMMUNITY CONTEXT

Aggregate data for each community were drawn in part from the United States Census 2000 (Inter-university Consortium for Political and Social Research., 2002). Several community-level (i.e., city and town) variables were extracted from the census data. POPULATION DENSITY is calculated as the number of people per square mile as determined by the 2000 Census. FAMILIES IN POVERTY represents the percent of families in the community with children between 5 and 17 in poverty. MODIFIED CRIME INDEX, serves as an additional community-level factor for each city and town and is an indication of the total crime as reported in the 2002 Uniform Crime Report, (e.g., Agresti and Agresti, 1978; Blau, 1977; Britt, 2000; Reynolds, 1984). RACIAL HETEROGENEITY is a calculated six-race diversity index drawing

\textsuperscript{13} It is important to note the limitation of using the proxy measure of biological sex in examining the influence of gender in justice outcomes. Current data do not allow for a more expansive conceptualization of the intricacies of the influence of gender roles and norms and we are thus limited to biological distinctions of man versus woman. Future research would benefit form the inclusion of additional variables that might help elucidate the influence of gender norms (e.g. marital status, number of dependents, etc.).

\textsuperscript{14} Because these numbers are computer generated sequentially, numbers lower than the State ID number for the person arrested on 1/1/2001, were coded as having a prior criminal arrests. Using the State ID number, a fifty case random sub-sample was checked via an online query of the RI Adult Criminal Information Database, provided to the public (free of charge) by the RI Judiciary (http://courtconnect.courts.state.ri.us/). All cases met the inferential assumptions of the prior arrests variable.
on census data. This is a modified diversity index which differs slightly from previous measures used, the intuitive appeal (not the substance) has changed; communities scores may now range from a score of 0 indicating a totally homogeneous community to 100, the latter of which indicating a maximally racially heterogeneous community.\(^1\)

In addition to the previous individual and contextual measure, exclusive contextual measures were extracted from the traffic stop data. Essential to the analysis provided by Northeastern University to the State of RI and vital to the present research is a modified census population (MCP) measure, representing a community driving population benchmark on which police stop disparity can be measured. This measure of MCP was developed as a reflection of the day-to-day realities of a community’s resident and transient driving population, based on a community’s economic draw as well as field observation. Rather than rely solely on comparisons based on heterogeneity census data of the community, this measure provides a more valid estimate of the driving population from which stop disparities can be compared (see Farrell \textit{et al.}, 2003 for more on MCP calculations). From the stop data, we extract the aggregate variable STOP DISPARITY. This measure is the difference between percent nonwhite stopped by the police and percent nonwhite according to the MCP. STOP DISPARITY serves as our proxy measures of police agency-level bias.

\textbf{DATA REDUCTION TECHNIQUES}

Because our contextual measures of POPULATION DENSITY, PERCENT FAMILIES IN POVERTY, MODIFIED CRIME INDEX, and RACIAL HETEROGENEITY were so strongly correlated data reduction techniques were necessary to limit the effects of multicollinearity. Principal components analysis provided a one component un-rotated solution explaining 86.8\% of the variance, from which the regression scores were saved as a variable to provided us with the conceptual measure of CONCENTRATED DISADVANTAGE. This factor along with our measure of STOP DISPARITY serve as our Level 2 units of analysis for the HGLM models.

\textbf{RESULTS}

As we can see from the table of descriptive statistics in Table 2, the final analysis included 768 cases, in 28 different communities throughout RI. The average age was 34.3 and ranged from 18 to 70 years of age. Seventy-seven percent of the sample was male, 9\% was nonwhite, and 57\% had criminal histories. Of the arrests in the sample, 19\% occurred on a primary roads and 22\% of the arrests occurred between 6:00 am and 6:00 pm.

\footnote{Existing Measure of Ethnic Heterogeneity }\( H = 1 - \left( \left( p_w \right)^2 + \left( p_b \right)^2 + \left( p_r \right)^2 \right) \)

\footnote{Modified Measure of Racial/Ethnic Heterogeneity }\( H_k = 1 - \frac{\left( \left( p_w \right)^2 + \left( p_b \right)^2 + \left( p_r \right)^2 \right)}{k^p - 1} \)

\( k \) represents the number of racial categories used in the equation
Table 2. Descriptive Statistics.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criminal Plea</td>
<td>35.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 (N=768)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>34.3</td>
<td>11.0</td>
<td>18.0</td>
<td>70.4</td>
</tr>
<tr>
<td>Male</td>
<td>77.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NonWhite</td>
<td>8.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Arrests</td>
<td>57.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Road</td>
<td>19.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daytime Arrest</td>
<td>22.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contextual Measures - Level 2 - (N=28)</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentrated Disadvantage</td>
<td>0.0</td>
<td>10</td>
<td>-0.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Population Density</td>
<td>1,720.8</td>
<td>1,771.2</td>
<td>172.1</td>
<td>9,401.7</td>
</tr>
<tr>
<td>% of Families in Poverty</td>
<td>6.8%</td>
<td>5.0%</td>
<td>0.8%</td>
<td>29.9%</td>
</tr>
<tr>
<td>Modified Crime Index</td>
<td>1,306.4</td>
<td>1,557.1</td>
<td>68.0</td>
<td>14,529.0</td>
</tr>
<tr>
<td>Racial Heterogeneity</td>
<td>16.9%</td>
<td>8.9%</td>
<td>5.4%</td>
<td>60.5%</td>
</tr>
<tr>
<td>Stop Disparity</td>
<td>5.2%</td>
<td>6.4%</td>
<td>-17%</td>
<td>24.1%</td>
</tr>
</tbody>
</table>

In examining the context of the communities involved in the current study, we find an average population density of 2170 people per square mile. Within these communities, 8% of families with children between the ages of 5 and 17 were in poverty and the average modified crime index was 1306 (with a range of 68 to 14,529). The modified measure of racial heterogeneity (which could range from 0 - 100%) ranged from 5% to 60%, with a mean of 19%. Our measure of concentrated disadvantage ranged from -.91 (minimal disadvantage) to 3.86 (representing the most disadvantage community). In examining our proxy measure of agency bias, we see that, on average, there was a 5% difference between the number of nonwhite drivers stopped and the nonwhite driving population. This measure ranged from a low of -2% to a high stop disparity of 24%.

An initial assessment of the data is presented in Figure 1. Whites received criminal plea bargains less often then did nonwhites, and women received criminal pleas less often then men, regardless of race.

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16 Because this measure is standardized the mean is 0 and the standard deviation is 1.
In Figure 2 our initial assessment also reveals that, consistent with previous research, those with prior arrests receive a criminal plea more often than those without official criminal records. The effect of race, seen in the previous graph remains consistent for this category as well.

**Figure 2. Percent of Group Receiving a Criminal Plea by Race and Criminal History.**

Table 3 presents the predicted probabilities for receiving a criminal plea examining the specific individual defendant level effects of race, gender, prior arrests, road type, and time of arrest. These logit-based predicted probabilities were calculated from the HGLM Level-I output.
and are discussed later when presented as Model 1 in Table 4. From this Table 3 we can clearly see those defendants and situations that are most likely to receive the criminal plea. As is other studies, nonwhite males, especially those with criminal histories, do not fare well in the plea bargaining process for first time DUI offenders in RI. Effects of the situational variables of time and roadway type are also presented in the table.¹⁷

Table 3. Predicted Probability of Receiving a Criminal Plea by Race, Gender, Roadway Type, Prior Arrests, and Daytime Arrest.

<table>
<thead>
<tr>
<th>NONWHITE</th>
<th>WHITE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Male</td>
</tr>
<tr>
<td>Night</td>
<td>91.0%</td>
</tr>
<tr>
<td>Day</td>
<td>89.4%</td>
</tr>
<tr>
<td>Night</td>
<td>82.8%</td>
</tr>
<tr>
<td>Day</td>
<td>80.0%</td>
</tr>
<tr>
<td>Night</td>
<td>89.0%</td>
</tr>
<tr>
<td>Day</td>
<td>87.0%</td>
</tr>
<tr>
<td>Night</td>
<td>79.3%</td>
</tr>
<tr>
<td>Day</td>
<td>76.1%</td>
</tr>
</tbody>
</table>

MULTILEVEL MODELING

Hierarchical models allow for the examination of the specific influence of community level factors. Several HGLM models were analyzed to examine effects of hierarchical community level factors. Initially, univariate descriptive statistics were estimated in order to examine characteristics of defendants. Unconditional models were conducted to determine variance in criminal plea outcome. While defendant and case level characteristics account for the majority of variance in criminal plea outcome, outcomes did vary significantly by district with

¹⁷ One could easily argue that being intoxicated on a heavily traveled roadway is more serious, therefore eliciting a more punitive plea bargain, as is driving drunk during the daytime when there is more traffic on the road and the threat posed is greater.
approximately 18% of variance accounted for by police district level characteristics. Initially, we began by examining the effects of individual-level variables on the determination of plea outcome (criminal versus civil plea). Next, fixed and random effects models were produced for defendant variables. Random effects allow for variation by police district and the examination of defendants nested within specific police districts. Finally, HGLM models were used to estimate both separate and interactive effects of defendant and district level characteristics. Here we were able to examine the influence of police community contextual characteristics as well as to explore cross-level interactions between defendant and contextual variables.

Initial models were conducted examining the effect of individual level characteristics on plea outcome. The first model in Table 4 demonstrates the effects of defendant and case-level variables on the odds of receiving a criminal plea. In the initial model gender, race, and criminal history were found to be significant predictors of obtaining a criminal plea. As would be expected from prior literature, having a criminal history significantly increased the likelihood of receiving a criminal plea. Additionally, men and nonwhite drivers were significantly more likely to receive a criminal plea. The influence of the court district in which the defendant was sentenced was examined and found to be a non-significant predictor of plea outcome.

Variation based on police district remains statistically significant even after consideration of defendant and case level factors. Accordingly, random effects models were added in order to assess whether defendant and case level variables varied by police district. Random effects models indicated that race, roadway type, and time of arrest varied by district indicating that these variables affected criminal plea differentially based on police district in which arrest occurred. In subsequent models, variables nonwhite, main road, and daytime arrest were allowed to vary by district, all other level one variables were held as fixed effects.

Next, police district contextual factors were added to the model. The second model in Table 4 presents the effects of individual defendant and police district-level variables on the likelihood of receiving a criminal plea. Results include both defendant and police district level characteristics. Here, defendant level characteristics were consistent with earlier models (see Model 1) examining defendant characteristics only. When Level-2 contextual factors are controlled for, the situational Level-1 variables examining gender, race, and criminal history remain significant predictors of criminal plea outcome. Consistent with our results from the earlier examinations of defendant and case level predictors (see Model 1), those defendants with prior arrests are more likely to receive the criminal label as are men and nonwhite defendants.

As we see in Table 4, net of all other factors, at the community/police agency level, both community concentrated disadvantage and level of stop disparity significantly predicted criminal plea outcome. Of interest in this model is the direction of the effect for concentrated

\[18\] Consistent with Johnson (2006) interclass correlation (ICC) calculations are based on the assumption that the level 1 random effect variance is \( \pi^2/3 \), due to lack of meaningful individual-level variance component of dichotomous variables. The amount of variance in the outcome attributed to police district differences is determined through the calculation of ICC. Variance between police districts in odds of plea outcome are significant <.001 level.

\[19\] Criminal plea was coded 1 for criminal plea and 0 for civil plea.

\[20\] In this model, non-significant predictors remain fixed. All measures were grand-mean centered. Results for models were based on unit-specific models with robust standard errors.
disadvantage; results indicate a reverse correlation between concentrated disadvantage and receiving the criminal plea. As expected, increased stop disparity results in increased odds of receiving a criminal plea.

Table 4. HGLM Models Predicting Criminal Plea Outcome.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b (SE)</td>
<td>b (SE)</td>
<td>b (SE)</td>
</tr>
<tr>
<td><strong>Level 1 (N=768)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.79 (.18) ***</td>
<td>-0.88 (.18) ***</td>
<td>-0.83 (.17) ***</td>
</tr>
<tr>
<td>Age</td>
<td>0.00 (.01)</td>
<td>0.00 (.01)</td>
<td>0.00 (.01)</td>
</tr>
<tr>
<td>Male</td>
<td>0.67 (.21) **</td>
<td>0.69 (.21) **</td>
<td>0.70 (.22) **</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>0.61 (.27) *</td>
<td>0.63 (.29) *</td>
<td>0.57 (.32) -</td>
</tr>
<tr>
<td>Prior Arrests</td>
<td>0.75 (.25) **</td>
<td>0.78 (.25) **</td>
<td>0.77 (.26) **</td>
</tr>
<tr>
<td>Main Road</td>
<td>0.23 (.29)</td>
<td>-0.07 (.38)</td>
<td>0.01 (.38)</td>
</tr>
<tr>
<td>Daytime Arrest</td>
<td>0.39 (.29)</td>
<td>0.38 (.31)</td>
<td>0.43 (.31)</td>
</tr>
<tr>
<td><strong>Level 2 (N=28)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentrated Disadvantage</td>
<td>-0.56 (.14) ***</td>
<td>-0.31 (.16) -</td>
<td></td>
</tr>
<tr>
<td>Stop Disparity</td>
<td>11.85 (2.65) ***</td>
<td>8.11 (3.28) *</td>
<td></td>
</tr>
<tr>
<td><strong>Cross-level Interactions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonwhite Driver x Concentrated Disadvantage</td>
<td>-1.02 (.33) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonwhite Driver x Stop Disparity</td>
<td>14.57 (5.84) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Random Effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>0.64 125.35 ***</td>
<td>0.66 39.72 ***</td>
<td>0.56 42.18 ***</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>0.79 26.93 **</td>
<td>1.13 34.15 ***</td>
<td></td>
</tr>
<tr>
<td>Main Road</td>
<td>1.00 24.37 *</td>
<td>0.98 24.97 *</td>
<td></td>
</tr>
<tr>
<td>Daytime Arrest</td>
<td>1.07 21.83 *</td>
<td>1.03 22.60 *</td>
<td></td>
</tr>
</tbody>
</table>

***p<.001, **p<.01, *p<.05, ~p<.10

We next examined cross-level interaction effects of police district level characteristics on defendant race in order to more specifically detail the influence of bias. We specifically assessed the cross-level interaction of concentrated disadvantage and stop disparity on the nonwhite driving population. Through models containing main and cross-level effects, we examined how concentrated disadvantage and stop disparity condition the influence of race on criminal plea outcome. The third model in Table 4 presents the cross-level interactions of concentrated disadvantage and stop disparity on racial disparity in criminal plea outcome.

When we specifically examined the condition effects of concentrated disadvantage and stop disparity on race, the direct effect of race on criminal plea outcome remained significant, however the direct effect was less significant than without examining the interaction (Model 2). The cross-level interactions of concentrated disadvantage and stop disparity were both significant. More specifically, nonwhite drivers in police districts with increased stop disparity were more likely to receive a criminal plea. Additionally, nonwhite drivers were more likely to receive a criminal plea in areas with less concentrated disadvantage.

Our final presentation of data comes in the calculation of the predicted probabilities for receiving a criminal plea examining the Level-1 and Level-2 data from our hierarchical liner model. This calculation is very complex and we are limited in the number of factors to display on...
a chart in two dimensions. Table 5 presents the predicted probabilities using a combination of Level-1 and Level-2 factors. Results visually present these data indicating the effects of race, gender, and criminal history in the context of varying levels of police bias. For this model, age is held constant at the mean of 34.3 and both roadway type and daytime arrest were set to zero (other roadway and nighttime, respectively). The level-2 variable concentrated disadvantage is grand mean centered and the significant predictor police bias, is displayed at its various observed levels in the present research.

Table 5. HGLM - Predicted Probability of Criminal Plea Outcome by Stop Disparity, Concentrated Disadvantage, Race, Gender and Criminal History

<table>
<thead>
<tr>
<th></th>
<th>NONWHITE</th>
<th></th>
<th>WHITE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Prior Arrests</td>
<td></td>
<td>No Prior Arrest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Male Female</td>
<td></td>
<td>Male Female</td>
</tr>
<tr>
<td>MIN (.91)</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>99.5%</td>
<td>99.1%</td>
<td>99.0%</td>
<td>98.0%</td>
</tr>
<tr>
<td></td>
<td>99.1%</td>
<td>98.1%</td>
<td>98.0%</td>
<td>96.1%</td>
</tr>
<tr>
<td>MEAN (0)</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>99.9%</td>
</tr>
<tr>
<td></td>
<td>98.4%</td>
<td>96.9%</td>
<td>96.6%</td>
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</tr>
<tr>
<td></td>
<td>96.9%</td>
<td>94.0%</td>
<td>93.6%</td>
<td>87.9%</td>
</tr>
<tr>
<td>MAX (3.86)</td>
<td>96.4%</td>
<td>93.0%</td>
<td>92.5%</td>
<td>86.0%</td>
</tr>
<tr>
<td></td>
<td>26.4%</td>
<td>15.2%</td>
<td>14.2%</td>
<td>7.6%</td>
</tr>
<tr>
<td></td>
<td>15.4%</td>
<td>8.3%</td>
<td>7.7%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

We see a high predicted probability of 100% and a low of 4%, with the highest probability of obtaining a criminal plea occurring for nonwhite individuals stopped within police districts with the highest levels of stop disparity and low concentrated disadvantage. Results indicate that that even when examining only individuals with no criminal history, the effects of race and gender in the context of biased charging police agencies have an influence on the predicted probability of whom the courts will label a criminal. Through this table, we can again see that males experience a higher probability or receiving criminal label as compared to females and nonwhite defendants are more likely to receive a criminal plea as compared to white defendants. Further, we are able to see example of how race effects are conditioned both by stop disparity and concentrated disadvantage.
SUMMARY OF RESULTS

Through the current study, we have attempted to determine whether disparate treatment is present in policing (specifically DUI arrests) and how policing specifically influences the labeling of individuals as criminal via plea decisions. Results confirm the suggestion of disparate treatment and suggest the influence of important contextual factors. Although this research found no support for the idea that young people are treated more punitively (i.e., receive the criminal plea) than older people (H$_1$), the likelihood of getting a criminal plea was found to be greater for males (H$_2$) and nonwhites (H$_3$). In line with prior literature and our proposed hypothesis, defendants with a criminal history (prior criminal record) were more likely to receive a criminal plea (H$_4$). Case level factors, including the occurrence of arrest on a main roadway (H$_5$) and during the day (H$_6$) did not significantly predict a criminal plea. The likelihood of getting a criminal plea bargain was not greater in communities with higher levels of concentrated disadvantage (H$_7$), instead, the opposite relationship was found where defendants were less likely to receive a criminal plea in areas with increased concentrated disadvantage. As predicted, defendants arrested in districts with higher levels of stop disparity were more likely to receive a criminal plea (H$_8$). Finally, in examination of our interaction effects, nonwhite defendants were more likely to receive a criminal plea in areas with less concentrated disadvantage (H$_9$) and in police jurisdictions with high levels of stop disparities (H$_{10}$).

DISCUSSION

As in most studies, researchers must weigh the benefits of mass generalizability against the growing need for more modest yet significant nuanced examinations. Opting for the latter, with think this research adds a new dimension to the growing body of literature on racial and gender disparities in sentencing outcomes, and expands notions of both prosecutorial discretion as well as the court community context.

Although we acknowledge the many legal factors that certainly affect police decisions to stop, search, arrest, etc., to believe the police operate without personal biases directly or indirectly affecting those decisions, and that their influence in the justice process is limited to their ability to write an arrest report and testify in court, is naïve and irresponsible. Police bias exists to varying degrees, at both the individual and agency level; however measurement of this has been (and will likely continue to be) probably the biggest methodological obstacle to understanding the problem. The more pressing issue, however, is establishing a causal impact between biases and disparate treatment – in our case unfavorable plea outcomes. Figuring out how to address a problem that varies in severity by officer and (as argued here) across communities, is additionally complicated by each decision-maker added in the justice process.

Rather than attempt to address all of these issues, we suggest a few mechanisms through which bias may operate and hope to guide future research towards these exploits. The first and most direct mechanism is through the criminal construct. The inextricable bond of race and crime, and the infusion of both into fear reinforce criminal stereotypes at all levels of society, but its effects are most damaging when primary agents of formal social control perceive increased
heterogeneity as a criminogenic threat and take actions that directly or indirectly influence the creation and maintenance of the prevailing criminal construct.

We suggest that, an officer’s determination of the “criminal type” is highly contextualized. Overall, we found that drivers arrested in areas with greater disparate policing practices were more likely to be labeled as criminal. The current findings also suggest more punitive treatment of nonwhite drivers in more advantaged areas, perhaps suggesting the motivation of police to more closely protect these areas. Further, contrary to the predicted outcome, we found increased punitiveness overall in more advantaged areas, suggesting an across-the-board desire to protect more deserving citizens from potential victimization. Perhaps in a similar manner to differential police responsiveness in the presence of white complainants (see for example Smith et al, 1984), contextual effects can be viewed as an attempt to target policing based on the population one is protecting and not solely of defendant characteristics.

As we have argued, actions of those at any point in the justice process are not mutually exclusive; an officer’s biases, decisions, and actions will likely affect later prosecutorial choices. Though far removed from the street, subtle clues embedded within police narratives (which likely have nothing to do with the nature of the offense) may cue and trigger subconscious bias on behalf of the court officer or prosecutor. An officer may choose to include some dialogue to provide hints to the reader that, in addition to the criminal offense, the offender is nonwhite.21 Such subtleties may be entrenched within the elements of probable cause for the arrest; to the outsider it will outwardly appear as innocuous and necessary.

Court outcomes are a complex process involving the interplay of many actors. Often in courtroom settings, even if not acting as the court prosecution officer, police officers often have the opportunity to speak with prosecutors about the case, about the arrest, and about plea deals; such interaction may represent a potential site for the entry of bias into criminal procedure. It may also be that racial bias operates through the effort police officers put into case preparation for prosecution. The quality of the case being presented for prosecution is one aspect that has yet to be adequately controlled for in a thorough multilevel model examination. To examine the precise connection between police bias and resultant criminal pleas, further research should explore police narratives. A careful blind independent assessment using content analysis of both the objective and subjective elements could yield a measure of case strength. Any extra effort put into preparation (or lack thereof) of nonwhite cases could be captured and assessed. More importantly, a content analysis could provide an indication of race/gender specific language to assess the potential impact on plea and sentencing outcomes.

We cite several limitations to the current study, first of which is generalizability. We used data from a single state and only examined a specific offense; therefore, any extrapolations beyond these bounds may not be warranted. In many ways, this is an exploratory piece, which hopefully will open new avenues of research and prompt others to search for bias in areas they would not normally think to look.

21 Example Police Narrative: During my conversation with the operator, subject stated to me that he drank “…just two 40’s of Colt 45 with my boys...”
Additionally, multiple methodological limitations should be noted. Because this is an analysis of secondary data, we had no control over the accuracy of the court records or any of the other data imputed. Our sample (N₁=768 and N₂=28) would have benefited from the inclusion of more cities and towns, in the exploration of the nesting of departments by county courthouse. Although our preliminary models showed no significant variance by this measure, it is theoretically relevant; however, size limitations were primarily based on the limited size of the state chosen. Secondly, we have limited validation for use of our primary proxy measure of police agency-level bias, traffic stop disparity. Although it is our belief that this is a good proxy measure and one that is likely too conservative, a more accurate measure of bias would most likely yield a larger effect size. Additionally, the specific data collection method used to collect the original traffic stop data in 2001 & 2002 relied on police officers providing input, with little or no oversight. When one’s intent is a measurement of police bias, allowing those suspected of bias and disparate treatment to have total control of the data collected would suggest a more conservative estimate of police bias than actually exists. As stated earlier, we used a dichotomous measure for prior arrests that tends to inflate the effects of prior arrests in the model; a preferred measure would have included total number arrests with prior offense scores.

Our inability to control for legal representation was unfortunate and something we attempted to address, however, court records on this were incomplete and not conducive to a thorough collection of private or public appointed council. Additional control variables would have been beneficial employment and marital status, however a variety of factors were simply unavailable. As eluded to earlier, possibly the best pieces of data relevant to these types of inquiries are those relating to case strength, although we attempted to included some aggravating circumstances collected during the quantitative phase of the traffic stop study, thorough content analysis is needed to isolate where bias enters into the justice process.

CONCLUSION

Ultimately, the goal of this research is to encourage provocative questions about existing practices. This research indicates that disparate treatment exists at some level in the criminal labeling of DUI offenders, and that interactions between levels of stop disparity and concentrated disadvantage interact with race as significant predictors of criminal plea outcomes. This paper has suggested that police agencies’ practices can adversely affect defendants’ criminal outcomes through the “gatekeepers” use of a criminal construct. Here, the trajectory of police influence may reach far beyond decisions of who is stopped and who is apprehended to subsequently affect legal outcomes. Future research into the area of legal and extra-legal predictors of sentencing disparities should reexamine the definition of police influence, explore the scope of prosecutorial discretion, widen the focus of courtroom community, and incorporate more robust contextual measures.

It is our belief that when core topics are examined a requisite infusion of critique must complement the empirical research. Disparate treatment due to bias reinforce the notion that we live in a socio-political stratified system of gentrification and racialized democracy, and that criminal law, in its construction and application, appears to serve as an instrument to protect and maintain popular notions of justice. It is our responsibility not just to uncover such disparities and reveal their sources, but to force recognition of such findings and engage all involved in the justice process, especially those with the power to legally mandate oversight and data collection.
on race and gender disparities. Without concerted efforts realized through legislative direction and mandate, the present research would be impossible, and without continued interest on behalf academia finding such as this would probably not have been recognized.

**REFERENCES**


Roncek, Dennis W., and Marc L. Swatt. 2006. For Those Who Like Odds: A Direct Interpretation of the Logit Coefficient for Continuous Variables. Social Science Quarterly 87 (3):731-38


