Race, Socioeconomics, Intelligence, and Criminal Offending: Accounting for Variation in Criminal Justice Outcomes

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RACE, SOCIOECONOMICS, INTELLIGENCE, AND CRIMINAL OFFENDING: ACCOUNTING FOR VARIATION IN CRIMINAL JUSTICE OUTCOMES

by

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In memory of Bob Fiala, who always supported me, and Bob White, who always loved me.
RACE, SOCIOECONOMICS, INTELLIGENCE, AND CRIMINAL OFFENDING:
ACCOUNTING FOR VARIATION IN CRIMINAL JUSTICE OUTCOMES

by

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ABSTRACT

Racial disparities in arrests and incarceration are well documented and typically considered the result of differences in rates of offending. However, research indicates variation in rates of arrest and incarceration by race is not due entirely to differences in offending. While criminal offending can result in part from differences in economic and social factors, these factors also influence criminal justice outcomes. The focal concerns perspective posits that criminal justice actors develop a schema – a pattern of thought or behavior – which can influence decision making and lead to differential treatment by race in criminal justice outcomes. This schema can be developed based on key factors including race, gender, age, socioeconomic factors, and education. Results from the National Longitudinal Study of Adolescent to Adult Health (Add Health) indicate that arrests and conviction rates for Whites, Blacks, and Hispanics vary significantly. The inclusion criminal offending and extra-legal factors such as family and personal socioeconomic variables accounted for a large portion of the racial disparity in arrests
and convictions. These findings indicate that the relationship between socioeconomics and race is vital to understanding criminal justice outcomes and – for arrests in particular – racial disparities in these outcomes remain.
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Chapter 1

Introduction

The overrepresentation of minorities in the criminal justice system is a well-documented, on-going issue in the United States. Criminal justice statistics – though not always complete or readily available – demonstrate continuing racial disparities in the criminal justice system. This disproportionality is only partially explained by differences in involvement in criminal offending (see Blumstein, 1982). An increased likelihood of arrest and the potential for divergent outcomes at various points in the criminal justice system can increase the disproportion that occurs due to different rates of offending alone. After arrest, these outcomes may include the decision to file charges, pretrial release decisions, plea bargains, and sentence lengths. These issues can compound, and the result is a jail and prison comprised to a disproportionate degree of Blacks and Hispanics compared to the total population of the United States. While Blacks and Hispanics are overrepresented in the criminal justice system, prior research has addressed this variation in part by controlling for violent offending. While prior research has accounted for a portion of racial differences in criminal justice outcomes by controlling for offending (see Beaver, DeLisi, & Boutwell, 2013), there are additional inclusions that would contribute to current research on this topic.

In addition to the inclusion of Hispanic individuals, rather than only those identified as White or Black, a series of family- and individual-level variables were selected to address both criminal offending and criminal justice outcomes. While offending is, logically, an important part of involvement with the criminal justice system, the same factors that shape offending can affect interactions with police officers and
other criminal justice actors. The focal concerns perspective states that court actors have specific concerns that influence decision-making, including: 1. the blameworthiness of the offender; 2. protection of the community; and 3. practical constraints and consequences (Steffensmeier, Ulmer, & Kramer, 1998). However, if sufficient information on the case and/or the defendant is unavailable in the decision making process, the development of a perceptual shorthand by judges in particular can mean race, gender, and age attribute stereotypes influence sentencing decisions in courts (Steffensmeier et al., 1998). Beyond these attributes, the education level, employment, and economic status of the defendant can influence how court actors interact with and treat individuals. While generally applied to court actors, the focal concerns perspective also applies to police (see Tillyer & Hartley, 2010). The police are similarly concerned with blameworthiness and community safety while facing constraints and consequences. Like court actors, police make decisions in a small amount of time with limited information based on offender characteristics. Variation in treatment of defendants based on extralegal factors including race, gender, age, and socioeconomic status has the potential to increase the differences in arrest and incarceration rates between racial groups.

Overall, research indicates Blacks and Hispanics offend at higher rates than Whites, however other extralegal factors may help account for racial variation in criminal justice outcomes. This study examined whether key extralegal factors account for racial disparities in criminal justice outcomes. These extralegal factors – family and individual socioeconomic status, including verbal ability, GPA, public assistance, income, education, and employment – as well as criminal offending were incorporated in a series
of models for analysis. The purpose of this analysis was to demonstrate the importance of socioeconomic variables in accounting for a portion of the variation in arrests and convictions between racial groups.
Chapter 2

Literature Review

Two primary explanations of the overrepresentation of Blacks and Hispanics in the criminal justice system are differential involvement and differential selection. The differential involvement perspective focuses on racial variation in criminal offending as the primary explanation for racial disparities in criminal justice outcomes. The differential selection perspective focuses on factors like disproportionate police contact and racial biases at various points in the criminal justice system to explain differences in criminal justice outcomes between racial groups. Prior research supports these to varying degrees.

Differential Offending

Some research indicates higher rates of involvement in criminal offending among Blacks and Hispanics compared to Whites, particularly at young ages. Using self-report data from the National Longitudinal Study of Adolescent to Adult Health (hereafter Add Health), Le and Stockdale (2011a, 2011b) compared delinquency scores by race and argued that among adolescents Hispanics had the highest scores, followed by Blacks, Asians, and Whites. Haynie, Weiss, and Piquero (2008) claimed that, among Black and White young adults, self-reported rates of violent involvement were higher among Blacks, although overall offending did not vary significantly between the two groups. These findings are not always consistent. For example, using self-report data and official arrest statistics for a population of serious offenders in Phoenix and Philadelphia, Piquero and Brame (2008) found no difference in the median frequency of self-reported offense frequency between Whites, Blacks, and Hispanics. D’Alessio and Stolzenberg (2003)
claimed that the odds of arrest for Whites were actually higher than Blacks for specific crime types including robbery, aggravated assault, and simple assault but not different for forcible rape. In general, D’Alessio and Stolzenberg (2003) claimed their findings supported differential offending as opposed to differential selection as the explanation for disproportionate arrest rates, although victim and offender race did, in some circumstances, affect the likelihood of arrest.\footnote{D’Alessio and Stolzenberg (2003) indicated that arrests for assaults were more likely to occur when both the victim and offender were white. Don the crime, certain combinations of race with the offender and victim decreases the probability of arrests. For instance, in regards to forcible rape, White-on-Black perpetration has a “cleared” percentage of 19.5% while Black-on-White has a percentage of 24.5%.
}.

Blumstein (1982) compared arrests by race with the race of incarcerated prisoners and argued that differential involvement explained the majority (80%) of the disproportionality in incarceration rates between White and Black detainees. While there was only 20% of disproportionality that was unaccounted for in incarceration rates overall, the amount unaccounted for varied by offense type. Blumstein (1982) argued higher degrees of unexplained disproportionality occurred for less serious crimes including drug offenses (48.9%), larceny/auto theft (45.6%), and burglary (33.1%) while these rates were lower for more serious crimes, like murder (2.8%) and aggravated assault (5.2%). These higher percentages of unexplained disproportion occurred where there was more potential for discretion and the consideration of factors like employment and prior record. This indicates that there is some degree of both differential involvement and differential selection occurring, which varies depending on the type of crime.

Haynie et al. (2008) compared criminal offending between Whites, Blacks, and other races (non-White and non-Black respondents) over two waves of data from Add Health. Haynie et al. (2008) claimed that young adult offending was 18% higher among

\footnote{D’Alessio and Stolzenberg (2003) indicated that arrests for assaults were more likely to occur when both the victim and offender were white. Don the crime, certain combinations of race with the offender and victim decreases the probability of arrests. For instance, in regards to forcible rape, White-on-Black perpetration has a “cleared” percentage of 19.5% while Black-on-White has a percentage of 24.5%.
}
Blacks compared to Whites. Importantly, Haynie et al. (2008) claimed economic and employment well-being – specifically employment, job type, number of current jobs, income, property owned, and self-reported responses regarding economic problems – accounted for more than half of the White/Black racial gap in offending. Additional analyses by Haynie et al. (2008) determined that a belief that they would be able to obtain a middle-class income by age 30 reduced criminal offending only among Blacks and other races. This indicates that specific comparisons between races are vital to understanding the connection between offending and socioeconomic factors. While Haynie et al. (2008) compared offending rates rather than criminal justice outcomes, it is evident that socioeconomics play an important role in offending that leads to contact with the criminal justice system. Furthermore, the same factors that account for a portion of different rates in offending can play a role in differential treatment at various points in the criminal justice system. Differential treatment at various points in the criminal justice system can contribute to higher rates of arrest and incarceration for Blacks and Hispanics.

**Differential Selection and the Focal Concerns Perspective**

The focal concerns perspective is useful as a framework to examine differences in criminal justice outcomes. There are three focal concerns that influence the sentencing decisions made by judges and other court actors: the blameworthiness of the offender, the protection of the community, and practical constraints and consequences (Steffensmeier et al., 1998). The blameworthiness of the offender is based on the severity of the offense and other factors such as criminal history, prior victimization, and role in the offense (Steffensmeier et al., 1998). Court actors may estimate the danger to the community and the likelihood of recidivism using attributes including the type of offense, the facts of the
crime, criminal history, and personal characteristics, including race, gender, age, education, and employment. To address the three focal concerns and to do so in circumstances wherein complete information is not available, Steffensmeier et al. (1998) posit that the development of a perceptual shorthand by judges in particular results in the influence of stereotypes regarding race, gender, and age attributes on sentencing decisions. While typically applied to court actors, police officers can also utilize perceptual shorthand based on legal and extra-legal factors to make decisions with limited time and information (see Tillyer & Hartley, 2010). Contact with police officers is the means by which interaction with the criminal justice system typically begins; when the decision to arrest is influenced to any degree by racial and other attribute stereotypes, this can result in higher arrest rates – and conviction rates – among Blacks and Hispanics.

**Policing and racial stereotyping.** The introduction of subjectivity – specifically an individual’s personal feelings and opinions – can increase the disparity in arrest rates between racial groups. Smith and Alpert (2007) argue racial disparities in traffic-stop outcomes are primarily the result of the behavior of individual officers, rather than a prevalent, underlying racial animus. The shorthand officers use to inform these decisions – like that developed by court actors – is influenced to at least some degree by stereotypes that are in turn informed by both social knowledge and beliefs as well as individual experience. For instance, general trends in arrest rates can form the impression that certain racial groups are more likely to commit specific types of offenses, like violent crimes (Smith & Alpert, 2007). Direct work experience – particularly when it is likely to involve interactions with those who are poor, minority, suffering from mental health, and/or substance abuse issues – can lead to the development of a set of schemas or biases
that influence decision-making (Smith & Alpert, 2007). These factors lead to what Smith and Alpert (2007) describe as unconscious racial profiling which, within the limits of police discretion, can explain a portion of disparities in outcomes in traffic- and pedestrian-stops. The use of discretion can also occur at various points in the criminal justice system, resulting in differential outcomes in pretrial decision-making and sentencing decisions.

**Criminal justice outcomes and race.** Research by Kutateladze, Andiloro, Johnson, and Spohn (2014) examined multiple decision-making points in criminal case processing using a sample of felony and misdemeanor cases that were prosecuted and resolved in 2010 and 2011. Kutateladze et al. (2014) found that approximately 1 in 4 defendants received pretrial detention, but this was 47.8% more likely to occur for Blacks and 14.4% higher for Hispanics than for Whites. While dismissals occurred in about 22% of cases, the odds of dismissal were about 35% higher for both Blacks and Hispanics. While this finding is counterintuitive, the authors speculated that a potential reason this occurs is some police are more willing to arrest Blacks and Hispanics than Whites despite insufficient evidence. For misdemeanor plea bargains, Black and Hispanic defendants were more likely than White defendants to receive plea offers that included a custodial sentence, with Blacks being nearly 70% more likely and Hispanics being just over 21% more likely (Kutateladze et al., 2014). Among other factors, custody plea offers were more likely if the defendant was detained prior to their trial, had a more serious offense, more charges, more charge counts, more prior arrests, and was not represented by a private attorney (Kutateladze et al., 2014). Blacks were 30% more likely than

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2 While Kutateladze et al. included Asians in their research; these results are not included here as there is not a sizeable group for study in the Add Health.
Whites to receive an incarceration sentence when legal controls were introduced\(^3\) (see also Steffensmeier et al., 1998). In sum, these findings demonstrate that at various points in the criminal justice system Blacks and Hispanics experience differential treatment, particularly in pre-trial detention and sentencing. This differential treatment between racial groups likely contributes to the disproportion in incarceration rates.

**Accounting for Racial Variation in Criminal Justice Outcomes**

Rather than simply measuring the degree of variation in criminal justice outcomes between racial groups, other research has attempted to account for this variation. Beaver et al. (2013) compared criminal justice outcomes – arrests, incarceration, and sentencing – for White and Black males using Add Health data. Beaver et al. (2013) found that Black males were more likely than White males to be arrested, incarcerated, and to receive longer sentences. Beaver et al. (2013) included several additional measures to account for some variation in the criminal justice outcomes. These variables were verbal ability – measured by the Picture Vocabulary Test in Add Health – and lifetime violent behavior. Beaver et al. (2013) found that controlling for these measures accounted for a large proportion of the variation in criminal justice outcomes between racial groups and that these differences were no longer statistically significant once the controls were introduced.

While this research provides valuable insight to racial disparities in criminal justice outcomes, Beaver et al (2013) limited their study to comparisons between White and Black males. Race categories that do not include Hispanics can mask disparities between groups by inflating arrest and incarceration proportions among Whites and Hispanics.

\(^3\) With the legal controls, the difference for Hispanic defendants was no longer significant.
deflating the proportions among Blacks (Harris, Steffensmeier, Ulmer, Painter-Davis, 2009). Expanding the race category to include Hispanics will avoid this. Prior research has clearly demonstrated the connection between criminal offending and socioeconomics and these variables may also be connected to criminal justice outcomes. The criminal offending variable used by Beaver et al. (2013) was a lifetime violence score and there was no way to determine if overall offending would account for racial disparities in outcomes to a lesser – or greater – degree. In the next section, I will discuss what changes were made and how they help better study inequality in the criminal justice system. If the rates of offending are controlled for, any remaining differences in arrests, convictions, and incarceration could be at least partly the result of differential treatment. The inclusion of Hispanics, criminal offending, and additional controls would demonstrate more precisely how criminal justice outcomes vary between groups.

Present Study

This study expands upon Beaver et al.’s (2013) to examine disparities in arrests and convictions between Whites, Blacks, and Hispanics. Race is an important factor in both offending rates and criminal justice outcomes, though some research has found that controlling for verbal ability and violent behavior accounted for a portion of the disparities (Beaver et al., 2013). Variables related to socioeconomic status and unemployment are related to an increase in property crime (Bausman & Goe, 2004; Raphael & Winter-Ebmer, 2001) but not with violent crime (Raphael & Winter-Ebmer, 2001). The perceptual shorthand used by police and court actors can be informed at least in part by non-legal factors including race, gender, age, education, employment, and legal factors like the severity of the crime and criminal history. The present study contributes
to research on racial disparities in the criminal justice system by addressing a number of these factors.

Add Health – a longitudinal study that interviewed a cohort of adolescent students from U.S. schools in 1994 to 1995, 1996, 2001 to 2002, and 2008 to 2009 – lends itself well to this area of study. Three categories of respondents were identified in the Add Health data: White, Black, and Hispanic. While Hispanic is an ethnicity rather than a race, categorizing individuals of Hispanic descent allows for a comparison that will help to better identify disparities between groups. Data on criminal offending is available as well criminal justice outcomes including arrests and incarceration. Add Health data also includes information on employment, family and individual socioeconomic status, verbal ability, and GPA. These factors can influence criminal offending as well as interaction with police and criminal justice actors, which can create disparities in the likelihood of arrest and incarceration. The following primary research questions are proposed:

1. How do criminal justice outcomes vary by race?

2. To what degree do criminal offending, family SES, verbal ability, GPA, education, employment, and respondent SES account for racial differences in criminal justice outcomes?

These findings contribute to the understanding of differences in racial disparities in criminal justice outcomes by demonstrating that factors other than race can account for differences in arrests and convictions. Not only do poor economic circumstances increase the likelihood that criminal offending – property crime in particular – occurs, but poor individuals have limited resources to obtain legal counsel, gain pre-trial release, and can

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*For the sake of brevity race/ethnicity is referred to as race.*
be treated differently than their higher income counterparts based on schemas developed by criminal justice actors. The racial differences in arrests and convictions are expected to equalize to a large degree with the inclusion of these extralegal variables.
Chapter 3

Methods

Add Health is a longitudinal study from a nationally representative sample of adolescents in U.S. schools. Add Health used a national database as the primary sampling frame and the high schools selected were representative of a variety of school types, sizes, compositions, regions, and urbanicity. These interviews began with Wave I in the 1994-95 school year. Wave II interviews were conducted in 1996, Wave III interviews in 2001 and 2002, and Wave IV interviews in 2008 and 2009. Add Health covers various topics including school demographics, health, family, peer groups, and variables of particular interest to this study: race, gender, employment, socioeconomic status, and criminal justice contact and outcomes during adolescence, emerging adulthood, and young adulthood. The information available from Add Health has sufficient detail that allows for the construction of variables to address the primary research questions, including race/ethnicity, criminal offending, SES, GPA and verbal ability, employment, arrests, and convictions.

Respondents in Wave I participated in subsequent Waves at varying degrees. Wave II included 74.3% participants from Wave I, Wave III had 75.1% and Wave IV had 78.6%. In addition, the public-use Add Health data included an oversample of Black adolescents with at least one parent with a college degree. This group was removed to adjust for this oversampling. This reduced the number of respondents in Wave I from 6,504 to 5,984. Respondents were included if they were in Waves I, III, and IV; Wave II

While it was initially proposed to compare sentence length, the number of individuals with a sentence in the public-use data set is small and sentencing information is not collected uniformly in Add Health. Initial sentence length was collected for those with one sentence while the recent sentence length was collected for those with more than one sentence.
provided little additional data and its inclusion would have resulted in a smaller sample. This resulted in a sample size of 3,874 respondents. The scope of this research focuses specifically on respondents who are White, Black, and Hispanic. Removing individuals not in these groups reduced the population to 3,602 individuals. Females were removed from the sample as there were insufficient events per variable (EPV) to make regression possible between racial groups by gender. This reduced the population to 1,613 individuals. I imputed missing data using multiple imputation: a statistical technique that generates estimated values for missing values. The generated values were similar in each dataset but, due to error built into the estimation, there was some variation between these datasets. The pooled values of these datasets was used for the statistical analyses. Cross-sectional weights from Wave IV were applied to analyses to improve generalizability of any findings. The Add Health sample weights were developed to ensure results are nationally representative and the weights from the most recent Wave are recommended when using data from multiple Waves (Chatala and Tabor, 2010) because it improves the generalizability of any findings.

**Dependent Variables**

Criminal justice outcomes as reported by respondents in Wave IV were constructed into the dependent variables. In Wave IV, respondents were asked if they had been arrested, age at first arrest, and age at last arrest. To identify if the arrest occurred

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6 Given that Wave II provided little data other than an additional criminal offending variable, it was excluded to maintain a larger sample size for analysis.

7 Vittinghoff and McCulloch (2007) discuss some circumstances in which the general rule of thumb for 10 or more EPV may be relaxed. However, as the EPV decreases, there is an increase in the likelihood of issues such as an increase in bias, smaller confidence interval coverage, and a higher percent of Type I errors. The level of EPV found when reviewing the number of arrests and convictions was, for some models and groups, as low as .8, which fell far below a minimally acceptable value.
between Waves III and IV, if the age of arrest was higher than the age at Wave III, it was
determined that arrest occurred after Wave III. In addition, if a respondent indicated he or
she had not been arrested or had not been arrested as an adult and responded in the
affirmative to the same question at Wave IV, it was determined the arrest occurred after
Wave III. Respondents were asked a similar series of questions regarding convictions and
the same method was used to identify if the conviction occurred after Wave III.
Convictions occurring at an age later than the age at Wave III were identified as having
occurred between Waves III and IV. Other convictions occurring between Waves III and
IV were categorized when respondents identified themselves as having no convictions or
no adult convictions in Wave III with an affirmative response in Wave IV.

**Independent and Control Variables**

Binary indicators of race were constructed using responses to a series of questions
regarding race and Hispanic origin. Individuals who indicated they were Hispanic were
identified as such. The remaining individuals without an assigned category who marked
Black or African American were categorized as Black. This process was repeated for
Native Americans, Asian/Pacific Islanders, those identifying as some Other race, and
White respondents. While this research is limited to Hispanic, Black, and White
respondents, the remaining categories are utilized in future research.

A composite score for family socioeconomic status was constructed from Wave I
questions using parents’ education, occupation, and income. The highest education level
for single parents or highest education level between either parent in a two-parent
household was chosen based primarily on answers given by the respondent during the in-

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*The size of these groups is too small to allow for adequate comparison in the public-use dataset.*
home survey. If this data was missing, the parent questionnaire and survey responses were used to supply this information. When recoded, parents’ education ranged from 1 to 5, with 1 being the lowest and including those having completed 8th grade or less or with an unknown education level and 5 being the highest for parents who had graduated college or completed additional professional training beyond 4 years of college (see Appendix A for the complete list of categories). The highest occupation of the parent or parents was identified using data from the respondent in-home survey and the parent questionnaire. The recoded parental occupation variable ranged from 1 to 6 (low to high) with 1 representing those who were either unemployed or employed at an unknown level and 6 representing those in the higher professional occupations (see Appendix A for the complete list of categories). Income as reported on the parent questionnaire was also included and was log transformed due to the skewed nature of the data. The parents’ education, occupation level, and income were all standardized and the mean value of the three was calculated to create a composite family socioeconomic score. An additional variable for parents’ receipt of public assistance was constructed. Any response by the student on the in-home or in-school questionnaire or by a parent on the parent questionnaire affirming receipt of public assistance was coded as a 1 and those not identified as receiving assistance were coded as a 0.

Age was calculated at each Wave using the date of birth and the date of interview⁹. As part of the Wave I survey, respondents completed the Picture Vocabulary Test (PVT). Verbal ability was measured using the standardized PVT score. The average GPA for respondents was calculated by reverse coding the grades for English, Math,

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⁹ The latest recorded month and year of birth were considered the most accurate. The birth day for all respondents was listed as 15.
History, and Science and calculating the mean for the available scores.

A series of socioeconomic variables were constructed using variables from Wave III. The measure for respondent education level was constructed in a manner similar to parental education, using the highest grade identified as completed and the highest degree to select the highest level of education attained. As additional information was available on completed degrees for respondents, the categories were slightly different from the parental education and ranged from 1 to 7, low to high, with 1 representing those who had completed 8th grade or less and 7 representing those who had gone on to complete graduate school or professional training (see Appendix A). Income was included and was log transformed and standardized in the same manner as the parent’s income. Respondents who did not know their income were given the option to select a range in which their income fell. For these individuals, an average income value was assigned. For instance, individuals who selected an income between $10,000 and $14,999 were assigned an income of $12,500. Individuals who said they had an income of over $75,000 were assigned an income of $75,000. Income and education were standardized and the mean values were added to create a SES score for the respondent. Binary variables indicating full-time or part-time employment were measured by the number of hours worked, with those working 35 hours or more categorized as working full-time. A dichotomized variable for public assistance was created from the self-reported receipt of AFDC, public assistance, or welfare at the time of the Wave III survey.

Waves I and III include a series of questions on criminal behavior used to create

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10 Those who were full-time military were considered employed full-time.
11 While there is information collected on the type of occupation, there are over 400 codes from the Standard Occupation Classification (SOC) System used in Wave IV for respondent occupation type. This is a valuable tool for future research, but additional analysis on this information is not included here.
criminal offending variables. In Wave I, among other questions respondents were asked if, within the last 12 months, they had vandalized or damaged property, stolen, committed armed robbery, been involved in a serious physical fight, or stolen drugs. In Wave III the questions varied somewhat, including new crimes like the use of stolen credit cards and writing fraudulent checks in addition to questions on armed robbery and theft (see Appendix B for a list of questions used in Waves I, and III). Responses to these questions were dichotomized, with any affirmative response to perpetration, regardless of the number of incidents, qualifying as an affirmative response. Cronbach’s alpha was calculated for the 24 questions in Waves I and III and the resulting score was .789. The alpha score is in the acceptable range, indicating the dichotomized responses selected still function as a reliable scale. The age at the time of the interview was used to identify if the offending occurred as a juvenile or adult. Criminal offending as an adult can have consequences that are more significant in the criminal justice system, so being able to identify if the offending occurred before or after the age of 18 is useful. The total scores for both Waves were summed to create a series of composite scores. Four versions of the criminal offending score were created: two scores with all criminal offending included and two with only violent offending. In each pair of scores, a set was calculated with juvenile offending and another without juvenile offending. The four calculated criminal offending scores were categorized as follows: overall offending with juvenile offenses, overall offending without juvenile offenses, violent offending with juvenile offenses, and violent offending without juvenile offenses.

Modelling Strategy

To estimate the association between race and the probability of being arrested or
subsequently convicted, a baseline model was used that included age and race. Based on prior research, I anticipated the probability of arrest and convictions would be higher among Black and Hispanic males than among White males. A second model included family socioeconomic status, parent(s) receipt of public assistance, verbal ability, and GPA to assess whether these personal factors accounted for a portion of racial differences in criminal justice outcomes. A third model included the family variables, verbal ability, GPA, and respondent socioeconomic variables from Waves III and IV to examine the effect of person level variables on the racial differences in criminal justic outcomes. A final model incorporated all previous variables as well as criminal offending. It was expected that offending would account for a proportion of racial differences in arrests and convictions. As lower socioeconomic status increases the likelihood of offending and offending reduces opportunities for employment, it was anticipated that the size of the effect of the socioeconomic factors in this model would be smaller. It was predicted that in the final models, the effect of the socioeconomic variables would be reduced somewhat due to the introduction of the criminal offending variable. I hypothesized that the final model would demonstrate a small difference in the predicted probability of arrest or subsequent conviction for Black, Hispanic, and White males.

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Figure 1. Study Model
Chapter 4

Results

Summary of Descriptive Statistics

The descriptive statistics by race for the independent, dependent, and control variables are shown in Table 1. The sample consisted of 70.7% White respondents, 17.3% Black respondents, and 12.0% Hispanic respondents. The average age was 28 with a standard deviation of 1.8 years. Based on self-reported arrests, Whites had the lowest percentage of arrests (32.9%) followed by Hispanics (36.8%) and Blacks (45.0%). Among those arrested, those with convictions ranged from as low as 14.7% for Whites to as high as 22.1% for Blacks. Both the arrests and convictions correspond with previous research indicating that arrests and convictions occur less frequently among Whites than Blacks and Hispanics.

Hispanics had the lowest mean family SES score at -.51 and parents of these respondents reported receiving public assistance 23.2% of the time. The mean family SES score was -.16 among Black respondents with parental receipt of public assistance of 19.5%. White respondents had a mean family SES score of 0.13 and parents of these individuals reported receiving public assistance 7.3% of the time. The average GPA and verbal ability scores were also from Wave I of the Add Health data. The average GPAs among Hispanic and Black males were 2.69 and 2.68, respectively, and was 2.95 among White males. A similar pattern occurred in the standardized verbal ability score, with a score of -0.65 among Black respondents, -.58 among Hispanics, and .25 among White respondents. Overall, the negative family SES scores and the percentage of parents receiving public assistance indicate that, as adolescents, Black and Hispanic respondents
<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Total Sample</th>
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<tbody>
<tr>
<td>Arrests (Wave IV)</td>
<td>% or Mean (SD)</td>
<td>% or Mean (SD)</td>
<td>% or Mean (SD)</td>
<td>% or Mean (SD)</td>
</tr>
<tr>
<td>Arrests</td>
<td>32.90%</td>
<td>45.00%</td>
<td>36.80%</td>
<td>35.50%</td>
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<tr>
<td>No Arrests</td>
<td>67.10%</td>
<td>55.00%</td>
<td>63.20%</td>
<td>64.50%</td>
</tr>
<tr>
<td>Convictions (Wave IV)</td>
<td>% or Mean (SD)</td>
<td>% or Mean (SD)</td>
<td>% or Mean (SD)</td>
<td>% or Mean (SD)</td>
</tr>
<tr>
<td>Convictions</td>
<td>14.70%</td>
<td>22.10%</td>
<td>16.60%</td>
<td>16.20%</td>
</tr>
<tr>
<td>No Convictions</td>
<td>85.30%</td>
<td>77.90%</td>
<td>83.40%</td>
<td>83.80%</td>
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<tr>
<td>Control Variables</td>
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<tr>
<td>Race (Wave I)</td>
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</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td>11.97%</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
<td></td>
<td>17.36%</td>
</tr>
<tr>
<td>White</td>
<td></td>
<td></td>
<td></td>
<td>70.68%</td>
</tr>
<tr>
<td>Age (Wave IV)</td>
<td>28.40 (1.78)</td>
<td>28.51 (1.94)</td>
<td>28.59 (1.84)</td>
<td>28.44 (1.82)</td>
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<tr>
<td>Independent Variables</td>
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<tr>
<td>Family Socioeconomic Status (Wave I)</td>
<td>.13 (.70)</td>
<td>-.16 (.77)</td>
<td>-.51 (.83)</td>
<td>.00 (.76)</td>
</tr>
<tr>
<td>Parent Received Public Assistance (Wave I)</td>
<td>7.27%</td>
<td>19.50%</td>
<td>23.16%</td>
<td>11.30%</td>
</tr>
<tr>
<td>Verbal Ability Score (z-score, Wave I)</td>
<td>.25 (.84)</td>
<td>-.65 (1.12)</td>
<td>-.58 (1.08)</td>
<td>.00 (1.00)</td>
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<tr>
<td>GPA (Wave I)</td>
<td>2.95 (.79)</td>
<td>2.68 (.73)</td>
<td>2.69 (.73)</td>
<td>2.87 (.78)</td>
</tr>
<tr>
<td>Respondent Socioeconomic Status (Wave III)</td>
<td>.04 (.69)</td>
<td>-.08 (.62)</td>
<td>-.15 (.75)</td>
<td>.00 (.69)</td>
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<tr>
<td>Respondent Received Public Assistance (Wave III)</td>
<td>1.58%</td>
<td>1.43%</td>
<td>2.07%</td>
<td>1.61%</td>
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<td>Respondent Employment (Wave III)</td>
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<tr>
<td>Unemployed</td>
<td>19.04%</td>
<td>28.93%</td>
<td>16.58%</td>
<td>20.46%</td>
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<tr>
<td>Employed, Part-Time</td>
<td>18.25%</td>
<td>17.14%</td>
<td>18.13%</td>
<td>18.04%</td>
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<tr>
<td>Employed, Full-Time</td>
<td>62.72%</td>
<td>53.93%</td>
<td>65.28%</td>
<td>61.50%</td>
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<td>Criminal Offending (Wave I &amp; III)</td>
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<td></td>
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<tr>
<td>Criminal Offending w/Juvenile Activity</td>
<td>2.91 (3.16)</td>
<td>3.31 (3.27)</td>
<td>3.71 (3.43)</td>
<td>3.08 (3.23)</td>
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<tr>
<td>Violent Offending w/Juvenile Activity</td>
<td>1.14 (1.39)</td>
<td>1.64 (1.66)</td>
<td>1.58 (1.47)</td>
<td>1.28 (1.46)</td>
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<tr>
<td>Criminal Offending w/o Juvenile Activity</td>
<td>1.11 (1.78)</td>
<td>1.46 (2.10)</td>
<td>1.47 (2.17)</td>
<td>1.21 (1.89)</td>
</tr>
<tr>
<td>Violent Offending w/o Juvenile Activity</td>
<td>.37 (.79)</td>
<td>.66 (1.08)</td>
<td>.57 (.93)</td>
<td>.45 (.87)</td>
</tr>
</tbody>
</table>

N=1,140   N=280   N=193   N=1,613
were more generally more socioeconomically disadvantaged than White respondents.

The respondent SES score was lowest for Hispanic respondents at -0.15 and the reported receipt of public assistance was the highest for this group at 2.1%. The respondent SES score was next lowest for Black respondents at -0.08 and for Whites at 0.04. The receipt of public assistance for respondents was 1.6% for White respondents and 1.4% for Black respondents. Respondent employment at Wave III fell into three categories: unemployed, employed part-time, and employed full-time. The percent of unemployed respondents were highest among Black respondents at 28.9% followed by White respondents at 19% and Hispanic respondents at 16.6%. Hispanic respondents had the highest rates of full-time employment – 65.3% – followed by White respondents at 62.7% and Black respondents at 53.9%. In general, family SES in Wave I was highest among White respondents as was the respondent SES in Wave III. Unemployment was highest among Black respondents and was slightly higher among White respondents than Hispanic respondents. These socioeconomic factors – which indicate that Black and Hispanic respondents were generally more socioeconomically disadvantaged during adulthood compared to Whites – could potentially contribute to increased rates of criminal offending and influence decision making by police officers and court actors.

In each of the four categories of criminal offending – overall offending with juvenile offenses, overall offending without juvenile offenses, violent offending with juvenile offenses, and violent offending without juvenile offenses – White respondents had the lowest scores. In general, Black and Hispanic respondents had similar scores in all categories. When overall criminal offending scores were used, the scores for Hispanic
respondents were slightly higher than Black respondents. The average scores for violent offending were the opposite, with Black respondents having slightly higher scores than Hispanic respondents. The criminal offending scores correspond with previous research indicating that criminal offending is lowest among White individuals and higher among Blacks and Hispanics.

**Logistic Regressions of Criminal Justice Outcomes**

Binomial logistic regression was used to examine the relationship between the dependent variables – arrests and convictions – and the control and independent variables. Model 1 measured the association between arrests and convictions and age and race. Model 2 introduced family socioeconomic variables, verbal ability, and GPA to determine the extent these variables accounted for the association between race and criminal justice outcomes. Model 3 introduced respondent economic and employment variables. Finally, Model 4 introduced a series of criminal offending variables to determine if the family and respondent economic variables, verbal ability, GPA, respondent employment, and criminal offending account for some proportion of the variation by race in criminal justice outcomes.

**Arrests.** The binomial logistic regression results for Model 1 indicated that race was a significant predictor of arrests (see Table 2). This relationship was statistically significant for both Black (b=.63, p<.001) and Hispanic respondents (b=.18, p<.001) and the resulting coefficient for Blacks was over three times higher than Hispanics. Age was statistically significant and the coefficient was small and positive (b=.00, p<.001). The relationship between race and arrests was expected based on previous research on race and criminal offending.
Table 2. Binomial Regression – Arrests, the National Longitudinal Study of Adolescent to Adult Health, 1994-2009.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
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<tr>
<td></td>
<td>Overall w/Juv</td>
<td>Violent w/Juv</td>
<td>Overall no Juv</td>
<td>Violent no Juv</td>
<td></td>
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</tr>
<tr>
<td>Control Variables</td>
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</tr>
<tr>
<td>Black (Wave I, White reference)</td>
<td>.63 *** (.00)</td>
<td>.31 *** (.01)</td>
<td>.20 *** (.01)</td>
<td>.15 *** (.01)</td>
<td>.19 *** (.01)</td>
<td>.18 *** (.01)</td>
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</tr>
<tr>
<td>Hispanic (Wave I, White reference)</td>
<td>.18 *** (.00)</td>
<td>-.13 *** (.01)</td>
<td>-.28 *** (.02)</td>
<td>-.19 *** (.01)</td>
<td>-.22 *** (.01)</td>
<td>-.14 *** (.01)</td>
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<tr>
<td>Age (Wave IV)</td>
<td>.00 *** (.00)</td>
<td>-.01 *** (.00)</td>
<td>.04 *** (.00)</td>
<td>.04 *** (.00)</td>
<td>-.01 *** (.00)</td>
<td>-.01 ** (.00)</td>
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<tr>
<td>Family Socioeconomic Status (Wave I)</td>
<td>-.12 *** (.01)</td>
<td>-.11 *** (.01)</td>
<td>-.16 *** (.01)</td>
<td>-.12 *** (.01)</td>
<td>-.16 *** (.01)</td>
<td>-.12 *** (.01)</td>
<td></td>
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<tr>
<td>Parent Received Public Assistance (Wave I)</td>
<td>.50 *** (.02)</td>
<td>.47 *** (.02)</td>
<td>.42 *** (.02)</td>
<td>.41 *** (.03)</td>
<td>.42 *** (.02)</td>
<td>.44 *** (.02)</td>
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<td>Verbal Ability Score (z-score, Wave I)</td>
<td>-.02 (.01)</td>
<td>-.01 (.01)</td>
<td>-.07 ** (.02)</td>
<td>.02 (.02)</td>
<td>-.01 (.01)</td>
<td>.04 * (.02)</td>
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<tr>
<td>GPA (Wave I)</td>
<td>-.60 *** (.02)</td>
<td>-.58 *** (.02)</td>
<td>-.46 *** (.02)</td>
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<td>-.55 *** (.02)</td>
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<td>Respondent Socioeconomic Status (Wave III)</td>
<td>-.12 *** (.01)</td>
<td>-.05 *** (.01)</td>
<td>-.06 *** (.01)</td>
<td>-.10 *** (.01)</td>
<td>-.10 *** (.01)</td>
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<td>Respondent Received Public Assistance (Wave III)</td>
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<td>-.49 *** (.04)</td>
<td>-.57 *** (.04)</td>
<td>-.53 *** (.05)</td>
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<tr>
<td>Respondent Employment (Wave III)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Employed, Part-Time (unemployed reference)</td>
<td>-.37 *** (.01)</td>
<td>-.43 *** (.01)</td>
<td>-.40 *** (.01)</td>
<td>-.36 *** (.01)</td>
<td>-.37 *** (.01)</td>
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<td></td>
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<td>Employed, Full-Time (unemployed reference)</td>
<td>-.36 *** (.01)</td>
<td>-.31 *** (.01)</td>
<td>-.38 *** (.01)</td>
<td>-.28 *** (.01)</td>
<td>-.35 *** (.01)</td>
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<td>Criminal Offending (Waves I &amp; III)</td>
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<td>Criminal Offending w/Juvenile Activity</td>
<td>.20 *** (.00)</td>
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<td></td>
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<tr>
<td>Criminal Offending w/o Juvenile Activity</td>
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<td></td>
<td>.30 *** (.00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent Offending w/o Juvenile Activity</td>
<td></td>
<td></td>
<td>.50 *** (.01)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-.49 *** (.01)</td>
<td>1.68 *** (.11)</td>
<td>1.37 *** (.12)</td>
<td>-.53 ** (.15)</td>
<td>-.33 * (.14)</td>
<td>1.51 *** (.11)</td>
<td>1.69 *** (.13)</td>
</tr>
<tr>
<td>Cox &amp; Snell R-squared</td>
<td>0.012</td>
<td>0.075</td>
<td>0.082</td>
<td>0.152</td>
<td>0.132</td>
<td>0.134</td>
<td>0.117</td>
</tr>
</tbody>
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Notes: Standard errors in parentheses. Missing values were imputed using multiple imputation with ten replications. N=1,613

***p < .001, **p < .01, *p < .05
Model 2 introduced family socioeconomic variables, verbal ability, and average GPA. Family SES was negatively associated with arrests (b=-.12, p<.001). A parent receiving public assistance was positively associated with arrests (b=.50, p<.001). Verbal ability was not associated with arrests in this model and average GPA was negatively associated with arrests (b=-.60, p<.001). Like Model 1, age was significantly related to arrests (b=-.01, p<.001), although the coefficient for age in Model 2 was negative compared to age in Model 1. The association between race and arrests remained significant for both Black (b=.31, p<.001) and Hispanic (b=-.13, p<.001) respondents. This was a decrease of 50.8% in the size of the coefficient for Black individuals and a decrease of 172.2% for Hispanic individuals as the coefficient became negative. While the decrease was expected, the resulting negative coefficient was not. This likely occurred because Hispanics had the lowest mean value for family SES, were more likely to have a parent on public assistance, and had the lowest mean respondent SES, all of which were significant predictors of arrest and were positively associated with arrests. The change of the coefficient from positive to negative for Hispanics as well as the decrease in the coefficient for both Blacks and Hispanics – 50.8% and 172.2%, respectively – is indicative of the degree to which the economic variables account for racial differences in the likelihood of arrest.

Model 3 included respondent socioeconomic variables and employment at Wave III in addition to the variables in Model 2. The coefficients for both family SES and a parent receiving public assistance decreased from Model 2. Family SES decreased in magnitude by 8.3% to (b=-.11, p<.001). The coefficient for parents’ receipt of public assistance decreased by 6.0% to (b=.47, p<.001). Verbal ability was not associated with
arrests and GPA stayed negatively associated with arrests to nearly the same degree with a decrease in the magnitude of the coefficient of 3.3% (b=-.58, p<.001). While age remained statistically significant (b=.01, p<.05), the coefficient reversed from negative to positive. Respondent socioeconomic status was negatively associated with arrests (b=-.12, p<.001). The association between respondents’ receipt of public assistance was negatively associated with arrests (b=-.58, p<.001). While this finding was unexpected, a very small percentage of respondents had received public assistance: 2.07% or less for any group. It is likely the number of individuals receiving public assistance was too small in this sample to accurately estimate this relationship. Employment was negatively associated with arrests for both part-time (b=-.37, p<.001) and full-time employment (b=-.36, p<.001). This relationship was expected, as previous research indicates that lower employment rates and opportunities are associated with increases in certain types of crime. The coefficients for race decreased and remained statistically significant, with the coefficient for Black respondents decreasing by 12.9% to (b=.27, p<.001) and Hispanic respondents decreasing in magnitude by 7.7% to (b=-.12, p<.001). While the change was small, the gap between the coefficients was smaller than seen in the previous two models.

Beginning with Model 4, a series of criminal offending variables were introduced in addition to those in Model 3. In Model 4, the effect of the family socioeconomic variables to predict arrest changed somewhat but remained statistically significant. The coefficient for family SES increased in magnitude by 45.5% from b=-.11 in Model 3 to b=-.16 in Model 4 and remained significant at the p<.001 level. Parents’ public assistance decreased by 10.6% from b=.47 to b=.42 and was significant at p<.001 in both models. Model 4 was the first model for which verbal ability was a significant predictor of arrests
The coefficient for average GPA decreased in magnitude by 20.7% between Model 3 and 4, from \( b = -0.58, p < 0.001 \) to \( b = -0.46, p < 0.001 \). Age remained a significant predictor \( (p < 0.001) \) and the coefficient increased by a factor of four from \( b = 0.01 \) to \( b = 0.04 \). The coefficient for respondent SES decreased in magnitude by 58.3% to \( b = -0.05, p < 0.001 \). The coefficient for respondent receipt of public assistance was \( b = -0.46, p < 0.001 \), which was 20.7% lower in magnitude than the previous model. The coefficients for employment changed, increasing in magnitude by 16.2% for part-time from \( b = -0.37, p < 0.001 \) to \( b = -0.43, p < 0.001 \) and decreasing in magnitude by 13.9% for full-time \( b = -0.36, p < 0.001 \) to \( b = -0.31, p < 0.001 \). The crime variable used in Model 4 was overall offending with juvenile crime scores included. Not surprisingly, criminal offending was a predictor of arrest, with criminal offending being both significantly and positively related \( b = 0.20, p < 0.001 \). Race remained a significant predictor of the likelihood of arrest. For Black respondents, the coefficient decreased by 25.9% to \( b = 0.20, p < 0.001 \) and for Hispanic respondents the coefficient increased in magnitude by 133.3% to \( b = -0.28, p < 0.001 \).

Model 5 incorporated a criminal offending variable constructed using only violent crimes and included offenses that occurred as a juvenile. The differences between Models 3 and 5 are distinct from Models 4 and 5. The coefficient for family SES increased in magnitude from Model 3 to Model 5 by 9.1% to \( b = -0.12, p < 0.001 \) and parents’ receipt of public assistance decreased by 12.8% from Model 3 to \( b = 0.41, p < 0.001 \). Like Models 2 and 3, verbal ability was not a significant predictor of arrests. Average GPA remained negatively associated with arrests \( b = -0.48, p < 0.001 \) and the coefficient decreased in magnitude 17.2% from Model 3. The coefficient for age increased by a factor of four in Model 5 to \( b = 0.04, p < 0.001 \). Respondent SES was a significant predictor in this model.
and the coefficient decreased in magnitude by 50.0% from Model 3 to (b=-.06, p<.001). The coefficient for respondent’s receipt of public assistance decreased in magnitude by 15.5% to (b=-.49, p<.001). There was some change in the coefficients for employment, though both part-time and full-time employment remained negatively associated with arrests. For part-time employment, the coefficient increased in magnitude by 8.1% to (b=-.40, p<.001) and for full-time employment the coefficient increased in magnitude by 5.6% to (b=-.38, p<.001). Violent offending (with juvenile offenses) was a positive predictor of arrests (b=.37, p<.001). This coefficient was 85% larger than the overall criminal offending variable used in Model 4. For Black respondents, the coefficient decreased by 44.4% from Model 3 to Model 5 to (b=.15, p<.001) and for Hispanic respondents the coefficient increased in magnitude by 58.3% to (b=-.19, p<.001). While a similar pattern was seen in Model 4 – a decrease of 25.9% in the coefficient for Black respondents and an increase of 133.3% for Hispanic respondents – the resulting coefficients in Model 5 were closer to one another than in Model 4. The smaller gap between the coefficients for Black and Hispanic respondents indicate this model addressed the race-arrest gap better than the previous model that included all offenses.

In Model 6, the criminal offending variable was constructed using all offenses except those that occurred as a juvenile. In comparison with Model 3, the coefficient for family SES increased in magnitude by 45.5% to (b=-.16, p<.001). The coefficient for parents’ receipt of public assistance was decreased by 10.6% from Model 3 to (b=.42, p<.001). Verbal ability was not a significant predictor in this model. The average GPA was still negatively associated with arrests, although the coefficient had decreased in magnitude by 5.2% from (b=-.58, p<.001) in Model 3 to (b=-.55, p<.001). In Model 6,
age became negatively associated with arrests ($b = -0.01, p < 0.001$). The coefficient values for both respondent SES and receipt of public assistance decreased from Model 3. The coefficient for respondent SES decreased in magnitude by 16.7% ($b = -0.10, p < 0.001$) and the coefficient for receipt of public assistance decreased in magnitude by 1.7% ($b = -0.57, p < 0.001$). Decreases were also seen in the coefficients for part-time employment, which decreased in magnitude by 2.7% ($b = -0.36, p < 0.001$) and full-time employment, which decreased in magnitude by 22.2% ($b = -0.28, p < 0.001$). Overall offending excluding juvenile offenses was a statistically significant predictor of arrests ($b = 0.30, p < 0.001$). This coefficient was 50% larger than the overall offending variable used in Model 4 and 18.9% smaller than the coefficient for violent offending with juvenile offenses in Model 5. Compared to Model 3, for Black respondents the coefficient decreased by 29.6% to ($b = 0.19, p < 0.001$) and for Hispanic respondents the coefficient increased in magnitude by 83.3% to ($b = -0.22, p < 0.001$). While the race coefficients in Model 5 are still the smaller, it is worth noting the exclusion of juvenile offenses in the overall offending score accounts resulted in a smaller gap in race coefficients than the inclusion of juvenile offenses in Model 4.

Model 7 used a criminal offending variable that included only violent offenses and no offenses that occurred as a juvenile. From Model 3 to Model 7, the coefficient for family SES increased in magnitude by 9.1% to ($b = 0.12, p < 0.001$). The coefficient for parents’ receipt of public assistance decreased by 6.4% from Model 3 ($b = 0.44, p < 0.001$). Verbal ability was a significant predictor in this model and was positively associated with arrests ($b = 0.04, p < 0.05$). While this finding is not in line with previous research, based on the inconsistent results in other models where verbal ability is either not a significant
predictor or in this instance where the association was positive and significant, the combination of variables may negate the usefulness of verbal ability in this series of models. The coefficient for average GPA decreased in magnitude by 5.2% from Model 3 ($b=-.55$, $p<.001$) and the coefficient for age decreased and became negative ($b=-.01$, $p<.01$). The coefficient for respondent SES decreased in magnitude by 16.7% ($b=-.10$, $p<.001$) and the coefficient for respondent receipt of public assistance decreased in magnitude by 8.6% from ($b=-.58$, $p<.001$) to ($b=-.53$, $p<.001$). The coefficient for part-time employment did not change from Model 3 to Model 7 and the coefficient for full-time employment decreased in magnitude by 2.8% to ($b=.35$, $p<.001$) in Model 7. The relationship between violent offending (excluding juvenile offenses) was both positive and significant and the coefficient was larger than the criminal offending variable in Models 4, 5, or 6 ($b=.50$, $p<.001$). In this final model, the coefficient for Black respondents decreased by 33.3% from ($b=.27$, $p<.001$) in Model 3 to ($b=.18$, $p<.001$) in Model 7. Additionally, the coefficient for Hispanics increased in magnitude by 16.7% from ($b=-.12$, $p<.001$) in Model 3 to ($b=-.14$, $p<.001$). This final model has the smallest gap between the coefficients for these groups, a difference of .32, compared to the six prior models.

Comparing these final race coefficients to those from the initial model demonstrates that, by including variables for family and respondent socioeconomic variables as well as GPA, employment, and criminal offending, the racial gap in arrests was accounted for to some degree. While the variation in significance and/or sign for some variables like verbal ability indicated that the models need some minor adjustment, the regression outcomes indicate there are factors besides a simple difference in
offending rates that can increase the likelihood of arrest. This suggests there is some degree of disproportionate minority contact with police and/or differential selection occurring at the time of arrest driving racial disparities in arrest rates.

**Convictions.** The second criminal justice outcome included in analysis was a conviction occurring between Waves III and IV. As was the case with arrests, race is a significant predictor of conviction (see Table 3). This relationship was positive and significant for both Black (b=.52, p<.001) and Hispanic respondents (b=.35, p<.001). Based on previous research on criminal justice outcomes and race, the relationship between race and convictions was expected. Age was significantly related to conviction and this association was negative, (b=-.01, p<.001), indicating that as respondents became older the likelihood of conviction decreased.

Model 2 introduced family socioeconomic variables, verbal ability, and average GPA. These variables followed a pattern like that seen in arrests. Family SES was negatively associated with conviction (b=-.28, p<.001) and parents’ receipt of public assistance was positively associated with conviction (b=.41, p<.001). While verbal ability was not a significant predictor of conviction, the average GPA was negatively associated with convictions (b=-.53, p<.001). The coefficient for age remained negative and increased in magnitude by a factor of three (b=-.03, p<.001). The most noteworthy change occurred in the coefficients by race. While both race coefficients remained significant predictors of conviction, there was a change in the coefficient values between Model 1 and Model 2. For Black respondents, the coefficient decreased by 57.7% to (b=.22, p<.001). The Hispanic coefficient decreased by 91.4% to (b=.03, p<.05). While the gap between the coefficient for Black and Hispanic remains similar to Model 1, these
Table 3. Binomial Regression – Convictions, the National Longitudinal Study of Adolescent to Adult Health, 1994-2009.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4 Overall w/Juv</th>
<th>Model 5 Violent w/Juv</th>
<th>Model 6 Overall no/Juv</th>
<th>Model 7 Violent no Juv</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black (Wave I, White reference)</td>
<td>.52 *** (.00)</td>
<td>.22 *** (.02)</td>
<td>.13 *** (.02)</td>
<td>.08 ** (.02)</td>
<td>.02 (.02)</td>
<td>.05 ** (.01)</td>
<td>.04 * (.02)</td>
</tr>
<tr>
<td>Hispanic (Wave I, White reference)</td>
<td>.35 *** (.00)</td>
<td>.03 * (.01)</td>
<td>.02 * (.01)</td>
<td>-.10 *** (.01)</td>
<td>-.03 * (.01)</td>
<td>-.05 ** (.01)</td>
<td>.01 (.01)</td>
</tr>
<tr>
<td>Age (Wave IV)</td>
<td>-.01 *** (.00)</td>
<td>-.03 *** (.00)</td>
<td>.00 (.00)</td>
<td>.02 *** (.00)</td>
<td>.03 *** (.00)</td>
<td>-.02 *** (.00)</td>
<td>-.02 *** (.00)</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Socioeconomic Status (Wave I)</td>
<td>-.28 *** (.02)</td>
<td>-.28 *** (.02)</td>
<td>-.32 *** (.03)</td>
<td>-.29 *** (.03)</td>
<td>-.32 *** (.02)</td>
<td>-.29 *** (.02)</td>
<td>-.29 *** (.02)</td>
</tr>
<tr>
<td>Parent Received Public Assistance (Wave I)</td>
<td>.41 *** (.03)</td>
<td>.39 *** (.03)</td>
<td>.35 *** (.03)</td>
<td>.35 *** (.04)</td>
<td>.36 *** (.03)</td>
<td>.38 *** (.03)</td>
<td></td>
</tr>
<tr>
<td>Verbal Ability Score (z-score, Wave I)</td>
<td>.03 (.02)</td>
<td>.04 * (.02)</td>
<td>.00 (.02)</td>
<td>.07 * (.02)</td>
<td>.05 * (.02)</td>
<td>.09 ** (.02)</td>
<td></td>
</tr>
<tr>
<td>GPA (Wave I)</td>
<td>-.53 *** (.01)</td>
<td>-.51 *** (.02)</td>
<td>-.40 *** (.02)</td>
<td>-.42 *** (.02)</td>
<td>-.49 *** (.02)</td>
<td>-.49 *** (.02)</td>
<td>.49 *** (.02)</td>
</tr>
<tr>
<td>Respondent Socioeconomic Status (Wave III)</td>
<td>-.17 *** (.01)</td>
<td>-.11 *** (.01)</td>
<td>-.11 *** (.01)</td>
<td>-.15 *** (.01)</td>
<td>-.15 *** (.01)</td>
<td>.15 *** (.01)</td>
<td></td>
</tr>
<tr>
<td>Respondent Received Public Assistance (Wave III)</td>
<td>-1.57 *** (.04)</td>
<td>-1.45 *** (.03)</td>
<td>-1.50 *** (.04)</td>
<td>-1.53 *** (.04)</td>
<td>-1.52 *** (.04)</td>
<td></td>
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<tr>
<td>Respondent Employment (Wave III)</td>
<td>.26 *** (.01)</td>
<td>.28 *** (.01)</td>
<td>.25 *** (.01)</td>
<td>.24 *** (.01)</td>
<td>.24 *** (.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed, Part-Time (Unemployed reference)</td>
<td>-.43 *** (.01)</td>
<td>-.35 *** (.01)</td>
<td>-.42 *** (.01)</td>
<td>-.35 *** (.01)</td>
<td>-.40 *** (.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criminal Offending (Waves I &amp; III)</td>
<td>.15 *** (.00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criminal Offending w/ Juvenile Activity</td>
<td></td>
<td></td>
<td></td>
<td>.30 *** (.01)</td>
<td></td>
<td></td>
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<tr>
<td>Criminal Offending w/o Juvenile Activity</td>
<td></td>
<td></td>
<td></td>
<td>.21 *** (.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent Offending w/ Juvenile Activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.37 *** (.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent Offending w/o Juvenile Activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.72 *** (.13)</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.19 *** (.01)</td>
<td>.91 *** (.11)</td>
<td>.35 * (.12)</td>
<td>-1.07 *** (.13)</td>
<td>-1.09 *** (.13)</td>
<td>.67 *** (.11)</td>
<td>.72 *** (.13)</td>
</tr>
<tr>
<td>Cox &amp; Snell R-squared</td>
<td>0.008</td>
<td>0.055</td>
<td>0.065</td>
<td>0.105</td>
<td>0.095</td>
<td>0.093</td>
<td>0.083</td>
</tr>
</tbody>
</table>

Notes: Standard errors in parentheses. Missing values were imputed using multiple imputation with ten replications. N=1,613

***p < .001, **p < .01, *p < .05
coefficients become closer to zero and smaller in magnitude.

Model 3 included respondent socioeconomic variables and employment in addition to the variables in Model 2. The relationship between family SES and conviction stayed the same as in Model 2 (b=-.28, p<.001). Parents’ receipt of public assistance remained nearly the same, though the coefficient decreased by 4.9% from (b=.41, p<.001) in Model 2 to (b=.39, p<.001) in Model 3. Verbal ability was statistically significant in this model (b=.04, p<.05). As discussed in Model 7 for arrests, a positive relationship between verbal ability and convictions does not correspond with prior research. The average GPA remained negatively associated with the likelihood of conviction with a slight decrease in the magnitude of the coefficient of 3.8% from the previous model (b=-.51, p<.001). Age was not a significant predictor of conviction in this model. Respondent SES was negatively associated with the likelihood of conviction (b=-.17, p<.001). The respondent’s receipt of public assistance was both negatively associated with conviction and with a larger than expected coefficient (b=-1.57, p<.001). Few respondents received public assistance. As discussed previously, it is likely that the number of individuals receiving public assistance was too small in this sample to accurately estimate this relationship. Employment was negatively associated with conviction for both part-time (b=-.26, p<.001) and full-time employment (b=-.43, p<.001). The coefficients for race decreased with the addition of the respondent socioeconomic and employment variables. For Black respondents the coefficient decreased by 40.9% to (b=.13, p<.001) and the coefficient for Hispanic respondents decreased by 33.3% to (b=.02, p<.05). The decreasing gap indicates that the inclusion of these variables accounts for a portion of the difference in conviction seen by racial group.
Model 4 incorporated the variables from Model 3 as well as a criminal offending which was composed of a composite score that included offenses the occurred while the respondent was a juvenile. The coefficient increased in magnitude by 14.3% for family SES (b=-.32, p<.001) and decreased by 10.3% for parents’ receipt of public assistance (b=.35, p<.001). While verbal ability was a significant predictor in Model 3, it was not in Model 4. GPA remained negatively associated with conviction, with a decrease in the magnitude of the coefficient of 21.6% (b=-.40, p<.001). Age was positively associated with conviction in this model (b=.02, p<.001). The coefficient for respondent socioeconomic status decreased in magnitude by 35.3% and remained a significant predictor of conviction (b=-.11, p<.001). The coefficient for respondent’s receipt of public assistance decreased in magnitude by 7.6% from Model 3, but remained larger than expected and negative (b=-1.45, p<.001). While there was some change in the coefficients for employment, both part-time and full-time employment remained negatively associated with conviction. For part-time employment, the coefficient increased in magnitude by 7.7% from Model 3 (b=-.28, p<.001) and for full-time employment the coefficient decreased in magnitude by 18.6% (b=-.35, p<.001). Criminal offending (excluding juvenile offenses) was a positive predictor of conviction (b=.15, p<.001). For Black respondents, the coefficient decreased by 38.5% to (b=.08, p<.01) and for Hispanic respondents the coefficient decreased in magnitude and became negative (b=-.10, p<.001). A similar reversal in the value of the coefficient was initially seen in Model 2 of the arrest regressions and is likely caused by the same factors, among them being the low mean family SES, the high percentage or parents’ receipt of public assistance.
assistance, and the low mean respondent SES. The negative coefficient likely reflects the combination of these variables, which are significant predictors of conviction.

Model 5 included a criminal offending variable constructed using only violent crimes and includes offenses that occurred as a juvenile. The comparison of Model 3 to Model 5 demonstrates the differences resulting from the change in the offending variable. The coefficient for family SES increased in magnitude by 3.6% to (b=-.29, p<.001) and the coefficient for parents’ receipt of public assistance decreased by 10.3% (b=.35, p<.001). The coefficient for verbal ability increased by 75% from Model 3 and was a significant predictor of conviction (b=.07, p<.05). The average GPA remained negatively associated with conviction and the coefficient decreased in magnitude by 17.6% from Model 3 (b=-.42, p<.001). The relationship between age and conviction was significant in Model 5 (b=.03, p<.001) but not in Model 3. Respondent SES was a significant predictor in this model and the coefficient decreased in magnitude by 35.3% in Model 5 (b=-.11, p<.001). The coefficient for respondent’s receipt of public assistance decreased in magnitude by 4.5% (b=-1.50, p<.001). There was some change in the coefficients for employment, though both part-time and full-time employment remained negatively associated with conviction. For part-time employment, the coefficient decreased in magnitude by 3.8% (b=-.25, p<.001) and for full-time the coefficient decreased in magnitude by 2.3% (b=-.42, p<.001). Violent offending was a positive predictor of conviction (b=.30, p<.001). Like arrests, the violent offending coefficient in Model 5 was larger than the overall offending coefficient in Model 4. For Black respondents in this model, race was not a significant predictor of conviction. For Hispanic respondents the
coefficient decreased and became negative (b=-.03, p<.05). The loss of significance was surprising for Black respondents, although the decrease in the coefficient was expected.

In Model 6, the criminal offending variable was constructed using all offenses excluding those that occurred as a juvenile. Compared to Model 3, the coefficient for family SES increased in magnitude by 14.3% (b=-.32, p<.001). The coefficient for parents’ receipt of public assistance decreased by 7.7% from Model 3 (b=.36, p<.001). Verbal ability was a significant predictor in this model (b=.05, p<.05) and increased by 25% in Model 5. The average GPA remained negatively associated with conviction and the coefficient decreased in magnitude by 3.9% (b=-.51, p<.001) to (b=-.49, p<.001). In Model 6, age was negatively associated with conviction (b=-.02, p<.001). The coefficient values for both respondent SES and receipt of public assistance decreased from Model 5. The coefficient for respondent SES decreased in magnitude by 11.8% to (b=-.15, p<.001) and the coefficient for receipt of public assistance decreased in magnitude by 2.5% to (b=-1.53, p<.001). There was a decrease in the magnitude of the coefficient for part-time employment of 7.7% (b=-.24, p<.001) and a decrease in magnitude of the coefficient for full-time employment of 18.6% (b=-.35, p<.001). Overall offending without juvenile offenses was a statistically significant predictor of conviction (b=.21, p<.001). This coefficient was 40% larger than the coefficient for overall offending with juvenile offenses in Model 4. The coefficients for race in this model both decreased from Model 3; for Black respondents the coefficient decreased by 61.5% (b=.05, p<.01) and the coefficient for Hispanic respondents decreased in magnitude by 350% and became negative (b=-.05, p<.001). When excluding the juvenile score, using the overall offending rather than only violent offending the gap in race coefficients is nearly the same as in Model 4.
Model 7 used a criminal offending variable that included only violent offenses and no juvenile offenses. The coefficient for family SES increased in magnitude by 3.6% from Model 3 (b=-.29, p<.001). The coefficient for parents’ receipt of public assistance also decreased by 2.6% (b=.38, p<.001). Verbal ability remained a significant, positive predictor between Models 3 and 7 and the coefficient was 125% larger than in Model 3 (b=.09, p<.01). Similar to the arrest regressions, this finding is not in line with previous research and across models; the results are inconsistent as to significance. As discussed previously, the combination of variables may negate the usefulness of verbal ability in this series of models. The coefficient for average GPA decreased by in magnitude by 3.9% from Model 3 (b=-.49, p<.001). Age was significant and negatively associated with convictions (b=-.02, p<.01). For respondent SES, the coefficient decreased in magnitude by 11.8% in Model 6 (b=-.15, p<.001) and the coefficient for respondent receipt of public assistance decreased in magnitude by 3.2% (b=-1.52, p<.001). The size of coefficient for part-time employment decreased in magnitude by 7.7% (b=-.24, p<.001) and the coefficient for full-time employment decreased in magnitude by 7.0% from Model 3 (b=-.40, p<.001). Violent offending (excluding juvenile offenses) was a significant predictor of conviction and the coefficient was larger than the criminal offending variable in Models 4, 5, or 6 (b=.37, p<.001). In this final model, the coefficient for Black respondents decreased by 69.2% from (b=.13, p<.001) in Model 3 to (b=.04, p<.05) in Model 7. Additionally, the coefficient for Hispanics decreased and became insignificant in this final model. This final model had the smallest gap between Hispanic and Black respondents, .03, and the lack of significance for the Hispanic coefficient was unexpected.
Comparing the race coefficients across models demonstrates that including variables for family and respondent socioeconomic variables as well as GPA, employment, and criminal offending accounts for a large portion of the racial gap in convictions. While the variation in significance and/or sign for some variables like verbal ability and respondent’s receipt of public assistance indicates that the usefulness of these variables may need to be reviewed in future research, the regression outcomes indicate that there are factors besides a simple difference in offending rates that can increase the likelihood of conviction. In several models, the coefficient by race became insignificant, possibly due to the small size of the sample and the increasing number of variables in each model. In general, these variables can contribute a great deal to the understanding of criminal justice outcome disparities between racial groups.
Chapter 5

Discussion

In his early work on criminal offending and race, Blumstein (1982) argued that higher arrest rates among Black males accounted for the majority (80%) of the Black/White gap in incarceration rates. The remainder left unaccounted for can be due to various issues, including differential selection at various points in the criminal justice system. Blumstein (1982) found that for less serious crimes, like drug offenses and larceny, the unexplained disproportionality was higher than for more serious crimes, like murder and aggravated assault. In general, research tends to support higher rates of criminal offending among Black and Hispanic individuals compared to Whites (see Le & Stockdale 2011a, 2011b; Haynie et al., 2008), as does the present study. The self-reported rates of offending (see Table 1) supported this, with higher rates of offending found among Black and Hispanic respondents. These differences were most apparent for overall adult offending and for violent offending. While the differences in offending are apparent, both differential offending and differential selection contribute to disproportionality in criminal justice outcomes. Social circumstances an individual lives in effect both offending and criminal justice outcomes.

This study contributes to the body of research on race and criminal justice outcomes by examining arrests and convictions in conjunction with a series of socioeconomic variables, verbal ability, GPA, and a series of offending variables. In current research, offending is often connected to socioeconomic status or employment, but the potential connection between these variables and arrests and convictions is less understood. This study adds to our understanding by demonstrating that socioeconomic
characteristics of individuals are related to the likelihood of arrest or conviction and account for a large portion of the racial gap in these criminal justice outcomes. When controlling for these variables and different rates of criminal offending, a racial gap was still evident in the likelihood of arrests, though this was less true for convictions. Arrests and convictions are related not only to race, but also to class, education, and occupation and all of these characteristics have a marked effect on criminal offending according to prior research.

Prior research has demonstrated that economic circumstances are related to criminal offending. Bausman and Goe (2004) found employment volatility – a measure of employment stability over time – promoted higher levels of property crime, particularly less serious forms of property crime, like larceny. Raphael and Winter-Ebmer (2001) found a similar relationship between unemployment and crime, with unemployment resulting in an increase in property crime, though this relationship was not present for violent crime. As previously discussed, Haynie et al. (2008) found that controlling for a series of economic and employment variables reduced the racial gap in criminal offending between Whites and Blacks by 53%. In the present study, Black respondents reported the highest percentage unemployed, followed by White and Hispanic respondents. Black and Hispanic respondents had the lowest family and respondent SES and reported the highest percentages of parents’ on public assistance. While using different economic variables than in previous research, it was apparent that Black and Hispanic respondents were the most economically disadvantaged based on family SES, respondent SES, and employment status. It is these types of circumstances,
rather than inherent racial differences in offending that are related to differences in arrest rates.

In this study SES, measures of intelligence, employment, and offending accounted for a portion of the racial differences in the likelihood of arrest. Increased offending logically contributes to higher rates of arrest, which was evident in self-reported arrests in this study. Whites reported being arrested the least (32.9%), followed by Hispanics (36.8%) and Blacks (45.0%). These differences were reflected in the baseline model for arrests. As variables for family socioeconomics, GPA, verbal ability, respondent socioeconomics, and offending were included in subsequent models, the coefficients tended to become smaller and/or closer to zero. While the inclusion of criminal offending eventually resulted in the smallest gap between coefficients, socioeconomic variables and GPA remained statistically significant across all models. These variables accounted for a portion of the difference in likelihood of arrest, but the differences that remained were statistically significant. What was unusual was the reversal of the coefficient sign for the Hispanic coefficient after Model 1. This is likely due to the lower SES among Hispanic respondents, which is likely to have a greater impact on offending and arrests by extension. The remaining, significant difference between racial groups supports the notion that arrest rates varied due to factors beyond offending.

Differential treatment in pretrial release and sentencing outcomes also compounds the racial disproportionality in the criminal justice system caused by offending alone. In the present study, 22.1% of Black respondents and 16.6% of Hispanic respondents reported a conviction, compared to 14.7% among White respondents. These initial
descriptive statistics supports previous research on divergent outcomes for non-White defendants (see Kutateladze et al., 2014; Steffensmeier et al., 1998). The regression analysis for convictions reflected the racial gap between White, Black, and Hispanic respondents. Like arrests, the inclusion of control variables in a series of models resulted in a decrease in coefficient size for race and, in some models, a loss of significance entirely. In the final model, the coefficient for Hispanic respondents was no longer significant and was small for Black respondents. The decreasing gap between coefficients – and the non-significance of the race values in some models – demonstrates the additional factors accounted for nearly all the variation in convictions by race. While this does not support current research on divergent sentencing outcomes, it is possible the inclusion of socioeconomic variables and intelligence accounts for a portion of this divergence. The analysis of convictions support previous findings by Beaver et al. (2013) that accounting for offending and IQ (also the PVT score, but referred to herein as verbal ability) resulted in statistically insignificant differences in convictions between White and Black respondents. The limitations and study design may have contributed to some degree to the differences in findings regarding arrests despite similarities in convictions between the current study and Beaver et al. (2013).

There were some limitations with this study. First, there were not a sufficient number of arrests and convictions among women to run additional analyses by gender. Second, there were very few adults who received public assistance, which contributed to the unexpected results in the regression models. Third, while there were sufficient convictions to run analyses, a larger sample than the public-use dataset could improve the accuracy of the findings. Fourth, though previous research argued verbal ability was an
important factor to include (see Beaver et al., 2013), this was only significant in some models and typically had a very small coefficient. This is likely due to the relationship between verbal ability and another variable, most likely GPA. Finally, employment

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and socioeconomic status variables were constructed using data that was collected at a single point in time rather than over time, which provided a limited picture of the respondent’s circumstances. Preparing separate models that include offending without socioeconomic variables could more accurately identify if offending alone has the effect identified by previous research.

In addition to these limitations, there are factors that could not be accounted for in this study. Socioeconomics and education can influence the likelihood of arrest, contributing to the differences in arrest by race. The focal concerns perspective dictates that court actors and police officers develop schemas to make decisions in situations where there is limited time and information (see Tillyer & Hartley, 2010). These schemas are influenced by stereotypes, personal experience, case details, and extra-legal factors not directly related to the charges: race, gender, age, education, and employment of individuals. There was no way to measure to what degree interactions with police officers and court actors were influenced by these sociodemographic factors. Furthermore, it is unknown how socioeconomic, verbal ability, and education affected a defendant’s ability to navigate the criminal justice system. During the initial contact with police officers, particularly for low-level crimes where there is more discretion possible, an

12 While there were a series of variables that asked about employment from 1995 to 2001, these were not included for several reasons. In 1995, the age of respondents ranged from 11 to 21. The youngest portion of this group do not have the same employment opportunities as their older counterparts. A cross tabulation of the age and employment status for each year demonstrated that employment increased at age 17 and 18, so until around 2000 the younger portion of the population is more likely be unemployed, due at least in part due to their age.
arrest may be more likely to occur for Black or Hispanic suspects with less evidence than for a White suspect. Prior research demonstrates that the use of police discretion can result in differential selection. This differential selection can result in a difference in dismissal rates by race. Kutateladze et al. (2014) found that, Whites were more likely to be released pretrial and receive a favorable plea bargain than Blacks and Hispanics.

However, even when controlling for charge level, crime type, criminal history, and type of legal representation, Blacks and Hispanics were more likely to have a case dismissed (Kutateladze et al., 2014). Similarly, while Franklin (2009) argued that his findings did not support disparities in prosecutorial dismissals among felony drug cases between White and Black offenders overall, he did argue that White, middle-aged defendants were significantly less likely to have their cases dismissed than other groups. While these findings only occurred for one age group of the three that Franklin (2009) compared, a potential explanation is that arrest among Blacks and Hispanics may be more likely to occur with less evidence, resulting in an increase in dismissals. There was not sufficient information to determine if similar patterns in pretrial detention or dismissals was present for respondents in this study. While this study identified respondents with arrests and convictions, future research should focus on data collection that includes details surrounding the arrest as well as pretrial release and the decision-making of the courts in addition to socioeconomic factors.

Despite these limitations, this study clearly demonstrates that, while race remains a key factor in criminal justice outcomes, socioeconomic variables including employment, income, and education as well as GPA are important as well. Lower socioeconomic status and unemployment relate to higher rates of criminal offending and
further play an important role in the decisions made by police and other court actors. This is significant. Inequality and disparity across racial groups is an important part of understanding criminal offending and criminal justice outcomes. Future research should continue to include detailed information on both race and ethnicity, as the outcomes for these groups vary for arrests and convictions. Examining the relationship more closely between verbal ability and GPA would provide more clarity on the usefulness – or lack thereof – of verbal ability in future research. Additional analyses examining the regression for each racial group separately and comparing the outcomes would better indicate if, in fact, the effects of socioeconomic variables have an effect that varies by race.

These findings and the previous research on the topic indicate the need for future research on the causal mechanisms between economic and employment variables and both criminal offending and outcomes. While offending can decrease the ability to achieve employment, poor employment opportunities and lower income can increase the likelihood of criminal offending. Furthermore, attempting to determine more precisely how these factors shape interactions with police and court actors would help illustrate how and whether differential selection occurs. The development of schema based on various sociodemographic characteristics is only part of the decision making of police and court actors, as the ability to obtain pretrial release or even hire representation are affected as well. These factors are clearly interconnected and at the root of them lies a core issue of disparities in family and respondent education, income, and employment. While this study found little variation in convictions after accounting for control variables, in particular arrest rates remained divergent by race. Future research may serve
as a means of understanding where bias exists in arrests and how bias influences decision-making. While awareness of these differences are important, it does little to address socioeconomic issues that have a larger social impact.
Appendix

Wave I, Parents’ Education Level

1. 8th grade or less or education level unknown
2. More than 8th grade, but did not graduate H.S.
3. GED, H.S. diploma, or Vocational school instead of H.S.
4. Some college, business school, trade school, or vocational school after H.S.
5. Graduated college or additional prof training

Wave I, Parents’ Occupation Level

1. Unemployed or Unknown Level
2. Restaurant, Sales, Other Unskilled Labor
3. Military or Police
4. Trades or Vocational Skills
5. Lower Level Professional
6. Professional / Management

Wave III, Respondent Education Level

1. 8th grade or less
2. 12th grade or less, no diploma
3. H.S. diploma or GED
4. Some college or vocational training
5. Completed college or vocational training
6. Some graduate or professional School
7. Graduate or Professional Degree or Training beyond these

Criminal Offending

Wave I:

In the past 12 months, how often did you ...
1. paint graffiti or signs on someone else’s property or in a public place?
2. deliberately damage property that didn’t belong to you?
3. take something from a store without paying for it?
4. get into a serious physical fight?
5. hurt someone badly enough to need bandages or care from a doctor or nurse?
6. drive a car without its owner’s permission?
7. steal something worth more than $50?
8. go into a house or building to steal something?
9. use or threaten to use a weapon to get something from someone?
10. sell marijuana or other drugs?
11. steal something worth less than $50?
12. take part in a fight where a group of your friends was against another group?
Wave III:

In the past 12 months, how often did you ...

1. deliberately damage property that didn’t belong to you?
2. steal something worth more than $50?
3. go into a house or building to steal something?
4. use or threaten to use a weapon to get something from someone?
5. sell marijuana or other drugs?
6. steal something worth less than $50?
7. take part in a fight where a group of your friends was against another group?
8. buy, sell, or hold stolen property?
9. use someone else’s credit card, bank card, or automatic teller card without their permission or knowledge?
10. deliberately write a bad check?
11. take part in a physical fight in which you were so badly injured that you were treated by a doctor or nurse?
12. hurt someone badly enough in a physical fight that he or she needed care from a doctor or nurse?


