Measuring the Influence of Juvenile Arrest on the Odds of Four-Year College Enrollment for Black Males: An NLSY Analysis

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Royel Montel Johnson

ABSTRACT: Black youth make up just 16% of public school students in the United States, though they constitute 31% of all juvenile arrests, with Black males outnumbering females. Very little is known from research about the long-term consequences of such contact on their odds of college enrollment. Thus, the purpose of this study was to measure the relationship between Black males’ early contact with the criminal justice system through arrest and their probability of enrolling in a four-year college using a nationally representative sample of approximately 1,100 Black males who participated in the National Longitudinal Study of Youth (1997). Survey data were analyzed using descriptive, chi-square, and hierarchical binomial logistic regression techniques. Results expose pervasive limits on Black males’ college enrollment, reveal the statistically significant influence of early arrest on college entry, and have far-reaching implications for research, policy, and outreach.

In light of mounting concerns about the United States’ diminishing ability to compete globally, state and federal policy makers have adopted several education reform strategies designed to increase the number of students graduating from
one of the more than 4,200 colleges and universities in the country. For instance, in his very first State of the Union address, President Barack Obama (2009) outlined an ambitious goal to once again have the world’s largest share of college graduates by 2020. His justification was simple: “A good education is no longer just a pathway to opportunity—it is a prerequisite. . . every American will need to get more than a high school diploma.” Indeed, higher education has become the most direct pathway to ensuring economic and social mobility for the individual, and increasing the number of Americans with college degrees has significant benefits for society (Haveman & Smeeding, 2006).

To meet President Obama’s “2020 Completion Goal,” significantly more students must enroll in higher education, particularly those from traditionally underrepresented populations (Complete College America, n.d.). And while national figures show increases for some groups, enrollment for Black males has stalled for several years.¹ Data from the National Center for Education Statistics (NCES) indicate that Black males accounted for only 5.3% of all students at undergraduate institutions in 2012 (US Department of Education, 2013)—nearly the same proportion as in 1976 (Harper, 2006; Strayhorn, 2008c). Low enrollment rates cannot be explained by the talent pool alone, since national data indicate that upward of 15% of Black men in the US are college-age and many never attempt higher education (U.S. Census Bureau, 2012).

Scholarly research on Black male college enrollment is replete with references to factors that may drive “achievement gaps” for Black males, such as pre-college preparation (e.g., Palmer & Young, 2009; Polite, 1999), academic tracking (e.g., Palmer, Davis, & Hilton, 2009; Oakes, Gamoran, & Page, 1992), and low expectations from teachers (Ferguson, 2003; Kunjufu, 1986; Strayhorn, 2008d), to name a few. One area that has yet to be sufficiently examined in prior research is the experiences of Black males who come into contact with the criminal justice system prior to entering or enrolling in college, which may significantly reduce their odds of enrolling or finding success in higher education (Strayhorn, Johnson, & Barrett, 2013).

Recent data indicate that Black youth represent just 16% of all public school students in the US but constitute 31% of all arrested youth, with Black males outnumbering females (Rovner, 2014). Existing research, though limited, suggests that early contact with the criminal justice system, such as an arrest, has negative educational consequences for all youth generally, and Black youth specifically, although relatively little is known about the relationship between arrest and college enrollment (e.g., Hirschfield, 2009; Kirk & Sampson, 2013). Studies that do focus on college outcomes offer limited insight into the condition of Black males, who are overrepresented among juvenile arrests, school suspensions, and expulsions,
yet make up only 5% of collegians in the US (Irvine, 1990; Noguera, 1997; Palmer, Wood, Dancy, & Strayhorn, 2014).

Though scholarly research is limited, there is theoretical support for hypothesizing a relationship between juvenile arrest and college enrollment. For instance, life course theory of cumulative disadvantage (LCTCD), which draws on the assumptions of both social control theory (Hirschi, 1969) and labeling theory (Becker, 1963; Lemert, 1951), suggests that an arrest could serve as a negative turning point in one’s life course, leading to a series of detachment processes that increase one’s likelihood of school dropout. Thus, it is reasonable to believe that Black males’ arrest experiences as juveniles have negative consequences for their likelihood of enrolling in college, which was the focus of this study.

PURPOSE OF STUDY

The purpose of this study was to test the relationship between Black males’ early contact with the criminal justice system through juvenile arrest and four-year college enrollment using a nationally representative sample of approximately 1,100 Black males who participated in the National Longitudinal Study of Youth (NLSY:97). Specifically, a battery of statistical controls were employed to isolate and test the predictive validity of Black male arrest history on their probability of enrolling in a four-year college in 2003. Two central research questions guided this study:

1. Are there significant differences between Black males who report being arrested as a youth and those who do not in terms of four-year college enrollment?
2. Controlling for a battery of background and family factors, does Black male youth arrest status significantly predict enrollment in a four-year college?

BRIEF REVIEW OF LITERATURE

To conduct this study, it was necessary to review literature in two areas of inquiry: (a) what we know from research about the influence of juvenile arrest on education outcomes and (b) what we know from research about Black males’ pathways to college. This organization served as a useful frame for reviewing existing literature.

Influence of Juvenile Arrest on Educational Outcomes

The weight of empirical evidence offers compelling arguments about the negative influence of early criminal justice contact, such as juvenile arrest, on
educational outcomes—the majority of which focus on high school (e.g., De Li, 1999; Hirschfield, 2009; Lochner, 2004; Tanner, Davies, & O’Grady, 1999). For instance, Hjalmarsson (2008) analyzed data from a nationally representative sample (N = 7,417) of youth who participated in NLSY:97 to test the relationship between juvenile justice system interactions and high school graduation. The author reported that arrested youth were 11 times less likely to graduate high school than non-arrested youth—results were not disaggregated by race and sex. Sweeten (2006) drew similar conclusions for Black and Latino youth using NLSY:97 data to test the effect of first-time arrest and court involvement during high school on educational attainment. He noted, “first-time arrest during high school nearly doubles the odds of high school dropout, while a court appearance nearly quadruples the odds of dropout” (p. 473).

Though none of the studies report results disaggregated by both race and sex, a growing number of authors have focused attention on at-risk populations such as those from large cities or economically disadvantaged backgrounds—factors that significantly influence one’s likelihood of arrest and educational achievement (e.g., McDonough, 1997; Sampson & Laub, 1997; Strayhorn, 2009a). Hirschfield (2009) analyzed a sample of nearly 4,900 students from predominantly minority neighborhoods in Chicago, controlling for a number of confounding factors such as race, their parents’ educational background and expectations, delinquency, and prior academic achievement. Results from his study indicate that students who were arrested during the 9th or 10th grade were six to eight times more likely to dropout of high school than those who reported no arrests. Likewise, Bernburg and Krohn (2003) found that juvenile arrest experiences significantly reduced students’ odds of graduating from high school by more than 70%, examining data from a sample (N= 605) of seventh- and eight-grade males from Rochester, New York, public schools. Though their results were not disaggregated by race, nearly 70% of participants in their sample identified as African American.

Research related to juvenile arrest and college outcomes is virtually non-existent. Kirk and Sampson (2013) provided an initial foray into this line of inquiry, estimating the direct effect of arrest on later high school dropout and college enrollment for youth, suggesting that arrest has “severe consequences for the prospects of [college] educational attainment” (p. 47). Youth with arrest records in their study had only a 0.18 probability of enrolling in a four-year college compared to nonarrestees, who had a probability of college enrollment equal to 0.34. The authors concluded, “. . . arrest in adolescence hinders the transition to adulthood by undermining pathways to educational attainment” (p. 19). The following section reviews what we know from research about Black males’ pathways to higher education.
Black Males’ Pathways to Higher Education

Black males encounter significant challenges along the education pipeline that collectively reduce their odds of college enrollment (e.g., Cuyjet & Associates, 2006; Ferguson, 2003; Ford, 1998; Irvine, 1990; Jackson & Moore, 2008; Jenkins, 2006; Polite, 1999; Steele, 1997; Strayhorn, 2008b). One line of inquiry directs attention to the role of teachers, who often maintain low or negative expectations of Black males (e.g., Kunjufu, 1986; Wood, Kaplan, & McLoyd, 2007). Strayhorn (2008d) examined the relationship between teacher expectations and academic achievement among urban Black males who responded to the National Education Longitudinal Study (1998/2000). Results from his study suggest that teachers, on average, have lower expectations for Black male students than White male and Black female students. Moreover, approximately 16% of Black males in his sample reported that their teacher recommended work instead of school; and 20% reported feeling “put down” by their teacher, compared to 4% of White males and 4.8% of Black females. Teachers who impose low or negative expectations on Black males tend to interact least with them, limiting their beliefs in students’ ability to learn (e.g., Kunjufu, 1986). As a result, some Black males may internalize such negative self-beliefs, which, in turn, threaten their educational success (Steele, 1997).

A second line of literature focuses on the disproportionate placement of Black males in special education (e.g., Harry & Anderson, 1994; Noguera, 2003). Data suggest that Black males constitute more than 20% of all students in special education, though they represent only 9% of the total school population in the United States (National Education Association, 2011). Concerns about this inequity have prompted a wide range of research (e.g., Dunn, 1968; Dykes, 2008), some of which has argued that Black male placement in special education is, in part, a function of their relationship and experiences with teachers. In other words, Black male students are considerably less likely than White students to have positive relationships with their teachers and are, thus, more likely to be referred to special education for disciplinary reasons (Decker, Dona, & Christenson, 2007; Monroe, 2005). Analyzing data from 10 school districts, Herrera (1998) found a statistically significant relationship between the number of Black students placed in special education and the number of White teachers in the school system. On average, cities with the highest percentage of White teachers also had the highest percentage of Black students identified as “special.” Generally, students in special education are less likely to be exposed to rigorous classroom instruction and therefore are not college- and career-ready upon graduation (Ford, 1998).

A third and final line of inquiry highlights the disproportionate punishment of Black male students in school (Ferguson, 2001; Irvine, 1990; Noguera, 2003). Several scholars have argued that Black males’ overrepresentation in exclusionary
discipline (e.g., detention, suspension, expulsion, and school replacements) is, in part, a function of school personnel’s negative perceptions of them (Darensbourg, Perez, & Blake, 2010; Ferguson, 2001; Kunjufu, 1986). Lewis and colleagues (2010) provided insight on exclusionary practices, drawing on data from an urban school district in the Midwest to examine differences in discipline responses to Black and White male students and uncovered several key findings. First, though Black males made up only 11% of the total district population, they constituted nearly 37% of all disciplinary sanctions. A great majority of the behavioral infractions were for disobedience (47%) and defiance (17%) and not fighting, threats, or thefts (15% combined). Second, 33% of behavioral sanctions were detentions, 38% were in-school suspensions, and 38 were out-of-school suspensions.

Increasingly, more students are also being referred to the police or courts, criminalizing misbehavior in school, which has been referred to as the “school-to-prison pipeline” (Cass, Curry, & Liss, 2007; Krezmien, Leone, Zablocki, & Wells, 2010). Krezmien et al. (2010) studied school referrals directly to juvenile courts in five states and found they increased between 1995 and 2004. The authors attributed this trend to increased reliance on zero-tolerance policies for school misbehavior, as well as an increase in the use of police officers to manage school misbehavior. Utilizing correctional services for typical disciplinary problems severely impacts Black males, increasing their odds of arrest and incarceration.

Youth with arrest records who graduate from high school, for instance, may have poor grades and inconsistent attendance records, a potential consequence of issues faced in the criminal justice process, such as time in court, with parole officers, or court-required community service. Poor academic records may limit students’ competitiveness in college admission and securing financial aid. Furthermore, gatekeepers like guidance counselors might have little motivation to support youth with criminal records in their college search (Kirk & Sampson, 2013). Taken together, these factors may, among others, significantly lower the probability of college enrollment for such Black males.

METHODS

This study represents a secondary data analysis of the National Longitudinal Study of Youth (NLSY:97), which was sponsored by the U.S. Bureau of Labor Statistics. Secondary data analysis refers to the “re-analysis of data for the purpose of... answering new questions with old data” (Glass, 1976, p. 3). Secondary analysis of existing data permits researchers access to data from large, national samples that would otherwise be difficult for a single researcher to collect (Kiecolt & Nathan, 1985). Provided in this section is an overview of the methodology that was employed in this study.
Data Source

The dataset for this study was constructed from the NLSY:97, which was de-
dsigned to represent the civilian, non-institutional population of the US between the
ages of 12 and 16 as of December 31, 1996 (Moore, Pedlow, Krishnamurty, &
Wolter, 2000). This ongoing cohort has been surveyed 15 times, now biennially,
and was most recently interviewed in 2011–12 (Hering & McClain, 2003). The
NLSY:97 collects extensive information about the youth’s labor market behavior,
educational experiences, as well as their family and community backgrounds.

Sample

The unweighted analytic sample for this study was restricted to respondents
who identified as “Black” and “male” within the first wave of the survey (N = 1169).
A great majority (95%) of the sample reported they were U.S. citizens (i.e., born
in the US). Ages of the participants varied. For instance, 18% of the sample was
12 years old at the time of the initial survey and 20% were 15 years old. Most (77%)
of the participants reported residing in an urban area at the time of the initial survey.
For more information about the analytic sample, see Table 1.

Measures

The primary independent variable for this study measured Black males’ arrest
status in 1997. Participants were asked, “Have you ever been arrested by the police
or taken into custody for an illegal or delinquent offense?” Responses were coded
dichotomously: 0 (no) to 1 (yes). Coding of this variable is consistent with pre-
vious research (Bernburg & Krohn, 2003; Brame, Bushway, Paternoster, & Turner,
2014; Sweeten, 2006).

The dependent variable measures Black male college enrollment status in
September 2003. This categorical variable was initially on a four-point scale: 1 (not
enrolled in college), 2 (enrolled in a two-year college), 3 (enrolled in a four-year
college), and 4 (enrolled in a graduate program). For the purposes of this study,
it was recoded to exclude individuals enrolled in two-year colleges and graduate
programs. Thus, responses were coded dichotomously: 0 (no, not enrolled) and
1 (yes, enrolled), as has been done in prior research (Perna, 2000).

NLSY:97 permits the use of a robust set of statistical controls to isolate
the net effect of the predictor variable on the dependent variable. Prior research
uncovered several factors that may confound the relationship between juvenile
arrest and college enrollment based on prior literature: parents’ level of education
(e.g., Horn & Bobbitt, 2000), parents’ income (e.g., McDonough, 1997), parents’
expectations (e.g., Lareau, 1987), prior academic achievement (e.g., Davis, 2003),
delinquency (e.g., Sampson & Laub, 1997), and urbancity (e.g., Strayhorn, 2009a).
Their parents’ income was measured on a five-point scale ranging from 1 ($5,000) to 7 (more than $250,000). For parents’ expectations of their child’s educational achievement, a composite variable (α = 0.71) was created using three items, such as “What is the percent chance that [he/she] will have received a high school diploma by the time [he/she] turns 20?” Each item was originally on a scale of 0 to 100. The composite variable was created by summing these three items; the range of the composite is from 0 to 300.

Prior academic achievement (α = 0.64) was also measured using a composite variable, including their eighth grade and high school grades. Both items were originally scored on a seven-point scale: 1 (mostly below Ds), 2 (mostly Ds), 3 (about half Cs and half Ds), 4 (mostly Cs), 5 (about half Bs and half Cs), 6 (mostly Bs), and 7 (about half As and Bs). The composite variable was created by summing these two items; the range is from 2 to 14. Delinquency was measured

### Table 1. Description of Analytic Sample

<table>
<thead>
<tr>
<th>Characteristic/Variable</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>19%</td>
</tr>
<tr>
<td>12</td>
<td>21%</td>
</tr>
<tr>
<td>13</td>
<td>20%</td>
</tr>
<tr>
<td>14</td>
<td>20%</td>
</tr>
<tr>
<td>15</td>
<td>20%</td>
</tr>
<tr>
<td>College Enrollment Status (2003)</td>
<td></td>
</tr>
<tr>
<td>Not Enrolled</td>
<td>75%</td>
</tr>
<tr>
<td>Enrolled at four-year College</td>
<td>25%</td>
</tr>
<tr>
<td>Ever Arrested?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>92%</td>
</tr>
<tr>
<td>No</td>
<td>8%</td>
</tr>
<tr>
<td>Urbanicity</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>24%</td>
</tr>
<tr>
<td>Rural</td>
<td>76%</td>
</tr>
<tr>
<td>U.S. Citizenship</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>95%</td>
</tr>
<tr>
<td>No</td>
<td>5%</td>
</tr>
</tbody>
</table>

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using an existing composite variable, including 10 self-reported items, each representing a delinquent act. The Delinquency Index is on a scale from 0 (no delinquent acts) to 10 (many delinquent acts). Finally, urbanicity was coded dichotomously: 0 (rural) to 1 (urban).

Validity and Reliability

Validity and reliability are both addressed in this study. Validity refers to an evaluation of whether or not a particular mode of assessment accurately measures what it intends to measure (Suskie, 1996). Moreover, “validation combines scientific inquiry with rational argument to justify score interpretation and use” (Messick, 1995, p. 742). This study addressed validity in several ways. First, NLSY:97 is a widely used and circulated instrument. Government agencies and academic institutions regularly draw on data and findings from NLSY:97 in their recommendations to—and testimony before—Congress. Second, NLSY was designed and executed by the National Opinion Research Center (NORC), one of the largest independent social research organizations in the country, established in 1941 at the University of Chicago. Third, NLSY is well respected in the academic community. To date, nearly 10,000 journal articles, book chapters, and other studies have been published using information from the NLSY. Finally, validity of this study’s variables was assessed using theoretical justification and factor analysis. Validity is important, but it is not sufficient by itself. A second important consideration is instrument reliability.

Reliability is defined as the “consistence with which an instrument measures whatever it measures” (Schmidt, Viswesvaran, & Ones, 2000, p. 905). Said differently, reliability refers to the stability and internal consistency of the measures of interest. The present study addressed reliability in the following ways. First, NLSY is a nationally represented longitudinal study with repeated measures, demonstrating stability and consistency of items over time. In terms of the independent variable of interest, internal consistency reliability is not calculable, but internal consistency was calculated for multi-item scales in this study.

Data Analysis

Several steps were taken to prepare data for final analysis. First, data were retrieved in aggregate from the NLS website. Given the purpose of this study, data were subsequently restricted to permit analysis of the primary research questions, excluding data beyond the scope of this study. Second, all variables were screened for missing cases. Scholarly research suggests secondary analysis of national databases is often complicated by the amount of missing cases or data
(Graham & Hoffer, 2000; Little & Rubin, 1989; Strayhorn, 2009b). Thus, missing data were handled through case-by-case analysis. For instance, listwise deletion was used for variables with less than 5% of missing data (Cohen & Cohen, 1983)—these variables included arrest status, college enrollment status, and delinquency. One important caveat is that missing data constituted nearly 10% of all cases for college enrollment status. Since it was the dependent variable, listwise deletion was deemed appropriate, dropping all missing cases. For the remaining variables, mean substitution was used to replace missing information—this is referred to as the zero-order correction procedure (Strayhorn 2009b). Table 2 provides a summary of these results.

Sampling weights were also applied to the data before analysis, given the complex sampling techniques employed in NLSY:97. The panel weight was appropriate for approximating the population of youth in 1997 with arrest records in the longitudinal study. To minimize the influence of large sample sizes ($N = 140,145, 249$) on standard errors while also correcting for oversampling of some groups (e.g., Blacks), cases were weighted by the NLSY panel weight divided by the average ($M = 130,036.55$) weight of the sample (Thomas & Heck, 2001). This procedure reduced the sample size to 1,078.

Once data were prepped, analysis proceeded in three stages. First, descriptive statistics were used to calculate measures of central tendency for all independent, dependent, and control variables in this study. Second, to answer the first research question and test for significant differences between Black male arrest and college enrollment status, a Pearson chi-square test was used. This procedure is used to test for independence when both variables are categorical.

Table 2. Means and Standard Deviations for all Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unadjusted M</th>
<th>Unadjusted SD</th>
<th>Adjusted M</th>
<th>Adjusted SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrest Status</td>
<td>0.13</td>
<td>0.34</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>College Enrollment Status</td>
<td>0.14</td>
<td>0.35</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Delinquency</td>
<td>1.74</td>
<td>2.02</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Parent Expectations</td>
<td>242.01</td>
<td>67.43</td>
<td>251.24</td>
<td>39.31</td>
</tr>
<tr>
<td>Parent Income</td>
<td>20692.15</td>
<td>16634.40</td>
<td>20966.23</td>
<td>11955.47</td>
</tr>
<tr>
<td>Urbanicity</td>
<td>0.81</td>
<td>0.39</td>
<td>0.81</td>
<td>0.38</td>
</tr>
<tr>
<td>Prior Academic Achievement</td>
<td>13.77</td>
<td>3.70</td>
<td>15.73</td>
<td>0.60</td>
</tr>
</tbody>
</table>
Finally, the second research question was answered using a hierarchical binomial logistic regression given the nature of the dependent variable and the study’s goal of controlling for a battery of controls. Hierarchical regression analysis is “a method of regression analysis in which independent variables are entered into the regression equation in a sequence specified by the researcher in advance” (Vogt, 1993 p. 129). This approach yields more conservative estimates of statistical relationships, thereby reducing the chances of making type 1 errors. Also, using logistic regression was deemed the most appropriate method for examining binary outcomes (Aldrich & Nelson, 1984). Several indices were interpreted to assess the “fit” of the model, including the likelihood ratio test, omnibus test of model coefficients, and several pseudo $R^2$ values that measure the overall strength of association between independent and dependent variables (Pampel, 2000). The Hosmer-Lemeshow goodness-of-fit test was interpreted, which assesses the degree to which the observed frequencies match the expected frequencies using a chi-square goodness-of-fit test.

To evaluate the overall strength of statistical relationships, several other statistics were calculated and interpreted—including predicted probabilities, predicted odds, and adjusted odds ratios where necessary (Keith, 2006; Pampel, 2000). Probabilities refer to the probability of enrolling in a four-year college relative to arrest status, controlling for confounding variables. Predicted odds measures the odds of enrolling in a four-year college relative to the influence of an independent variable, controlling for all others. Odds ratios are “a ratio of the odds for each group” (Meyers, Gamst, & Guarino, 2006, p. 230).

Limitations

Before presenting the results of the present study, several limitations should be noted because they are important to consider when interpreting the results. First, some variables in this study were limited by the magnitude of the missing data. Variables with the largest share of missing data included prior academic achievement, parents’ income, and parents’ expectations. In these cases, listwise deletion would have reduced the analytic sample significantly, possibly resulting in a non-representative sample. To avoid substantial reduction in sample size, the author took several steps to address missing cases. Specifically, mean substitution was used to replace missing information, which is referred to as the zero-order correction procedure (Strayhorn, 2009b). To the extent that these adjustments alter statistical relationships, parameter estimates may be biased.

Second, despite its widespread use in education and social science research, secondary data analyses are limited by the factors that can be defined, operationalized, and measured in the studies (Thomas & Heck, 2001). As such, the author
was limited to only those factors that could be measured by variables available in the NLSY:97. For example, the dependent variable that asked participants “What was your college enrollment status during September in 2003?” did not account for Black males who enrolled in college between the years of 1998 and 2002. We know from higher education research that Black males’ pathway to and through college is checkered with various transitions such as stop-outs, dropouts, and delayed enrollment (e.g., Cuyjet & Associates, 2006; Strayhorn, 2010). Future studies should account for such nuances, computing a new composite variable to measure and track college enrollment between those years. It is also possible that the survey did not measure all confounding variables mediating the relationship between juvenile arrest and college enrollment. Still, using this database greatly increased my ability to test the relationship between juvenile arrest and four-year college enrollment, controlling for a relevant set of confounding variables.

Third, this study examined self-reported arrests of Black male youth who responded to NLSY:97. Self-reported data might differ from more objective or standardized reports of arrest histories as individuals may be inclined to underestimate their number of arrests, yet prior research suggests that self-reported data are generally reliable when (a) the information requested is known by the respondents, (b) when the questions are phrased clearly and unambiguously, and (c) when the respondents think the questions merit a serious and thoughtful response (Pace, 1985). The present study was based on these assumptions.

Finally, the design of this investigation (i.e., secondary analysis) presented another limitation. The NLSY:97 study did not employ a simple random sampling strategy. Instead, a complex sampling design was used to collect data from a nationally representative sample. This sampling strategy presents researchers with a number of technical and statistical issues (Thomas & Heck, 2001). Appropriate weights were applied to the database to account for the stratified, complex sampling design used and to “weight up” sample estimates to the population parameters. While useful to discuss, these issues do not limit the importance of this analysis. The next section presents the results of this study followed by a discussion of their relevance to existing research.

RESULTS

Recall the purpose of this study was to test the relationship between Black male youth’s early contact with the criminal justice system through arrest and four-year college enrollment using a nationally representative sample of approximately 1,100 Black males who participated in the NLSY:97. Specifically, I employed a battery of statistical controls to isolate and test the predictive validity
of Black males’ arrest history on their probability of enrolling in a four-year college in 2003.

Research Question One: Chi-Square Test

A Pearson chi-square test of independence was performed to examine the relationship between juvenile arrest and four-year college enrollment status for Black males, given the binary nature of each variable. Results suggest statistically significant differences in the expected and observed frequencies of enrollment in four-year college for Black males in 2003 on the basis of their 1997 arrest status: $X^2 (N = 1079) = 23.52, p < 0.01$. In other words, Black males who reported being arrested at some point in their life by 1997 were less likely to be enrolled in a four-year college in 2003 than their same-race male peers who were never arrested. Approximately 2% of Black males who were arrested by 1997 were enrolled in a four-year college in 2003. Table 3 presents a summary of these results.

Research Question Two: Hierarchical Binomial Logistic Regression

Hierarchical binomial logistic regression techniques were used to examine the relationship between 1997 arrest status and probability of four-year college enrollment in 2003 for Black males in the NLSY:97 national sample. The final model (including the predictor and all control variables) was not considered to be a good fit. Several model-fitting indices support this conclusion. Results from the Hosmer-Lemeshow (2000) test ($X^2 [8] = 16.37, p < 0.05$) suggest statistically significant differences between the predicted and observed frequencies, rendering the model a bad fit. A small observed change in scaled deviance ($\Delta -2 \log\text{likelihood} = 23.66$) also suggests that the model was not a good fit. Generally, the smaller the statistic, the better the model (Sweet & Grace-Martin, 1999).

Other indicators were also used to evaluate the ability of the final model to predict four-year college enrollment, including Cox and Snell and Nagelkerke

Table 3. Descriptive Statistics for College Enrollment by Arrest Status

<table>
<thead>
<tr>
<th>Arrest Status</th>
<th>College Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>758</td>
</tr>
<tr>
<td>Yes</td>
<td>145</td>
</tr>
</tbody>
</table>

*Note. $\chi^2 = 23.52, df = 1, p < 0.01$. Numbers in parentheses indicate column percentages.*
pseudo-R squared. Cox and Snell pseudo-$R^2$ was 0.09, and Nagelkerke pseudo-$R^2$ was 0.14 in the final model. In other words, only a small portion of the variance or change in probability of four-year college enrollment was accounted for by the factors in the final statistical model. Approximately 84% of cases could be correctly classified using the final regression model.

Several independent variables were significant predictors of Black males’ four-year college enrollment in the last and final model: delinquency, parents’ expectations, parents’ education, parents’ income, and arrest status in 1997. Black males who reported higher levels of delinquency ($b = -0.13$) had a lower probability of enrolling in a four-year college in 2003 than their less delinquent, same-race male peers. Parents’ education ($b = 0.08$), parents’ expectations ($b = 0.02$), and parents’ income ($b = 0.00$) were all statistically significant positive predictors of four-year college enrollment. In other words, Black males whose parents reported higher levels of education, higher educational expectations for their children, and higher incomes had a greater probability of enrolling in a four-year college in 2003 than those who did not. Reported arrest status ($b = -1.58$) in 1997 was also a significant negative predictor of four-year college enrollment for Black males in 2003. Black males who reported ever being arrested by 1997 were significantly less likely to enroll in a four-year college in 2003 than their same-race male peers who reported never being arrested (see Table 4). To evaluate the overall strength of statistical relationships, predicted probabilities, predicted odds, and adjusted odds ratio were also computed. Consistent with the literature, Black males in the NLSY:97 sample were unlikely to enroll in college by

<table>
<thead>
<tr>
<th>Factor</th>
<th>Model 1 ($\beta$)</th>
<th>Model 2 ($\beta$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrest Status</td>
<td>–</td>
<td>-1.58*</td>
</tr>
<tr>
<td>Delinquency</td>
<td>-0.21**</td>
<td>-0.13*</td>
</tr>
<tr>
<td>Parents’ Education</td>
<td>0.09**</td>
<td>0.08*</td>
</tr>
<tr>
<td>Parent’s Expectations</td>
<td>0.02**</td>
<td>0.02**</td>
</tr>
<tr>
<td>Parent’s Income</td>
<td>0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Prior Academic Achievement</td>
<td>0.16</td>
<td>0.16</td>
</tr>
<tr>
<td>Urbanicity</td>
<td>-0.05</td>
<td>-0.01</td>
</tr>
<tr>
<td>Constant</td>
<td>-12.31</td>
<td>-11.69</td>
</tr>
</tbody>
</table>

*Note. $^*p < 0.05$$^{**}p < 0.01.$
2003. Those who were arrested by 1997 were even less likely and had a predicted probability of 0.

DISCUSSION

Results from this study suggest a negative relationship between early criminal justice contact through arrest and four-year college enrollment for Black male youth. Statistical differences were observed in Black males’ four-year college enrollment by arrest status. Specifically, Black males who reported being arrested as a juvenile were less likely than their same-race male peers who were never arrested to enroll in a four-year college by 2003. Likewise, juvenile arrest was a significant predictor of the probability of four-year college enrollment by 2003 for Black males in the sample.

Although scholarly literature examining the nexus between juvenile arrest and college enrollment is sorely underdeveloped, results from the present study generally affirm conclusions drawn in previous research. Kirk and Sampson (2013) analyzed data from 9,000 Chicago residents and found that juvenile arrest is related to odds of college enrollment. In their study, only 16% of individuals with juvenile arrest records enrolled in a four-year college. Similarly, results from the current study suggest clear differences in college enrollment based on Black males’ juvenile arrest status—those with juvenile arrest records were significantly less likely to enroll in a four-year college by 2003. Additionally, data from this study demonstrate that Sampson and Kirk’s findings, which were based on a diverse sample of Chicago residents, hold for Black males in the NLSY sample: juvenile arrest significantly predicts the probability of enrolling in a four-year college, controlling for more traditional academic and background predictors. Even though two Black males may have similar personal and academic records, the one with a juvenile arrest record is significantly less likely than the one without to enroll in college, all other things being equal.

Results from the present study also relate to prior research on Black males’ experiences with the criminal justice system. Data has shown that among Black men ages 18 and older, the national incarceration rate is 1 in 15 (Pew Charitable Trusts, 2008). Results from this study not only affirm the fact that some Black males report early contact with the correctional system through juvenile arrest, but extends what is known by demonstrating that juvenile arrest can have a deleterious impact on one’s educational opportunities. Black men in the study’s analytic sample were significantly less likely to enroll in college if they were arrested as a juvenile—only 2% who were arrested as juveniles went on to enroll in a four-year college. This adds important information to the growing literature on
the Black male crisis in higher education (Cuyjet, 1997; Cuyjet & Associates, 2006), mass incarceration (Alexander, 2012), and the juvenile justice system (Kirk & Sampson, 2013; Rovner, 2014).

Recall, results from this study suggest that Black males were unlikely to enroll in college by 2003; and those who were arrested by 1997 were even less likely, with a predicted probability of zero. Decades of research on the “Black male crisis” in higher education converge with these results (Cuyjet, 1997; Cuyjet & Associates, 2006). Black males’ low college enrollment rates have been attributed to many factors such as pre-college preparation (e.g., Strayhorn, 2011), over-representation in remedial and special education (e.g., Noguera, 2003), and disproportionate punishment in school (Ferguson, 2001). Findings from this study contribute to this line of inquiry, identifying juvenile arrest as yet another factor diminishing Black males’ odds of college enrollment.

There were also other significant predictors of four-year college enrollment for Black males, like delinquency. This relationship seems rather intuitive, as delinquency often leads to criminal justice contact through an arrest (Sampson & Laub, 1997). Said differently, individuals who engage in delinquent activities are more likely to be arrested, though I recognize that certain groups, like Black males, experience criminal justice contact at disproportionate rates regardless of delinquency (Alexander, 2012).

Results from this study relate to other research conclusions as well. For example, dozens of studies have shown that juvenile delinquency is associated with lower levels of educational attainment for all students (e.g., De Li 1999; Lochner, 2004; Tanner et al., 1999). Yet the weight of empirical evidence to date focuses exclusively on secondary educational outcomes, such as high school dropout. In one such study, Ward and Williams (2014) found that delinquency by the age of 16 reduces males’ probability of graduating from high school or a four-year college. Results from the present study go a step further and show that juvenile arrest distinguishes Black men who enroll in college from their same-race male peers who do not. The study also provides evidence that juvenile arrest reduces the probability that Black males will enroll in a four-year college, taking Ward and Williams’ conclusions to the postsecondary level and focusing specifically on Black males’ chances of enrolling in college. No doubt strategies are needed to prevent juvenile delinquency/arrest as well as ways to overcome the long-term impacts of juvenile arrest.

Conceivably, a Black male who was arrested at the age of 12 should be given the opportunity, upon release, to successfully reintegrate into society as a law-abiding citizen without reproach. In fact, the juvenile justice system was designed, at least in part, with that goal in mind. Findings from this study suggest
that early criminal justice contact through arrest for Black males may have negative and stigmatizing long-term effects, significantly reducing their odds of four-year college enrollment—the most direct pathway to ensuring economic and social mobility. Said differently, a juvenile arrest may operate as a new scarlet letter, so to speak, denying Black men critical educational opportunities important for their success and livelihood. This quite frankly is unacceptable. In her seminal book, Alexander (2012) argued that “[Black males] are part of a growing undercaste, permanently locked up and locked out of mainstream society” (p. 8). Findings from study converge with Alexander’s assertion.

Implications for Future Practice, Research, and Policy

Results suggest a number of important conclusions that have implications for future practice, research, and policy. In terms of practice, college outreach and academic support programs (COASPs) that specifically target individuals who have been involved in the juvenile justice system may be an appropriate strategy for bolstering college access. Indeed, COASPs have become increasingly popular vehicles for broadening participation, enhancing academic skills, and promoting engagement among students (Strayhorn, Kitchen, Johnson, & Tillman-Kelly, 2015). Such programs, designed with juvenile offenders in mind, might help mitigate labeling affects and the attenuating prosocial bonds with school that many Black males face as a result of an arrest status. COASP directors might target juveniles with criminal records to reconnect them with prosocial peers and groups and dispel myths about who “qualifies” for college.

Perhaps most importantly, COASPs might serve as the mechanism through which accurate and clear information is shared with students and their families about their legal rights in terms of disclosure of their criminal records in their college applications. Many youth do not pursue a four-year college education because of anxiety about disclosing their juvenile records. However, few know that there are laws and polices in place that are designed to protect them from discrimination on this basis. For instance, a Black male youth under the age of 18 who has been arrested, or even adjudicated under the court of law (even if found guilty), may select “no” on a college or job application when asked if they have ever been convicted of a crime. Such information is critical in expanding access to four-year colleges for all juvenile offenders generally and Black males specifically.

Professional development and training is also necessary for educators who teach, advise, and work with students in schools to enhance their capacity to help and support Black male youth with juvenile records. To do so, educators must acknowledge, challenge, and ultimately suspend biases and stereotypes that may get in the way of meaningfully supporting Black males, especially those with juvenile
records. Project Implicit at Harvard University provides training on implicit bias, diversity and inclusion, and biases in decision-making. School leaders should consider organizations like Project Implicit when making plans for professional development training.

This study represents a significant contribution to scholarly literature. A careful review of existing research returned very few studies examining the relationship between juvenile arrest and four-year college enrollment and none on Black males specifically. This is surprising, as we have known from research that Black males are disproportionately overrepresented in the criminal justice system (Alexander, 2012) and underrepresented in college (Cuyjet, 1997; Cuyjet & Associates, 2006). More research on the negative and unintended outcomes associated with early criminal justice contact is necessary. Researchers might examine specific types of arrests and their impact on college enrollment, such as violent crimes and robbery. It could be the case that certain types of arrests have a more significant impact on one’s odds of four-year college enrollment. One might also consider examining differences across race and sex.

Results from this study hold promise for various policy makers as well. Federal policy makers, for example, should call for the reauthorization of the Juvenile Justice and Delinquency Prevention Act (JJDPA), which requires states to track, examine, and address the disproportionate representation of minority youth across multiple points of contact (e.g., arrest, referral to court, secure detention, etc.). The current JJDPA delineates four “core protections” that states must comply with as a condition for receiving federal juvenile justice funding, one of which requires states to track disproportionate minority contact (DMC) at critical junctures in the juvenile justice system, as well as develop plans to address such disparities. Findings from this study underscore the seriousness of juvenile arrest for Black males, a subpopulation remarkably impacted by DMC. Federal policy makers should implement more strict requirements for states whose DMC ratios are high, requiring them to develop and implement plans to address disparities using evidence-based policies and practices. Policy makers might also establish policies under JJDPA that allocate funds to states and agencies for reducing DMC and juvenile delinquency.

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NOTES

1. For the purposes of this study, “Black” and “African American” are used interchangeably referring to individuals who trace their ancestral origins to groups of the African diaspora, including West Indians, Africans, Caribbeans, and Haitians, to name a few (Strayhorn, 2008a). In addition, male refers to one’s sex or biological assignment at birth to avoid conflating issues of sex with gender, gender performance, or sexuality (Butler, 2004).

REFERENCES


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