

Adult Earnings of Juvenile Delinquents: The Interaction of Race/Ethnicity, Gender, and Juvenile Justice Status on Future Earnings



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Abstract

It has long been recognized that Whites and males have higher incomes than non-Whites and females. The U.S. Census Bureau recently reported that White males have the highest incomes, while Hispanic females have the lowest incomes in comparison to other racial and ethnic groups. Research also shows that those who were involved in the juvenile and criminal justice systems have lower wages than those with no system contact, but it remains unclear how this varies based upon race, ethnicity, and gender. The current study explores the relationship between race/ethnicity, gender, and juvenile justice system involvement on future earnings using the National Longitudinal Survey of Youth, 1997. Findings suggest that system-involved White and Hispanic males earn more than most other groups, even non-delinquents. In contrast, system-involved Black males have similar incomes to females. These findings indicate that only certain types of juvenile delinquents experience reduced wages in adulthood.

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Introduction

Whites and males tend to have higher incomes than non-Whites and females. A recent study by the U.S. Census Bureau compared earnings of individuals with Bachelor's degrees and found that White males had the highest earnings followed by Asian males (Julian & Kominski, 2011). While Black and Hispanic males earned much less than their other male counterparts, both groups earned more than all female groups. Asian and White females had the highest earnings among females, while Hispanic females had the lowest earnings of any group. Extensive research has also found that criminal and delinquent records are associated with lower earnings in adulthood (Apel & Sweeten, 2010; Baert & Verhofstadt, 2013; Western, 2002).

Contact with the criminal or juvenile justice systems results in subsequent challenges that shape future employment outcomes. Most notably, court-involved juveniles are less likely to graduate from high school (Sweeten, 2006), a transition that is critical to gainful employment. Periods of confinement may also prevent the acquisition of knowledge and skill formation that lead to suitable employment (Waldfogel, 1994). Job applicants with delinquent or criminal records may then experience further negative labor market outcomes, as employers may be hesitant to hire those with criminal or delinquent records, in large part due to the negative stigmas (e.g. dangerousness) that employers have of former offenders, especially non-white applicants (Pager, 2003). In fact, many employers are legally prevented from hiring individuals with criminal records, further worsening employment options (Cromwell, Alarid, & Carmen, 2005). Collectively, the barriers and challenges faced by those with delinquent and criminal records reduce subsequent earning potential.

Evidence suggests that former delinquents earn less than their non-delinquent counterparts, but it remains unclear how outcomes vary based upon race, ethnicity, and gender. For example, it is unknown minority male with a delinquent record would earn more than a non-delinquent White female. To expound on this issue, the current study explores relationship between race/ethnicity, gender, and juvenile justice system involvement and future earnings using the National Longitudinal Survey of Youth, 1997 (NLSY). Such research is critical, as it has long been recognized that employment outcomes following criminal justice involvement can directly contribute to increased recidivism (Makarios, Steiner, & Travis, 2010). Furthermore, a large number of juveniles come into contact with the juvenile system annually. Recently, approximately 1.3 million juvenile arrests were recorded (Puzzanchera & Kang, 2014), 1 million juvenile court cases were processed (e.g. ranging from informal handling to juvenile court waiver) (Sickmund, Sladky, & Kang,

2015), and 54,000 juveniles faced some type of residential placement (e.g. detained prior to court, group home, secure confinement) (Sickmund, Sladky, Kang, & Puzzanchera, 2015). Collectively these findings indicate that a high number of juveniles come into contact with the juvenile justice system annually, potentially shaping long-term employment prospects and prolonging criminal behavior.

Criminal History and Future Earnings

Extensive research has examined the impact that criminal justice system involvement has on the employment prospects of adults. Adopting a life course perspective, Western (2002) examined wage growth by former prisoners and found that incarceration significantly reduced future wages by 10% to 20%. Similarly, Apel and Sweeten (2010) found that young adults who were incarcerated had a reduction in income of \$4,000 to \$5,000 per year. Western suggests income inequalities that already exist in society between Whites and Blacks are further worsened for those with criminal records. This was highlighted in Lyons and Pettit's (2011) study of ex-inmate wages, finding that Whites and Blacks had fairly similar wages prior to incarceration, but experienced significant wage divergence as Blacks suffered slower wage growth upon release. Consistent with prior research on wages in the overall population, formerly incarcerated Black men have significantly lower hourly wages (\$8.92/hour) than formerly incarcerated White (\$10.90/hour) and Hispanic men (\$10.23/hour) (Johnson & Johnson, 2012). Additionally, formerly incarcerated White men are able to find jobs much more quickly upon release (76 weeks) than Black (100 weeks) and Hispanic men (86 weeks). When considering the outcomes of males versus females, research examining the employment outcomes of patients in drug treatment centers, many who were involved in the criminal justice system, showed females depended more on public assistance and earned less than males (Oggins, Guydish, and Delucchi, 2001). Whereas 14% of males earned money from legal employment and 15% earned money from illegal employment, only 8% of females had a legal source of income and 6% had an illegal source of income. Eighteen months after leaving the program, females earned an average of \$365 per month from legal income, while males earned \$721 per month.

As criminal records are increasingly becoming accessible online, their availability further harms wages (Finlay, 2009). There are three primary reasons why ex-offenders are believed to have worse employment outcomes on reentry—employers do not want to hire those with the stigma of having a criminal record, the loss of social capital makes it difficult to have connections to employers, and ex-offenders may have fewer job skills (Jung, 2015). While research has shown that the ex-convict label makes it more difficult to obtain employment upon release (Pager,

2003), it is unclear if this stigma applies only to adults or if juvenile convicts experience similar challenges in the labor market.

Explaining Adverse Effects of a Delinquency Record

Juveniles are typically perceived to be less impacted by restrictions that ban felons from employment or stigmas that are ascribed to ex-offenders because their records can be sealed once the juvenile turns 18. However, expungement practices have changed over time. A recent examination of state expungement practices found that states are increasingly removing the court protections that were once standard for juveniles (Shah, Fine, & Gullen, 2014). For example, juveniles who committed certain offenses when they were over 13 or were convicted in adult court are ineligible to have their records expunged in California (California Courts, 2015). Having a criminal record expunged is critical to future employment success, as employers are reluctant to hire ex-offenders, as they fear they will engage in criminal activity on the job or behave inappropriately (Holzer, Raphael, & Stoll, 2002).

It is also possible that the juvenile could reveal a prior history of delinquency, thereby resulting in employment discrimination. To test the impact of a delinquent background, Baert and Verhofstadt (2013) replicated Pager's (2003) employment study, where she reported the number of callbacks from employers who received resumes from fictitious applicants (half of whom had a criminal record and half who did not), with resumes of applicants who had a juvenile record. To indicate a history of delinquency, resumes in Baert and Verhofstadt's study included the statement, "In view of a trustful collaboration I wish to report that during my secondary education career I spent one year at an open detention center because of juvenile delinquency" (p. 9). Resumes where an applicant disclosed a prior juvenile record were 22% less likely to receive a callback than those with no record. In contrast to Pager's study, they only included White applicants, so it is unclear how race or ethnicity would have impacted callbacks for juvenile delinquents.

In addition to juveniles potentially having to report prior criminal offenses, they may also have worse outcomes in employment because they have limited skills, education, job experience, and social capital (Jung, 2015); they have low expectations in the types of jobs they are trying to obtain, most of which do not require a college education (Bartlett and Domene, 2015); and they have challenges in retaining jobs after they are hired (McLennan and Bordin, 2006). As adults, former delinquents may face employment challenges that go beyond the stigma of a criminal record (Pager, 2003). For example, the limited legal job opportunities

available in many cities with high crime rates further exacerbate the challenges in obtaining employment (Wilson, 2012). Additionally, incarcerated juveniles may face a stigmatizing label that harms employment (Davies and Tanner, 2003). The stigmatization of a criminal record was evidenced in one study where 61% of employers reported that they would “probably” or “definitely” not hire someone with a criminal record (Holzer, Raphael, and Stoll, 2002). The types of jobs offenders seek further complicate the relationship between having a juvenile record and future wages. Nagin and Waldfogel (1998) found that young first-time offenders actually have higher incomes than non-offenders, but that this is largely driven by employment in “spot-market jobs” where pay is temporarily high. In contrast to jobs that require a college degree, where employees experienced provisionally lower incomes while in school, many low skilled jobs offer high paying, but unstable employment opportunities (*see also* Johnson & Johnson, 2012).

Delinquency History and Adult Earnings

Despite the potential benefits that may protect juveniles from the stigma of system involvement, they have also been found to have struggles in obtaining employment following contact with the juvenile system. Western and Beckett (1999) examined employment outcomes in adulthood of a sample of detained juveniles and found that formerly incarcerated juveniles worked fewer weeks per year than non-incarcerated juveniles, which persisted well into adulthood (*see also* Wiesner, Kim, and Capaldi, 2010). Another study reported survey results from a large sample of formerly incarcerated juveniles and found that only half were in school or employed five years after leaving a detention center (Emanuel, 2013). Formerly incarcerated juveniles also had less work experience and lower levels of education than those never incarcerated in adolescence (Jung, 2015).

In addition to experiencing challenges in gaining employment, system-involved juveniles also have lower wages when compared with their non-delinquent counterparts. For example, research has found that arrests reduce earnings up to 26%, female delinquents make less per hour than male delinquents, and non-White delinquents make more per hour than White delinquents (Bullis and Yovanoff, 2006; Joseph, 2003). Similar to the current study, Jung (2015) used the NLSY79 to study employment outcomes for male respondents who were incarcerated in juvenile correctional facilities. He found that incarceration in a juvenile facility reduced wages at age 40 by \$5 per hour. Allgood, Mustard, and Warren (1999) also used the NLSY97 to determine the impact of being charged and convicted between the ages of 14 and 22 on future earnings of males. They found that being charged and convicted reduced income by 21% and 28%, respectively, when compared with

a sample of non-offenders.

Although studies show that juvenile delinquents typically have worse employment outcomes than non-delinquent juveniles, these effects appear to be temporary and fade with time (Grogger, 1995; Huebner, 2005). Additionally, expungement of delinquency records has significant positive impacts on income in adulthood (Litwok, 2014). Litwok's comparison of juveniles who lived in states where their delinquency records were automatically expunged with those living in states where expungement required an application process showed that automatic expungement was associated with higher incomes. While it is evident that juvenile justice system involvement harms employment outcomes, at least temporarily, it is unclear how specific demographic factors may interact to shape these results.

Considering Interaction Effects

Overall it appears that males are paid less than females; Whites are paid more than other racial and ethnic minority groups; and those involved in the criminal justice system are paid less than non-criminals. While analyses that individually focus upon race and gender are useful in explaining overall differences in income, they fail to take into account more nuanced relationships. For example, non-White females have had a long history of employment struggles where they may face “double jeopardy” because they belong to two marginalized groups (Ong, Wright, Espinosa, and Orfield, 2011). However, Browne and Misra (2003) argue that “race is ‘gendered’ and gender is ‘racialized,’ so that race and gender fuse to create unique experiences and opportunities for all groups—not just women of color” (p. 488). In regard to the relationship between a delinquency record and gender, females may have unique experiences as they tend to offend less frequently, commit less serious crimes, and desist from offending at younger ages than males (Giordano, Cernkovich, & Rudolph, 2002; Sickmund, Sladky, & Kang, 2015). Collectively these findings suggest that males may experience greater harms from a delinquent label. In contrast, delinquent females, especially racial and ethnic minorities, may face worse stigmatization and labeling than delinquent males as they are increasingly portrayed as “bad girls” in need of correctional reform (Chesney-Lind, 2010).

Limited research has taken into account how these demographic factors interact with a delinquency history to shape later life outcomes. One of the few studies to examine the disparities in employment outcomes between delinquent and non-delinquent males and females only considered the additive effects of race, ethnicity, gender, and a criminal history (Tanner, Davies, and O’Grady, 1999). Using Duncan’s SEI score to measure occupational status, which is a combined measure

of income and educational level, Tanner and colleagues found that males who had contact with the criminal justice system during adolescence had lower SEI scores than males with no contact. They suggest that females' occupational statuses were not impacted by delinquency because females may have to balance work and family so they are "less inclined than men to maximize their occupational aspirations—settling instead for less prestigious employment" (p. 14). Similar research has also shown that the incomes of males and females vary depending upon the degree of system involvement (Davies & Tanner, 2003). For example, whereas males with school suspensions had similar incomes to non-suspended males, suspended females made \$1,600 less than non-suspended females. System-involved males (i.e. charged, convicted of a crime, or incarcerated) also experienced reduced wages in comparison to non-delinquent males. Davies and Tanner found that the damage of suspension for females was not attributable to pregnancy or more severe deviancy than males; rather that deviancy in adolescence compounds with already limited employment opportunities to further reduce females' wages.

In contrast to the lack of juvenile research on interaction effects, many studies have considered how race, ethnicity, gender, and a criminal history interact to impact employability for adults. One of the most frequently cited studies of employment discrimination based upon a prior criminal history and race is Pager's (2003) examination of employer callbacks. Using fictitious resumes for Black and White males that either indicated a non-criminal or criminal history, Pager found that a criminal history harmed the likelihood of being contacted for employment for both Black and White applicants. Most notably, her study demonstrated that even though there was a stigma for employment, White criminals still had a higher likelihood of receiving a callback than non-criminal Blacks. Varghese and colleagues similarly asked college students if they would recommend persons for jobs based upon fictitious resumes of 18 year olds, half who had a drug record and half who did not (Varghese, Hardin, and Bauer, 2009). They found that Hispanic "applicants" with a drug record were less likely to receive a job recommendation than Hispanics with no record. However, Whites with drug records received similar recommendations when compared with Whites who had no record. A recent follow-up study built upon Pager's original study by also including resumes for Hispanics and females (Decker, Spohn, Ortiz, & Hedberg, 2014). Similar to Pager's findings, Decker and colleagues found that Blacks had the worst callback rates; these findings extended to both Black females and Blacks with no records. White and Hispanic males and females without criminal records had the highest callback rates, followed by White and Hispanic males and females with criminal records. Surprisingly, when compared with their male counterparts of the same race or ethnicity and criminal history, females consistently had higher callback rates. The

one exception to this was Black females with a criminal record who were less likely to receive a callback when compared with Black males with a record.

Methods

Prior research has shown that those with a delinquent history have lower earnings in adulthood, but these studies typically consider income using additive models. The objective of the current study was to determine if there is an interaction between race/ethnicity, gender, and juvenile justice system involvement when examining annual income in adulthood. While it is clear that males, Whites, and those with no juvenile justice system involvement typically have higher incomes, it is unknown if there are more nuanced relationships between juvenile type and income. More specifically, it is possible that only certain types of delinquents may experience reduced incomes (e.g. racial/ethnic minorities and females). Further expounding on this issue is critical as it is well documented that employment significantly reduces recidivism, which may be harmed if a stigma of a delinquency record follows juveniles into adulthood. The following hypotheses were addressed in the current research:

Additive Analyses

H1: Blacks and Hispanics will have lower annual incomes in 2011 than Whites.

H2: Female respondents will have lower annual incomes in 2011 than their male counterparts.

H3: Respondents who had system involvement as juveniles (i.e. arrest, court) will have lower incomes in 2011 than those who were never in the system.

Interactions

H4: White system-involved males will have higher incomes than all other groups, with the exception of White males not involved in the system, who are expected to have the highest incomes.

H2: Hispanic and Black system-involved males will have lower incomes than White males and their non-criminal racial/ethnic counterparts, but will still have greater incomes than the female groups.

Sample

Data from the National Longitudinal Survey of Youth, 1997 (NLSY), collected by the U.S. Bureau of Labor Statistics, was used in the current study to examine the relationship between involvement in the juvenile justice system (i.e. arrest, court appearance, and incarceration) and income in adulthood. Waves 1 (1997) and 15 (2011) were used, which covered an age span of 12 years for the youngest participants in wave 1 to 32 for the oldest participants in wave 15. The NLSY was an appropriate dataset for the current research, as it includes multiple indicators of contact with the juvenile justice system and employment. The NLSY samples participants using multi-stage clustering of residents in U.S. households who are 12 to 16 years old. A total of 6,818 respondents reported income in 2011. Less than 4% (n=335) of the NLSY sample was classified as having a racial or ethnic category other than White, Black or Hispanic. Because of the small sample size, respondents who were classified in the "other" racial/ethnic category were dropped from analyses, for a final sample size of 6,567.

Variables

The dependent variable was the logged reported *income* of individual respondents in 2011 (USD). Individual income included wages from all jobs including tips and commissions before any deductions were taken (Table 1). Incomes of the top 2% of respondents in the NLSY97 were truncated by averaging incomes of respondents who made over \$94,000 in 2011. The average (\$146,002) was then applied to the top 2% of all respondents. White and Hispanic males had significantly higher incomes (\$36,775 and \$29,400, respectively) than all other groups, followed by White females (\$25,514), Black males (\$19,659), Hispanic females (\$19,550), and Black females (\$17,026).

Three independent variables indicating juvenile justice system involvement were used. The first, *any type of system involvement*, was a binary measure indicating whether the respondent was ever arrested, in court, or incarcerated while under the age of 18 (0=never involved in the juvenile system, 1=involved in the juvenile system). Involvement at two main stages of the juvenile system were included in the final models (Table 4) to indicate the relationship between *arrest* (0=never arrested as a juvenile, 1=arrested as juvenile) and *court* (0=never in court as a juvenile, 1=in court as a juvenile) involvement as a juvenile and future income. In all models, not being involved in the juvenile justice system (i.e. any contact, arrested, or court) was the reference category (unless otherwise indicated). Eighteen percent of the sample reported having some involvement with the juvenile system, while

17% of the sample reported an arrest as a juvenile, 10% reported being in court, and .88% were reportedly incarcerated at some point in adolescence. The number of respondents experiencing any system involvement was slightly higher than the number of arrests, as a few participants reported being in court, but were never arrested. A comparison of system involvement based upon juvenile type showed that males were more likely to be arrested and court-involved than females. Black males were more likely to be represented at all levels of the system than other groups, as 25 percent were arrested, 16 percent were in court, and 2.5 percent were incarcerated.

Table 1 Descriptive Statistics

	Full Sample	White Male	Black Male	Hispanic Male	White Female	Black Female	Hispanic Female
N	6,567	1,697	873	735	1,596	935	731
Employment Characteristics							
Income in 2011	\$26,208	\$36,775	\$19,659	\$29,400	\$25,514	\$17,026	\$19,550
Experience with Juvenile Justice System							
Arrested <18 (%)	17.15	20.92	25.43	24.22	11.65	11.66	10.40
In court <18 (%)	9.93	12.61	16.15	15.51	6.58	5.24	3.97
Incarcerated <18 (%)	.88	.82	2.52	1.63	.38	.32	.14
Any contact with juvenile system (%)	18.08	22.33	26.92	25.58	12.16	12.19	10.53
Background Characteristics							
Household size (1997)	4.57	4.36	4.60	4.99	4.32	4.66	5.03
Lived with both biological parents (1997)	48.27	60.70	24.51	55.37	56.39	26.63	50.62
Biological mother graduated from H.S.	77.72	88.86	77.43	55.65	87.78	77.65	52.53
Biological father graduated from H.S.	81.33	87.80	84.42	61.36	86.97	86.63	63.61
Respondent graduated from H.S.	90.24	93.57	85.91	83.77	94.03	89.38	86.95
Respondent graduated from college	26.15	30.76	12.37	13.20	40.91	21.07	19.15
Number of months incarcerated (ever)	2.02	2.09	7.31	2.80	.36	.49	.34
Demographics							
Age (2011)	28.28	28.24	28.28	28.26	28.30	28.37	28.24
Male (%)	50.33						
White (%)	50.14						
Black (%)	27.53						
Hispanic (%)	22.32						

Note: All groups significantly differed from one another across each variable (using ANOVA and Chi-Square), with the exception of Age.

Multiple background characteristics that were expected to influence future income were also considered. First, *household size* was a continuous measure of the number of persons residing in the household in 1997—the first wave of data collection. The average household size was 4.57 persons, but Black and Hispanic households reported significantly larger households than Whites. Respondents also reported whether or not they *lived with both biological parents* in 1997 (0=did not live with biological parents, 1=lived with biological parents), where not living with biological parents was the reference category. Nearly 50 percent of the sample reported living with both biological parents, but only about one-fourth of Black males and females lived with both biological parents. In contrast, over 60 percent of White males and 56 percent of White females lived with both biological parents. Finally, graduation from high school and college were considered. *Biological mother graduated from high school* (0=did not graduate, 1=graduated) and *biological father graduated from high school* (0=did not graduate, 1=graduated) were binary measures of parental graduation. Seventy-eight percent of mothers graduated high school and 81 percent of fathers graduated high school. Hispanics were less likely to have either parent graduate from high school when compared to Whites and Black.

Additionally, respondents' graduation from high school (0=did not graduate, 1=graduated) and college (0=did not graduate, 1=graduated) were included. When considering respondents' own graduation patterns, 90% of the sample reported graduating from high school, but only 26% stated they graduated from college. Both Blacks and Hispanics were less likely to graduate high school or college when compared with Whites, but non-white females were more likely to graduate from high school and college than non-white males. In all models, not graduating from high school or college was the reference category. Finally, it was expected that continued involvement in the criminal justice system would have a harmful impact on future incomes. To control for total system involvement, the total number of months of incarceration in respondents' lifetimes were included. On average, respondents served 2.02 months in some form of incarceration, where Black males served significantly more months (7.31 months) than all other groups.

Finally, several demographic factors were included in the models. *Age* was a continuous measure of respondents' age in 2011, and respondents were on average 28 years old. For the variable *gender* (0=male, 1=female), male was the reference category (except where indicated) and males were 50% of the sample. Lastly, race and ethnicity were measured using three dummy variables for *White*, *Black* and *Hispanic*, with White serving as the reference category (except where indicated). Fifty percent of the sample was White, 28% were Black, and 22% were Hispanic.

Findings

Ordinary least squares regression (OLS) was used to examine income in 2011 based on a variety of background, employment, and juvenile justice variables. In the additive model (Table 2), those who reported involvement in the juvenile system had significantly lower incomes in 2011. As expected, the number of months respondents were ever incarcerated (at any age) also significantly reduced income in adulthood. Factors that increased income included graduating from high school and college. In contrast to prior research finding that high school graduation is a mediating factor (Aizer & Doyle, 2013), the addition of high school completion to the model did not mediate the relationship between system involvement and income. Childhood factors that significantly influenced future income included youth living with both biological parents in adolescence and the number of persons residing in the household during adolescence. Consistent with prior research, females earned less in 2011 than males, while Blacks earned less than Whites.

Table 2 OLS regression analysis of logged annual income in 2011

	<i>B</i> (<i>SE</i>)
Background Characteristics	
Household size (1997)	-.14(.032)***
Lived with both biological parents (1997)	.56(.11)***
Biological mother graduated from high school	.20(.13)
Biological father graduated from high school	.22(.14)
Respondent graduated from high school	2.10(.17)***
Respondent graduated from college	1.71(.12)***
Demographics	
Age (2011)	.10(.033)**
White	<i>Reference</i>
Black	-1.18(.12)***
Hispanic	.12(.13)
Female	-1.31(.10)***
Experience with Juvenile Justice System	
Any contact with juvenile system	-.49(.13)***
Number of months incarcerated	-.061(.0045)***
Constant	3.92(.98)***
	N 6,547
	Adjusted R^2 .17
	F ratio 114.49***
*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$	

While the additive models did show that race and gender mattered for predicting incomes, they revealed very little about the unique experiences of specific types of people (e.g. White females with juvenile justice experience, Black males without juvenile justice experience, Hispanic males with juvenile justice experience). The following section examines the interaction between race/ethnicity, gender, and juvenile justice status. First, gender and race/ethnicity were interacted to determine income outcomes for White, Black, and Hispanic males and females. Next, contact with the juvenile justice system was considered by interacting contact with the juvenile system with race/ethnicity and gender. Arrests and court appearances were examined individually to determine if the degree of involvement (i.e. arrest or court) with the system was related to future income. Incarceration was not considered in the interactions, as only 10 females (6 White, 3 Black, and 1 Hispanic) reported being incarcerated in adolescence. All interactions included the same control variables presented in Table 2 and are available upon request.

Interaction Models

Table 3 presents the OLS models of income in 2011 including the interaction between gender and race/ethnicity. When White males were the reference category, all other groups with the exception of Hispanic males (i.e. White females, Black males, Black females, and Hispanic females) had significantly lower incomes. This relationship occurred even after controlling for relevant variables that would be expected to impact future income including: graduating from high school, graduating from college, and juvenile system involvement. In contrast to the hypothesis that Whites would have higher incomes than Hispanics, they did not significantly differ, a finding that is discussed in depth in the discussion. When Black males were the reference category, Hispanic and White males had higher incomes, while Black females had significantly lower incomes than Black males. When Black males were compared with White and Hispanic females there were no significant differences in incomes. Finally, when Hispanic males were the reference group, with the exception of White males, all groups made less than Hispanic males.

Interacting juvenile arrest with gender, race, and ethnicity. Prior research suggests that juvenile system involvement is associated with limited future earnings. However, these studies reveal little about the earnings of specific types of delinquents. To elaborate on this issue, interactions of race/ethnicity, gender, and system involvement are presented in Table 4.

Table 3 OLS regression analysis of logged annual income in 2011 with gender and race/ethnicity interaction

<i>White Male as Reference</i>	
White Male	Reference
Black Male	-1.56(.17)***
Hispanic Male	.20(.18)
White Female	-1.48(.14)***
Black Female	-2.31(.17)***
Hispanic Female	-1.43(.18)***
<i>Black Male as Reference</i>	
White Male	1.56(.17)***
Black Male	Reference
Hispanic Male	1.75(.20)***
White Female	.081(.17)
Black Female	-.75(.19)***
Hispanic Female	.13(.21)
<i>Hispanic Male as Reference</i>	
White Male	-.20(.18)
Black Male	-1.75(.20)***
Hispanic Male	Reference
White Female	-1.67(.18)***
Black Female	-2.51(.20)***
Hispanic Female	-1.62(.21)***
	N 6,547
	Adjusted R^2 .17
	F ratio 99.21***
* $p < .001$, ** $p < .01$, *** $p < .05$, + $p < .10$; Variables in Table 2 controlled for—full models available upon request	

When White males who were arrested in adolescence were the reference category, consistent with the additive models, all of the Black groupings (i.e. by gender and system involvement) had significantly lower incomes. While it was hypothesized that juvenile justice involvement would lead to reduced incomes, Black males and females who had *never* been arrested had lower incomes than arrested White males. White females also had lower incomes than arrested White males, even when they were not arrested. In fact, nearly all groupings had lower incomes than arrested White males with a few exceptions. White males who were not arrested had similar incomes to those who had been arrested. Also, Hispanic males with and without an arrest history were not significantly different from the reference group.

Table 4 OLS regression analysis of logged annual income in 2011 with gender, race/ethnicity, and system involvement interactions

<i>White Male with System Involvement as Reference</i>		
	Arrest	Court
White Male Juvenile System	<i>Reference</i>	<i>Reference</i>
White Male No System	.082(.24)	.049(.29)
Black Male No System	-1.31(.26)***	-1.33(.31)***
Black Male Juvenile System	-2.10(.34)***	-2.60(.43)***
Hispanic Male No System	.37(.27)	.37(.32)
Hispanic Male Juvenile System	-.17(.36)	-.54(.46)
White Female No System	-1.35(.24)***	-1.35(.29)***
White Female Juvenile System	-1.48(.36)***	-1.84(.47)***
Black Female No System	-2.01(.25)***	-2.14(.30)***
Black Female Juvenile System	-3.58(.43)***	-3.42(.62)***
Hispanic Female No System	-1.20(.27)***	-1.28(.31)***
Hispanic Female Juvenile System	-2.21(.50)***	-2.43(.78)***
<i>Black Male with System Involvement as Reference</i>		
	Arrest	Court
White Male No System	2.18(.30)***	2.65(.36) ***
White Male Juvenile System	2.10(.34)***	2.60(.43) ***
Black Male Juvenile System	<i>Reference</i>	<i>Reference</i>
Black Male No System	.79(.32)**	1.27(.37)**
Hispanic Male No System	2.47(.32)***	2.97(.38) ***
Hispanic Male Juvenile System	1.93(.40)***	2.07(.50) ***
White Female No System	.75(.30)*	1.25(.36)**
White Female Juvenile System	.62(.40)	.76(.51)
Black Female No System	.093(.31)	.46(.37)
Black Female Juvenile System	-1.48(.46)**	-.82(.66)
Hispanic Female No System	.90(.32)**	1.33(.38) ***
Hispanic Female Juvenile System	-.11(.53)	.18(.81)

<i>Hispanic Male with System Involvement as Reference</i>		
	Arrest	Court
White Male No System	.25(.32)	.59(.39)
White Male Juvenile System	.17(.36)	.54(.46)
Black Male No System	-1.14(.34)**	-.79(.40)*
Black Male Juvenile System	-1.93(.40)***	-2.07(.50)***
Hispanic Male Juvenile System	Reference	Reference
Hispanic Male No System	.54(.34)	.91(.40)*
White Female No System	-1.18(.32)***	-.81(.39)*
White Female Juvenile System	-1.31(.42)**	-1.30(.53)*
Black Female No System	-1.84(.33)***	-1.61(.40)***
Black Female Juvenile System	-3.42(.48)***	-2.88(.67)***
Hispanic Female No System	-1.04(.34)**	-.74(.40)+
Hispanic Female Juvenile System	-2.04(.54)***	-1.89(.82)*
N	6,547	6,547
Adjusted R^2	.17	.17
F ratio	73.97***	73.75***
*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$; Variables in Table 2 controlled for—full models available upon request		

Several differences in incomes were observed when arrested Black males were the reference category. Nearly all groups had significantly higher incomes than the reference group, including White and Hispanic males with and without an arrest history; non-arrested Black males; and non-arrested White and Hispanic females. White and Hispanic females with an arrest history had similar incomes to system-involved Black males; this was in contrast to the additive models that showed females made significantly less than males. However, arrested Black females continued to have significantly lower incomes than their male counterparts.

In the final model where arrested Hispanic males were the reference category, none of the White or Hispanic male groups significantly differed from the reference group. Similar to the arrested White males, all other groups, no matter race, delinquency history, or gender earned less than arrested Hispanic males. To further examine the link between juvenile justice involvement and future outcomes, the following section explores the relationship between appearing in court and income.

Interacting juvenile court appearance with gender, race, and ethnicity

As respondents progressed further into the juvenile system (i.e. from arrest to court involvement), few changes occurred. When court involved White males were the reference category, no changes were observed when compared to the arrest stage. However, when court involved Black males were the reference category, they no longer significantly differed from court involved Black females. While at the arrest stage Black females still earned less than Black males, once they both had experienced a court appearance, they no longer significantly differed from one another. When comparing court-involved Hispanic males with the other groupings, Hispanic males who had never been to court had higher earnings; this was in contrast to the arrest model where arrested and non-arrested Hispanic males had similar earnings. Finally, Hispanic females without a court appearance did not significantly differ from court-involved Hispanic males. This was in contrast to the arrest stage where non-delinquent Hispanic females earned less than their delinquent male counterparts.

Conclusion

The current study demonstrates that Black delinquent males experience reduced earnings in comparison to their non-delinquent counterparts, while delinquent White and Hispanic males have similar earnings when compared with non-delinquent White and Hispanic males. Prior to considering the relationship between juvenile system involvement and income, the following differences were observed: White males made more than all groups (except Hispanic males); females made less than males (except White and Hispanic females who had similar incomes to Black males); and Black males made less than Hispanic and White males. When involvement with the juvenile justice system was considered, subtle differences were observed that were not apparent in the additive and initial interaction models.

When compared with Black males who were involved with the juvenile system, females no longer had significantly lower incomes. This was surprising, as prior research suggests that upon reentry from prison, females continue to have lower incomes than males (Visher, LaVigne, & Travis, 2004; *see also* Oggins, Guydish, and Delucchi, 2001). In contrast, system-involved White and Hispanic males still maintained greater incomes than females in the current study, despite having a criminal record. These findings suggest that other factors may be at play above and beyond the harm associated with a delinquent record. For example, reduced wages for racial and ethnic minorities, especially Blacks, may also be intrinsically linked to the shifting nature of jobs in some cities. Wilson (2012) outlined the migration of

middle class Blacks out of many Rust Belt cities at the same time that high paying low skilled jobs were increasingly vanishing. The result was that non-Whites with limited social mobility were left behind in neighborhoods where legal job opportunities were minimal.

Even without a delinquent record, Black males in the current study still made less than delinquent White and Hispanic males. Similar findings were evidenced in Pager's (2003) study, as significant differences in callbacks were exhibited between resumes for White and Black applicants who did not indicate a criminal history, even though they had similar qualifications. While many employers openly profess to be non-biased in their hiring practices, their rates of callbacks would suggest otherwise (Pager and Quillian, 2005). These findings are indicative of racial bias that may be directed towards all Blacks in the hiring process. More specifically, even though they may lack a criminal record, it is possible that employers still view Blacks as being delinquents and criminals, thereby not allowing them to reach a stage in the interview process where they could undergo a criminal background check (Holzer, Raphael, & Stoll, 2006). Bushway (2004) suggests that the failure to have a criminal background check can actually harm future wages, specifically pointing to Black males as the group that would be most harmed by the lack of a background check.

Lyons and Pettit (2011) similarly found that system-involved Whites and Blacks experienced reduced wages, but that Blacks experienced much slower wage growth than White criminals. They concluded that the intensification of stigma experienced by formerly incarcerated Black males was a primary factor in the reduced wage growth. The current study demonstrated that juveniles involved in the justice system may too experience reduced wages, but this appeared to only occur for Black males. More specifically, a delinquent record harms Black males more than White and Hispanic males, even after controlling for factors that strongly impact income (e.g. college graduation). These findings suggest that Black male delinquents may too experience an intensification of racial and criminal stigmas that impact them well into adulthood, whereas Whites and Hispanics, remain relatively unscathed in future earnings. Such findings are concerning as states are increasingly removing formal protections (i.e. expungements and record sealing) that once served to prevent employers from accessing delinquency histories (Shah, Fine, & Gullen, 2014). Despite the expectation that records will be expunged in adulthood, the increase in states requiring a formal petition on the part of the delinquent has resulted in a growing number of former delinquents lacking this protection in adulthood. The failure to expunge records may result in struggles during the hiring process, but the current study further demonstrates that certain types of juveniles may experience these impacts more severely. Policymakers

should take caution when removing these protections historically afforded to juveniles, as there are clear linkages between employment and reduced recidivism.

Overall, Whites and Hispanics tended to have higher incomes than Blacks. The current study found few significant differences in the incomes of system-involved Hispanic males when compared with system-involved White males. This finding is partially consistent with prior literature on employment outcomes. Notably, Bullis and Yovanoff (2006) interviewed formerly incarcerated juveniles for four years following their release from the Oregon Youth Authority and found that Whites and females had lower hourly wages than non-Whites and males. While they failed to partition non-Whites by race or ethnicity, Bullis and Yovanoff demonstrated that Whites do not always escape unscathed from the juvenile justice system. Additionally, Jung's (2015) study on the long term impacts of incarceration found that Hispanics who were incarcerated in adolescence had lower incomes in adulthood; however, when the first incarceration occurred between the ages of 20 and 29, Hispanics did not differ in incomes when compared with Whites. Finally, analyses of the NLSY79 showed that when incarceration occurred after 1990 (sample was aged 26 to 33), Whites had a lower hourly wage than Hispanics (\$5.84/hour versus \$6.18/hour) (Western, 2002). The lack of a significant relationship is also likely due in large part to controlling for educational levels (McHenry & McInerney, 2015). Additionally, Hispanics have been shown to reside in areas with high costs of living. This suggests that although the income gap between Whites and Hispanics may be minimal, Hispanics face additional challenges that are not captured in measures of income (McHenry & McInerney, 2013).

Limitations

One issue that was not considered in the current study was the source of income reported by respondents. It was very possible that some respondents were earning their wages from illegal sources, as well as not reporting illegal earnings when asked by surveyors about annual income. Prior research suggests that longer stays in juvenile correctional facilities increase illegal earnings in adulthood (Nguyen, Loughran, Paternoster, Fagan, & Piquero, 2013). The relationship between juvenile incarceration and illegal earnings suggests that as adults, former delinquents face challenges in building positive human capital, instead building up criminal capital and subsequently delaying desistance from crime (Freeman, 1991).

The current study showed that system-involved Black males had reduced incomes when compared with non-delinquent Black males. However, due to small sample sizes, the current study was unable to examine earnings among formerly

incarcerated juveniles. Future research should examine how incarceration shapes outcomes in adulthood and determine which juveniles would be most harmed by incarceration. Sampson and Laub (1993) suggest that longer stays in juvenile correctional facilities significantly weaken job stability in adulthood (*see also* Western, 2002). Because of the direct link between job stability and wages, it would be expected that juvenile incarceration would similarly reduce wages in adulthood, but further exploration is necessary to determine how incarceration may uniquely impact racial and ethnic minorities and females.

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