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The Negative Effects of Incarceration on Fathers in Fragile Families

Charles Edward Lewis, Jr.

**Submitted in partial fulfillment of the
requirements for the degree
of Doctor of Philosophy
in the Graduate School of Arts and Sciences**

**Columbia University
2002**

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Abstract

The Negative Effects of Incarceration on Fathers in Fragile Families

Charles Edward Lewis, Jr.

The United States greatly expanded the use of incarceration as a criminal sanction during the last three decades. Researchers have begun to examine the effects of incarceration on the socioeconomic outcomes of people who have spent time behind bars. This study uses data collected for the Fragile Families Study to examine the effects of incarceration on earnings, employment, marriage and cohabitation for a cohort of new fathers in Oakland, California and Austin, Texas. We examine the extent to which the disruptive features of incarceration retard and impede the development and accumulation of human capital assets that are positively associated with labor market outcomes. After controlling for sociodemographic characteristics, fathers who were incarcerated earned 53 percent less than those who were not; they worked four weeks less in the previous year, and averaged 3.5 fewer hours of work per week. Incarcerated fathers experienced a five percent reduction in annual earnings for each month they were confined. Age of first incarceration was a significant factor in poor labor market outcomes. Following the lead of economists who have linked poor labor market outcomes with family formation, we examine the hypothesis that fathers who were incarcerated would also be less likely to form stable families. We found incarcerated fathers were 30 percent as likely to be married and 53 percent as likely to be cohabiting as fathers who were never incarcerated.

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DEDICATION

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Chapter 1: The Impact of Incarceration As Public Policy

This dissertation examines the effects of incarceration on a cohort of mostly unwed fathers who participated in the Fragile Families Survey in Oakland, California and Austin, Texas. Do men who go to jail or prison suffer significant losses in employment opportunities and earnings? Are their prospects for forming a household through marriage or cohabitation diminished?

Human capital theory is used to explain differences in earnings and employment between fathers who were incarcerated and those who were not. Human capital theory relies on the seminal works of Becker (1964) and Mincer (1962) that found a positive relationship between earnings and investments in schooling and job training. Incarceration acts to interrupt or retard this process. Labor market theory is used to explain the differences in the likelihood of being married between these two sets of fathers. Tying labor market theory and family formation, first proposed by Becker (1981), posits that poor economic prospects among unmarried men would render them less likely to marry or have stable unions.

I. Incarceration as a Harmful Public Policy

1. The Growth of Incarceration in the United States

For nearly three decades, the United States has employed crime control policies that has resulted in a tremendous expansion of its prison population—from 300,000 in 1972 to 1.93 million at mid-year 2000. The rate of Americans incarcerated in prisons and jails reached 702 per 100,000 in 2000—up from 458 as late as 1990. One in every 142 United States residents were behind bars at

mid-year 2000. The number of female prisoners has doubled since 1990 to 92,688 (Beck, 2000).

The increase in the number of prisoners in the state of Texas from 1991 to 1996--about 80,000--is larger than the prison population of France or the United Kingdom, and roughly equal to the total prison population of Germany, a nation of over 80 million people (Texas has about 18 million people). At midyear 2000, Texas had 146,761 people incarcerated in its prisons and jails and another 443,153 people under community supervision. Its corrections budget for 2000 was \$2.4 billion with \$1.94 billion allocated to incarceration (Texas Department of Criminal Justice, 2000).

California maintains the largest corrections system in the nation with a population of 161,497 in its prison and jails and an annual budget of \$4.8 billion dollars (California Department of Corrections, 2001). With a staff of 47,382, nearly one in six state employees works in the prison system (Currie, 1999).

Much of the growth in the prison population since 1978 has come from nonviolent offenders. The year 1998 marked the first time that more than 1 million nonviolent inmates were housed in America's penal system (Irwin, Schiraldi & Ziedenberg, 1999). Many of these are captives from the war on drugs. More than 400,000 people are locked in federal and state prisons and jails for drug law violations, with an estimated one-third incarcerated for merely possessing drugs.

In addition, another 4.5 million Americans were on probation or parole at yearend 1999. An astounding 6.3 million Americans were under supervision of federal and state criminal justice systems at yearend 1999, representing 3.1

percent of the adult population in the United States or 1 in every 32 adult residents (U. S. Dept. of Justice).

2. The Economic Costs of Prisons

According to the figures released in 1999, the combined costs for law enforcement, corrections, and court costs at the federal, state and local level in 1992 was \$94 billion, up from \$61 billion in 1988 and \$6.8 billion in 1980. In 1998, it cost \$70,909 to create a maximum-security bed, \$49,853 for a medium security cell, and \$29,311 for a minimum-security bed (Dyer, 2000).

The United States spends approximately \$24 billion annually to incarcerate one million *nonviolent* offenders compared to an annual federal welfare budget of \$16.6 billion that supports 8.5 million people (Smith & Brennan, 1998). There appears to be a tradeoff in prison spending with a sharp curtailment of spending on higher education. In 1995, states spent more on building prisons than colleges for the first time, spending \$926 million on prisons while decreasing spending on higher education by \$954 million.

From 1977 until 1995, states spending on prisons increased by an average of 823 percent compared to a 374-percent increase in states budgets for higher education (Phinney, 1999). Between 1987 and 1995, overall state spending on higher education dropped by 19 percent while expenditures for prison increased by 30 percent (Ambrosio & Schiraldi, 1997).

3. The Social Cost of Incarceration

A. The Cost to Families and Children

While the economic costs of incarcerating large numbers of offenders drain public expenditures, the social costs to families and children are enormous as well. There were 721,500 parents of minor children in state and

federal prisons in 1999. There were 1,498,800 minor children with parents in prison, an increase of 500,000 since 1991 (Mumola, 2000).

With so many men and fathers in prison and jail, particularly black men, there is reason to suspect a link between incarceration and the rise in single-female headed families. Although I have found no study directly linking incarceration rates to the growth in single-parent, female-headed households, there maybe an indirect link if incarceration reduces the economic viability of ex-prisoners.

Wilson (1987) argued that black women are facing a shrinking pool of "marriageable" men—that late marriage and low remarriage rates among black females is directly tied to the labor-market status of black men. Garfinkel & McLanahan (1986) provided times series data that supported the hypothesis of a link between increases in black female-headed households and black male unemployment but acknowledged the possibility that unobserved variables (such as substance abuse) could lead to the results.

The rise in single-family, female-headed households in the United States has led to a growth in poverty among children (Garfinkel & McLanahan, 1986), particularly among black families. The poverty rate for all households with children under 18 years old in the United States fell from 20.3 percent in 1959 to 15.1 percent in 1998. The poverty rate for single parent, female-headed households with children under 18 years fell from 59.9 percent in 1959 to 38.7 percent in 1998 (U.S. Census Bureau, 1998). For black households with children under 18 years old, the poverty rate remains quite high at 47.5 percent in 1998, down from 60 percent in 1971 (the earliest year data were available). However, the percentage of black families headed by single females has risen from a fifth

(20 percent) in 1960 to more than half (51 percent) in 1998. In comparison, less than a fifth of white children (18 percent) lived with a single mother in 1998, up from 6 percent in 1960 (U.S. Census Bureau, 1998).

Further, there is a growing body of literature warning of an impending crisis because more and more children are growing up in homes without a father (Anaconda, 1998; Blankenhorn, 1995; Daniels, 1998). Black children are especially at risk because one-parent households are more likely to be poor (Mincy, 1994). If incarceration leads to poor labor market outcomes (Freeman, 1999), and if boys who are reared in father-absent homes are more likely to participate in deviant behavior (Goldstein, 1984; McCord, McCord, & Thurber, 1962), then having so many black males incarcerated increases the likelihood that their children will also be involved in criminal activity (Butterfield, 1999). Black males born in 1991 had a 29 percent chance of being incarcerated at some point in their lifetimes compared to a 4 percent chance for white males.

B. Racial Disparities in the Criminal Justice System

The harmful effects of incarceration hit African Americans hardest because of their over-representation in the prison system. They are less than 15 percent of the American population but comprised nearly 55 percent of all incarcerated offenders. Black males represent six percent of the total population in the United States and nearly 50 percent of the people locked up in federal and state prisons. In 1995, black men were incarcerated at the rate of 4,424 for every 100,000, compared to 1,957 for every 100,000 Latino men and 507 for every 100,000 white men (Walker, Spohn, & DeLone, 2000).

African Americans account for 13-15 percent of drug users in the United States, yet they constitute 35 percent of arrests for drugs, 55 percent of

convictions, and 74 percent of those imprisoned (Hubbell, 1999). In New York State, blacks and Latinos account for 94 percent of persons locked up for drug offenses while whites make up only 4.9 percent of the prison population. Studies have found that blacks are sentenced to an average of one year more in prison than whites for conviction on similar drug charges.

Historically, blacks have always received harsher sentences than whites. However, these disparities increased following the introduction of new mandatory minimum sentences in 1980. Using data from 1989 and 1990, the Sentencing Commission found 68 percent of blacks were given sentences at or above the minimum, compared to 57 percent for Latinos and 54 percent for whites (Vincent & Hofer, 1994).

Particularly devastating for African Americans is that the racial disparities begin at an early age. Black adolescents are more likely to be arrested, incarcerated, tried as adults, convicted and given longer prison sentences. Black youth are nine times as likely to be sent to juvenile lockup than whites and 48 times more likely to be confined for drug offenses. Blacks comprise 15 percent of youth under age 18, however they are 26 percent of those arrested, 31 percent of those sent to juvenile court, 32 percent of those convicted, 46 percent of those tried as adults, 40 percent of those sent to juvenile prison, and 58 percent of those confined in adult prisons (Poe-Yamagata, E. & Jones, M.A., 2000).

C. The Cost to Communities

Obviously there are costs to communities for having so many of its boys and men confined in prisons and jails. One direct effect of the relocation of these men from the inner city to prisons in rural communities is the loss of

federal funds that are allocated by census counts. New York State is a prime example of this. Most of the prisoners in upstate prisoners go there from black communities in New York City. When they leave, they are no longer counted among residents of the community they leave, but are counted as residents of the counties where they are imprisoned resulting in a huge transfer of economic aid from the some of the state's most economically devastated communities.

When they return to their communities they arrive with more deficiencies than they took with them to prison. Rehabilitative efforts have all but disappeared from the penal system. Incapacitation is the primary justification for incarcerating offenders. Efforts to rehabilitate prisoners was more or less suspended in the 1970s when conservatives began promoting locking up potential felons as the most cost-effective means of reducing crime. (Zimring & Hawkins, 1995). Released inmates are more likely to return to crime because of bleak employment prospects that are 10 to 30 percent lower than young black school dropouts without criminal records (Western & Petit, 2000).

Since 1996, more than 500,000 prisoners have left prisons and jails each year and returned to their communities. These numbers are expected to increase dramatically in the coming years. More than 660,000 prisoners were released last year. That number is expected to grow to 887,000 in 2005 and 1,200,000 in 2010. More than 3.5 million prisoners are expected to be released over the next ten years.

Because of the disproportionate involvement of African Americans in the criminal justice system, black communities are targeted for more aggressive policing than other communities. Racial profiling and other charges of unfair

police practices have created a breach between local law enforcement agencies and the people they were hired to protect.

Finally, there is the issue of political disenfranchisement. The political viability of many black communities has been severely reduced because many states strip felons of the right to vote. Forty-six states and the District of Columbia deny felons the right to vote while incarcerated. In 32 states, felons cannot vote while on parole and 29 states deny felons the right to vote while on probation. Ten states—Alabama, Delaware, Florida, Iowa, Kentucky, Mississippi, Nevada, New Mexico, Virginia and Wyoming—bar convicted felons permanently from voting. Second time felons are barred permanently in Arizona and Maryland and felons in Tennessee and Washington are stripped of the vote permanently if they were convicted prior to 1986 and 1984, respectively (Human Rights Watch & The Sentencing Report, 1998).

As a result of these laws, 3.9 million Americans were not eligible to vote in the 2000 elections. One in seven African American men—1.4 million—could not vote because of a felony conviction. In nine states, one in four black men are barred from voting for life. The Sentencing project, a Washington, D.C.-based research organization, predicts that as many as 30 to 40 percent of the next generation of black men will permanently lose their right to vote if current trends continue.

II. Rationale for this Study

Studies on the effects of criminality on labor market productivity have sought to determine whether sanctions caused by an individual's involvement with the criminal justice system significantly reduces opportunities for legitimate work. If so, are post-release earnings reduced to such a degree that a

convicted felon would choose to pursue criminal activity? Findings in this area can shed some light on why there are such high levels of recidivism among released inmates. Another reason for studies about the impact of incarceration is to examine what part of the incarceration effect may be due to unobserved characteristics or heterogeneity.

Findings in this area have implications for policies designed to assist convicts seeking legitimate work after release. For example, if education and work history have little effect on wages and earnings, then traditional job skills programs may not be the answer to assisting these men and women in finding legitimate work. If lower wage and employment is due to family history and mental health, then psychological counseling may be a more effective means of addressing the deficits within this population. If incarceration has large negative effects on earnings, it may be wise to use alternative punishment for certain crimes.

Specifically, this study will compare the outcomes of a group of new fathers who were incarcerated at some point in time with a similar group of fathers from the same sample who were never incarcerated. The study will examine the effects of incarceration on the ability of the father to obtain work by looking at whether or not he was working the week prior to his interview. We will also examine whether there are differences in annual earnings between those fathers who were incarcerated and those who were not.

We will also examine whether incarcerated fathers worked less than never-incarcerated fathers by looking at the number of weeks and average hours worked in the year prior to the interview. In addition to yearly earnings, the Fragile Families survey allows the exploration of differences in wage rates and

off-the-books earnings. There is speculation (Freeman, 1991; Grogger, 1995) that incarceration penalties may steer convicted felons to non-legitimate sources of income.

The rich data in the Fragile Families study also allow us to examine the effects of early incarceration and the how outcomes vary by the length of time spent in confinement. Nagin & Waldfogel (1998) attempted to do this by examining criminal justice penalties over the life cycle. They found first-time conviction raised the employment and earnings of offenders under 25 years of age but penalized older offenders. However, they acknowledged their sample of fraud offenders were atypical of offenders generally and sought to expand their analysis by including limited data on federal larcenists. No study has had data to measure this effect by simply controlling for these characteristics.

The Fragile Families study provides us with data to examine the effects of the length of incarceration on our cohort of jailed fathers. Kling (1997) found little difference in employment rates for offenders with longer sentences than those with shorter sentences. He also found that length of sentence did not affect earnings for violent and drug offenders. In this study, we do not limit the analysis to low-wage earners as did Kling. We are able to examine incarceration among a broad spectrum of wage earners.

Finally, we bring important information to the subject of incarceration's consequences by being able to reduce the problem of unobserved heterogeneity. There is speculation that men who were incarcerated have other characteristics that would land them there anyway. The rich data in Fragile Families allow us to control for more individual characteristics than previous studies that generally

controlled for age, ethnicity, marital status and education. To that we are able to add variables for substance abuse, mental health, and family background.

Unfortunately, due to the small amount of data available at the time of this study, we were not able to examine the differential effects of arrest and conviction in comparison to incarceration. However, follow-up data for 20 cities in the Fragile Families study will soon be available that will permit this important analysis.

In addition to economic outcomes, this study will examine the effects of incarceration on the likelihood that a father would be married or cohabiting at the time of the birth of his child. The most definitive study to date by Western & McLanahan (2000) found fathers who were incarcerated were about 70 percent less likely to be living with the mother of their child a year after birth. However, they found incarceration status to be unrelated to the likelihood of being married a year after birth. We take a slightly different approach by looking at the likelihood of cohabitation and marriage at the time of birth. We also add additional controls for the mother such as family background, health status, substance abuse, and whether she had additional children. We also include additional controls for the father.

While the focus of this study is limited to estimating the effects of incarceration on the earnings, employment and relationship status of individuals, these effects must be placed in the larger context of their consequences for society. There is growing evidence that—although unintended—the over reliance on incarceration as a crime control policy public will result in large social problems not only for ex-inmates, but for their families and the communities they will return to.

We expect to present additional findings on the negative consequences of incarceration on employment and earnings and marriage and cohabitation by using data that has not been available to researchers in the past. This is an important step in answering many of the questions that are arising from the public policy of incarcerating as many of our citizens as we do. We are setting the stage for further exploration of these effects by presenting models and substantial preliminary findings.

III. Organization of the Dissertation

Chapter 2 presents a review of the literature detailing the samples, methodologies and findings of previous studies. These studies focus largely on the employment and earnings penalties incurred by individuals arrested, convicted and/or incarcerated for crimes.

Chapter 3 describes the data and methodology used in this study. It also explains why the Fragile Families study offers new insight into the areas of study being explored. It describes the variables used in this study and how they were constructed and discusses the use of multiple samples in the study. It outlines the regression models used.

Chapter 4 presents the findings of the study. The first section presents descriptive statistics on all the variables used in the study. Next is a presentation of the bivariate analyses of dependent and independent variables by incarceration status. The next section presents the finding of logistic and ordinary least squares regression analyses of employment and earnings. The chapter concludes with a section adjusting the findings to account for the fathers who were either interviewed in jail or were incarcerated during some period of the earnings data collection year.

Chapter 5 examines the effects of incarceration on marriage and cohabitation. This is followed by bivariate and multivariate analyses of the effects of incarceration on marriage and cohabitation. The chapter concludes with a brief look at assortative mating—examining how differences in age, education, and race influence the likelihood of marriage or cohabitation.

Chapter 6 summarizes the findings of the dissertation and discusses the implications for future research. It outlines a policy agenda based on the findings and presents implications for social work practitioners.

Chapter 2: The Negative Effects of Incarceration—A Review of the Literature

Incarceration is a defining moment in the life of an individual that disrupts the normal patterns of life and generally leads to increasing disadvantage (Sampson & Laub, 1993). Ex-prisoners suffer in two significant areas—employment and earnings and the ability to form and sustain a family by marriage. These two aspects of the negative effects of incarceration are intertwined. Poor earnings and employment rates makes a man a less desirable marriage partner (Darity & Myers, 1993; Edin, 1999; Testa & Krogh, 1993; Tucker & Mitchell-Kernan, 1995; Wilson, 1987).

I. The Effects of Incarceration on Labor Market Outcomes

Research in criminology and economics focus on the relationship between crime and the labor market, generally studying the effects of economic disadvantage on criminal activity (e.g., Freeman, 1983; Hagan and Peterson, 1995). However, a few studies reverse the causal sequence to examine how involvement with the criminal justice system impacts employment opportunities. Freeman (1991) found large significant effects on the earnings of a sample of disadvantaged youth. Grogger (1995) found large incarceration effects for both jail and prison experiences over time. Waldfogel (1993), Kling (1997), and Nagin & Waldfogel (1998) found significant effects only on white-collar workers.

There is general agreement that criminal conviction and incarceration negatively influences employment opportunities and earnings through stigma, detachment from the workforce, erosion of skills and/or the criminogenic effects of the prison experience. In our study, we examine the outcomes of new fathers—some were incarcerated at some point in their lives. We expect that

men who were incarcerated will have poor earnings and employment outcomes relative to those who were never incarcerated.

Freeman's Study on Crime and the Employment of Disadvantaged Youth

In a 1991 study of the effects of jail and probation on young criminals, Freeman found incarceration reduces employment probability by 25 to 30 percent and probation reduced employment by 10 to 15 percent. Using longitudinal survey data from the National Longitudinal Survey of Youth (NLSY), Freeman created mutually exclusive dummy variables describing the subject's interaction with the criminal justice system (jail, probation, conviction, booked, stopped).

Freeman then examined "the effect of this vector on a dummy variable for whether the individual was employed during the survey week (*WORK*) and on weeks in the preceding year (*WEEKS*) for each year from 1980 to 1987 or 1988." He then linked late 1980s outcomes to criminal justice variables from the 1980 crime module to identify "the effect of having a criminal record on outcomes from the effect of current labor market opportunities on crime." The sample was limited to out-of-school young men and included control variables such as education, region, age, and self-reported drug and alcohol use to control for personal attributes whose omission might bias the estimate upwards.

Freeman found that men in jail or on probation had lower employment in all succeeding years than others with comparable characteristics. Estimated coefficients suggest incarceration reduced work probability by 25 to 30 percent while probation reduced it by 10 to 15 percent.

Waldfogel's 1993 Study of Conviction Effects on Income

Waldfogel (1993) examined the effects of first-time conviction on offenders who committed fraud or breached jobs that required trust and found that first-time conviction reduced employment opportunities by 5 percent and depressed income by as much as 30 percent. He found large income effects for offenders sent to prison. He concluded that income effects were due to stigma rather than job displacement or stalled experience growth.

Using data from the records of the Administrative Office of the U.S. courts, he created a two-observation panel on the legitimate income of criminals with an observation prior to conviction and post-conviction. The sample consisted of males convicted of fraud in U.S. federal courts in 1984 who were released from probationary supervision by the end of 1987. Pre-conviction income was legal income gained during the year prior to conviction and post-conviction income was gathered from probationary reports during the last year of supervision, about two years after the pre-conviction observation. The sample consisted of 1693 first-time convicted fraud offenders and 535 first-time larceny offenders.

He first examined the effects of conviction on employment probability, using the interaction of breaching trust and being sent to prison to divide the sample into four mutually exclusive groups: 1) those who neither breach trust or are sent to prison (*NEITHER*); 2) those who breach trust and are not sent to prison (*BREACH*); 3) those who are sent to prison but do not breach trust (*PRISON*); and 4) those who both breach trust and are sent to prison (*BOTH*).¹

¹ Probation officers must indicate if an offender violated a trust when committing a crime in the offender's record, such as a pharmacist selling drugs without a prescription or when an employee embezzles funds.

Using those who neither go to prison nor breach trust as a control group, Waldfogel is able to measure the effect of conviction for breach of trust alone by subtracting the *NEITHER* effect from the *BREACH* effect. Similarly, the prison effect can be measured by subtracting the *NEITHER* effect from the *PRISON* effect. The employment probability model used a dummy dependent variable with "1" meaning positive income and "0" otherwise.

He found an overall conviction effect on probability of employment to be about -5 percentage points and significant for both fraud and larceny offenders. The effect was largest for those in the *BOTH* category (-8.5 for fraud, -25.8 for larceny) and smallest for offenders in the *NEITHER* category (-2.7 and significant for fraud, -1.2 and insignificant for larceny). The effects for larceny offenders sent to prison was -6.3 but insignificant.

Restricting the sample to those who worked prior to conviction (1336 fraud offenders and 397 larceny offenders), Waldfogel estimated conviction effects on income. Those who neither commit breach of trust nor are sent to prison experience small and insignificant effects. Fraud offenders who commit breach of trust but are not sent to prison experience significant negative income effects of -12.8 percent. Fraud offenders who do not breach trust and are sent to prison experience a -21.2 percent conviction effect. Those who breach trust and are sent to prison experience a conviction effect of -28.4 percent. First-time larceny offenders committing a breach of trust experience a significant -8.0 percent conviction effect, and those sent to prison experience a significant -12.0 conviction effect. These findings confirm Freeman's earlier findings (1991) that incarceration reduces the probability of employment.

Grogger Finds Large Incarceration Effects

Although Grogger (1995) focuses his study on the effects of arrests on earnings and employment, he found large incarceration effects for both jail and prison experiences over time. Using a distributed lag model to measure effects across six quarters, he found a jail sentence reduced earnings \$190 in the first quarter ($t = 3.87$) or 16 percent of pre-arrest mean quarterly earnings (\$1182). Those effects remained consistent and significant over time—\$167 in the fifth quarter ($t = 2.74$) and \$172 in the sixth quarter ($t = 2.77$). For prison, he found a decrease in earnings of \$263 in the first quarter ($t = 4.87$) or 22 percent of mean quarterly earnings. Those effects also stayed consistent and significant over time—\$258 in the fifth quarter ($t = 3.63$) and \$271 in the sixth quarter ($t = 3.66$).

Because his data do not contain information on length of prison sentence, Grogger had no way of knowing how many of his sample members were in prison in any point in the study. He attributed the huge prison effects to the forced exclusion of sample members from the labor force.

Grogger had a major problem in the measurement of his dependent variable. Earnings data from the California Employment Development Department (EDD) does not capture earnings from self-employment, military service, federal government jobs, and some state and local government jobs. When comparing three of his four cohorts—those born in 1958, 1960, and 1962—to respondents to the National Longitudinal Survey (NLSY), he found that employment rates and earnings varied across the two samples.

NLSY employment rates were roughly constant over time with the rates of arrestees about two percentage points below the non-arrestees. The employment rates of his treatment sample of arrestees were about 10 to 15

percentage points below the NLSY arrestees that he attributed to the failure of the EDD to capture all earnings including underground earnings that were documented by the NLSY. Similar discrepancies were found in the earnings data. NLSY respondents had higher earnings and his treatment group of earlier arrestees had higher earnings.

The lower earnings of the comparison group could be due an age bias. Comparison sample members were born in 1960 and 1962 and are younger than his treatment group of arrestees born in 1956, 1958, 1960 and 1962. The 1962 birth cohort represented 49 percent of the comparison group and only 35 percent of the treatment group. Because of the positive age-earnings, trajectory, it would be expected that the older treatment group would have higher earnings.

Another problem with Grogger's study is that while he attempts to make a case for unobserved characteristics as an explanation for the negative correlations between arrest records and labor market participation, he is missing one key variable—educational attainment that is not included in data from the California Adult Criminal Justice Statistical System. He constructs a very rough variable to measure college enrollment based on age—one in quarters where sample members were less than 23 years old. If, as he states, "it appears that my arrestee sample was drawn from the lower tail of the youth employment and earnings distribution," his education variable probably has little meaning.

Grogger theorized that his findings explained the otherwise contradiction between what appeared to be high penalties for crimes and widespread criminal activity among youths which would not be consistent with optimizing behavior.

He also surmised that declining youth wages and greater prospects for earnings in the drug trade, also induced youth to turn to crime rather than legitimate work.

Kling Studies Effects of Sentence Length on Employment and Earnings

In a 1997 study of the effects of incarceration and prison sentence length on subsequent employment and earnings, Kling found that incarceration had little effect on an imprisoned individual's subsequent employment in contrast to those who were not imprisoned. He found convicts' employment rates to be 0-3 percent lower after 5 to 8 years. In addition, he found that the employability of convicts with longer sentences rebound as quickly as those with similar characteristics and shorter sentences. However, he did find that negative earnings effects were stronger and concentrated among white-collar criminals who earned 10-30 percent less after 5 to 8 years than those convicted at the same time but served no time in jail. He found that violent and drug offenders have very low earnings in the labor market generally, but earnings appear to increase over the long-term after release from prison and do not vary with the length of sentences.

In this study, Kling sought to quantify the impact of incarceration and time in prison on labor market outcomes and investigate the mechanisms through which incarceration may influence labor market outcomes (e.g., lost work experience, erosion of work skills, and stigma). He surmised that a gap in work history—caused by incarceration—is more easily observed than simple conviction and sends a stronger negative signal to employers. And, that the gap should be more noticeable as prison sentences increase. To accomplish this,

Kling included estimates of the length of sentences in his econometric models of employment and earnings.

Kling worked on the premise that sentence length was a function of criminal history and type of offense. He assumed that individuals with prior records who commit jailable crimes had poor labor market prospects to begin with and that an observed negative correlation between prison length and labor market outcomes "would not represent a causal effect of sentence length" (1997). Kling controlled for all observable differences that might be correlated with sentence length by comparing individuals with similar criminal records, crimes, and demographic information. He constructed instrumental variables to account for the possible endogeneity of sentence length using the fact that judges are randomly assigned to criminal trials and, as such, are valid instruments when their impact on labor market outcomes operate through length of sentence.

Kling used data on felony cases from 1983 to 1994 in California's federal district courts because, unlike the state-level data used by Grogger, they contained information on sentence length and judges assigned to cases. Demographic information on the caseloads of 76 judges were linked to sentencing data that was, in turn, linked by social security numbers to quarterly earnings data collected by the California Employment Development Department (EDD) from 1987 to 1997. His sample had low earnings with only one-third having positive earnings in each quarter before case filing and mean earnings were \$1929 (deflated to 1996 dollars).

Kling found that post-incarceration employment rates rebounded to equal or exceed the levels they were at 5 quarters prior to case filing within a

year after release. The employment rates of groups that served time were about 7 percentage points lower than those serving no time and the long-term negative effect of up to three years of incarceration is no more than six percentage points compared to those serving no time in prison.

Kling disputed Freeman's findings of strong incarceration effects on employment although he found significant negative effects of incarceration on the earnings of white-collar convicts. He found that earnings for those spending a year or less in prison decreased by \$174 (9 percent of mean earnings) in the period 5-8 years after case filing compared to those serving no prison time. For those serving from one to four years in prison, the negative effects ranged from \$442 to \$591 (23-31 percent of pre-filing earnings). Decomposing by offense type, Kling found the negative effects to be concentrated among white-collar crimes, such as embezzlement and fraud. The low earnings of violent and drug offenders rebounded quickly to their pre-case filing levels after release from prison.

One aspect of Kling's study was to measure the impact of sentence length on labor market outcomes. He found that individuals who received longer sentences had lower employment rates prior to case filing. One interpretation is that longer sentences produce smaller negative labor market penalties. There were no significant negative incarceration effects for violent or drug offenders, however longer sentences had consequences for white-collar criminals. Kling also points out that many incarcerated offenders sought work in industrial and service sectors where experience is less likely to be important.

Nagin & Waldfogel's Study of the Effects of Conviction on Lifetime Earnings

Nagin & Waldfogel (1998) found that first-time conviction effects vary significantly by age while subsequent convictions effects reduce income at all ages. In fact, first-time conviction effects actually raised the earnings of offenders under the age of 25, a finding that confirmed similar results of an earlier study (1993). They theorized that the present value of lost income due to conviction varies over the life cycle and that losses reach a maximum in the middle years of a career. Their findings are predicated on the presumption that would-be offenders have access to jobs offering the opportunity for human capital accumulation and limited their study to first-time conviction for fraud, a crime that presumes a certain amount of trust.

In looking at the effects of conviction over the life cycle of offenders, Nagin & Waldfogel sought to explain their earlier findings that first-time conviction has a significant positive effect on income for offenders below the age of 25 years and a significant negative effect for offenders above 30 years old (1993). They theorized that the first-time conviction for young offenders limited their access to "career jobs" that offered stable, long-term employment with rapidly rising wages. Instead, first convictions forced young offenders into "spot market jobs" that had higher initial earnings but a flatter earnings trajectory than career jobs.

Nagin & Waldfogel reasoned that career jobs required human capital investment—in the form of training—on the part of the employer and that the employee helped to defray the cost of training by accept lower wages. A conviction reduced the probability that an employer would invest in the employee or enter into a long-term career arrangement.

Using data from the records of the Administrative Office of the U.S. Courts, the researchers created a two-observation panel on the legitimate income of criminals with an observation prior to conviction and post-conviction. The sample consisted of males convicted of fraud in U.S. federal courts in 1984 who were released from probationary supervision by the end of 1987. Pre-conviction income was legal income gained during the year prior to conviction and post-conviction income was gathered from probationary reports during the last year of supervision, about two years after the pre-conviction observation. There were 1336 first-time convicts in the sample.

Because fraud offenders are more likely to be white (83.3 percent of the sample), more highly educated (79.0 percent completed high school), and older (mean age of 42.1 years), findings are not generalizable to the general prison population. However, when they repeated the basic elements of the analysis on a sample of 397 larceny convicts, they found similar results. Also, the sample is biased because the sample was restricted to individuals with positive pre- and post-conviction income. Post-conviction income effects were not contaminated by incarceration effect as Nagin & Waldfogel obtained identical results when they excluded the 26 percent of convicted men who served time in prison.

They found the average change in income after conviction is -7.7 percent ($t=-3.33$) and the median change is -3.8 percent. However the change differs dramatically across age groups. Fraud convicts under the age of 25 years old experienced an average income increase of 24.1 percent. After that, the change decreases with age. The average change for convicts between the ages of 25 and 39 is not significantly different from zero. After 39, the change is increasingly

negative with the average decline for convicts more than 59 years old being more than a third.

Nagin & Waldfogel also examined conviction effects for a sub sample of individuals who had been convicted prior to their fraud conviction and found no relationship between change in income and age. All age groups—including the youngest—experienced declines in income.

Freeman's study (1991) is more akin to this study than the others in that he included non-incarcerated participants. However, his was a sample of largely high school dropouts. Waldfogel (1993) examined the effects of incarceration on first-time fraud and larceny offenders but his sample was primarily white (83.3%) and better educated than the general population. Nagin & Waldfogel used the same data in a 1998 study.

One significant advantage the Fragile Families data has over previous studies is the earnings variable is measured by reported annual earnings, a more comprehensive measure for this variable that can be reduced to weekly and hourly earnings since we have information on weeks and hours worked. Although Waldfogel (1993) and Nagin & Waldfogel (1998) used average monthly earnings from the year prior to conviction obtained from income tax returns and post-conviction income based on monthly income during the last year of probationary supervision, they had no data for wages or hours worked. Both Grogger (1995) and Kling (1997) used quarterly measures for officially reported earnings.

The Fragile Families survey provides a more complete measure for earnings as it records reported income from all legitimate sources and provides a separate measure for income from illegitimate sources. Additionally, Fragile

Families collected data on weeks worked, average hours worked per week that will provide a more accurate measure of wage rate.

Grogger (1995) and Kling (1997) collected earnings data from the California unemployment insurance system that does not record earnings from self-employed persons, military personnel, federal government employees, some state and local government employees, and domestic workers earning less than \$1,000 per quarter. This presents a potential bias in the dependent variable if incarceration reduces employment and earnings opportunities with the federal government, the military, and state and local governments. Post-arrest earnings of those not incarcerated would reflect earnings from these sources that are not reflected in the earnings of those who were incarcerated creating a bias in the dependent variable. Convicted felons are prohibited from many federal and state employment opportunities.

This dissertation will also benefit from the fact that the Fragile Families survey is a rich data set with human capital variables not included in previous research. In addition to variables on age, education, ethnicity, marital status, drug use—all included in previous research studies, Fragile Families asked questions about the subject's mental health, relationship with his biological father or another significant male figure, and current relationship with his child's mother. Fragile Families has information on non-legitimate as well as legitimate income, hours worked, weeks worked, and the number of jobs held during the year.

Table 1 presents an overview of significant research on the impact of incarceration on earnings, providing key findings, description of the data, dependent and independent variables, and a summary of methodologies.

Table 1. Key Studies on the Impact of Incarceration on Employment and Earnings

	Key Finding	Data/Sample	Dep. Variable(s)	Ind. Variables	Methodology
Freeman (1991)	Incarceration explained depressed employment (25-30 percent) among disadvantaged youth with similar initial work experience.	Out of school youth from the 1979-88 NLSY; the 1989 NBER Boston Youth Survey (BYS); and the 1979-80 NBER Survey of Inner-city Youth in Boston, Chicago, and Philadelphia.	<ol style="list-style-type: none"> 1. Worked in survey week (dichotomous variable, 1=worked, 0=no work). 2. Weeks worked in preceding years. 	<ol style="list-style-type: none"> 1. Incarceration* 2. Grade completed 3. Region 4. Age 5. Ethnicity 6. Marital status 7. Church attend 8. Gang member 9. Household 10. Drug use 	Examined the effect of a vector of mutually exclusive dummy variables on employment during survey week and weeks work in preceding years from 1980 to 1987 or 1988.
Waldfoegel (1993)	First-time conviction has significant depressing effects on employment probabilities and income.	Panel on legitimate income of convicted offenders before and after conviction using federal records, pre-sentence reports, and post-conviction reports. Offenders were convicted in 1984 and released by 1987.	<ol style="list-style-type: none"> 1. Dummy employment variable (1=positive income; 0=otherwise). 2. Log real income. 	<ol style="list-style-type: none"> 1. Whether breach 2. Whether prison 3. Education 4. Ethnicity 5. Marital status 	Created a pre-conviction trajectory path based on age and income and subtracting a post-conviction trajectory path that measures the effect of conviction.
Grogger (1995)	The effects of arrests on employment and earnings are moderate in magnitude and rather short-lived. Most of negative correlation between arrest records and labor market activity stem from unobserved characteristics.	Longitudinal arrest records from the California Dept. of Justice and earnings records for 1980-86, analyzed from 1980-84. Created treatment group of first-time arrestees before 1984 and control group of first-time arrestees after 1985.	<ol style="list-style-type: none"> 1. Dummy employment variable (1=positive income; 0=otherwise). 2. Arrest disposition 3. Ethnicity 4. Birth cohort 	<ol style="list-style-type: none"> 1. Age 2. Arrest disposition 3. Ethnicity 4. Birth cohort 	Used a distributed lag model that allowed arrests and prosecution to affect current and future labor market outcomes and provide controls for unobserved variables correlated with arrests.

*Freeman instrumented the dependent variable on outcomes in a different year preceding jail term.

Table 1. (Continued) Key Studies on the Impact of Incarceration on Employment and Earnings

Key Finding	Data/Sample	Dep. Variable(s)	Ind. Variables	Methodology
<p>Kling (1997)</p> <p>Incarceration has little effect on employment (0-3 percent lower after 5-8 years). Employment rates rebound quickly to pre-conviction levels regardless of sentence length. Negative earning effects are significant (10-30 percent after 5-8 years).</p>	<p>Sentencing data on convicts in the federal court system in California from 1983-94 was linked with earnings records from the California Employment Development Dept. Demographic information on the caseloads of 76 judges in 5 offices of the federal courts system was also linked.</p>	<p>1. Binary employment variable (1=positive earnings in any quarter; 0=otherwise). 2. Total quarterly earnings from any employer.</p>	<p>1. Age 2. Sex 3. Race 4. Schooling 5. Prior record 6. Offense type 7. Time in prison 8. District/quarter of filing</p>	<p>1. OLS comparing convicts serving time with those who did not. 2. Difference-in-difference estimation comparing convicts with similar future convicts. 3. OLS adjusting for prior earnings. 4. Instrumental variables.^a</p>
<p>Nagin & Waldfoegel (1998)</p> <p>First-time conviction increases the wages of young convicts by reducing access to career jobs and relegating offenders to spot market jobs which pay more at the onset of a career but do not have the higher earnings trajectory of career jobs over time. Conviction does, however, have significant negative effects for offenders over 30 years old.</p>	<p>(Used data from 1995 study listed above). Panel on legitimate income of convicted offenders before and after conviction using federal records, pre-sentence reports, and post-conviction reports. Offenders were convicted in 1984 and released by 1987.</p>	<p>Log income for pre- and post-conviction income to measure the change in lifetime income that he calls the present value of obedience rents (PVOR).</p>	<p>1. Age 2. Ethnicity 3. Education 4. Marital status 5. Region</p>	<p>Econometric model calculating the present values of obedience rents (PVOR). PRCV is the discounted value of career wage income less spot wage income.</p>

^aKling cites the fact that judges are randomly assigned to cases to use them as instrumental variables in that the "judge effect" in that sentence length is the only mechanism through which the judge effect impacts labor market outcomes and thus the causal effect of sentence length can be inferred from the ratio of judge effects on labor market outcomes and on sentence length.

II. The Effects of Incarceration on Marriage and Cohabitation

Studies on the effects of incarceration on inmates' families done in the past several decades have focused on children and overall family functioning. Few studies have focused specifically on the impact of incarceration on the relationship between inmates and their wives or on cohabitation. Although a substantial body of literature has been produced examining the impact of incarceration on families, few empirical studies have been published. Few, if any, studies to date have examined the effects of incarceration on family formation.

Wilson (1987) broke ground with his theory that poor marriage rates among African Americans was the result in the reduction of the "marriageable pool" of black man due to their poor earnings and employment rates. Edin (1999) suggests that women—particularly those on welfare or those with low income—are averse to marrying men with poor economic viability. Since incarcerated men have poor earnings and employment prospects, we expect men who have been incarcerated will be less likely to marry or cohabit. We also expect that rates of marriage among incarcerated men will be lower than rates of cohabitation. This review will focus on two relevant studies on incarceration and families.

Western & McLanahan's Study of Incarceration and Family Formation

Bruce Western & Sara McLanahan (2000) conducted the most recent and relevant study on the impact of incarceration on family formation. Using data from the Fragile Families Study, they utilized logistic regression analysis to determine the probability of couple living together one year after the birth of

their child. They found large negative effects for incarceration on low-income families.

The analyses were conducted in two stages. The first stage examined the effects of prior incarceration on whether the couple were co-residing (married or cohabiting) one year after the birth of their child. Using father-reported data, they found that prior incarceration reduced the likelihood that the couple would be living together by approximately 50 percent. Using mother-reported data, they found that incarceration reduced the likelihood of the couple living together by about 70 percent. They found that black couples were half as likely to be living together as white couples and Latinos had outcomes that were similar to whites.

The surprising finding here was that the effects using mother-reported data were stronger than those coming from the fathers' reports. We hypothesized that the effects of incarceration on the fathers' outcomes would be greater using fathers' reports because the dads who did not report their incarceration were likely to be trying to overcome the past and thus were probably doing better than the dads who admitted they had been in jail.

They also found that incarceration status was unrelated to the likelihood of marriage for couples living together at the time of the one-year follow-up survey. Race significantly affected the chance of marriage. Black couples were one-tenth as likely to be married a year after the birth of their child as white couples with similar age and education.

Schneller's Study on Families of Black Prisoners

Donald P. Schneller (1977) surveyed 93 black inmates from the District of Columbia's Reformatory for Men (Lorton Reformatory) and their wives. The

study was limited to legally-married Negro [sic] inmates who were: (1) living with their wives at the time of their arrest; (2) were incarcerated in the prison during the interviewing period; (3) had wives living in the District of Columbia metropolitan area; and (4) had served five years or less of their current sentence. Common-law marriages were considered to be legal.

Schneller presented seven hypotheses: (1) the effects of incarceration on the families, as expressed by wives, are extensive; (2) the effects are positive where there is poor marital adjustment in the pre-incarceration period; (3) there is no difference between the effects on common-law couples or civilly married couples; (4) there is a positive relationship between the amount of time served and the extent of effects; (5) the maximum sentence length is related to the extent of the effects; (6) the social effects are greater when there is a sex-offense; and (7) the amount of publicity connected to the arrest is related to the extent of the social effects on the family.

Hypothesis (1) was proved. The most difficult area of adjustment for the wives and families of the inmates was the sexual-emotional change area. The average score on this scale was 20.2 (of a possible 25). This score was primarily responsible for the high overall score (7.2 above the midpoint of the 60 point scales). Hypothesis (2) was also proved as marital adjustment for the pre-incarceration period was the only quantitative variable found to be significantly related to family change scores ($r=.46$, $p<.01$). Hypothesis (3) was disproved. Schneller compared 14 common-law couples to 14 matched legally-married couple and found this type of marriage to be significant ($r=1.9$, $p<.05$).

III. Human Capital Theory & Earnings and Employment

Labor market economists beginning with Becker (1964) and Mincer (1962) have found a positive relationship between human capital investments through education and on-the-job training and earnings over the lifetime. To the extent that being incarcerated retards or impedes the development and accumulation of human capital assets, it is expected to lead to lower earnings and diminished labor market opportunities.

The non-linear relationship of age and wages results in an age-earnings curve that has a steep trajectory over the early post-schooling wage earning years that levels off and begins a slow descent towards the end of the life span (Borgas, 1996). It is estimated that two-thirds of the career wage growth occurs in the first 10 years of (Ehrenberg & Smith, 1996).

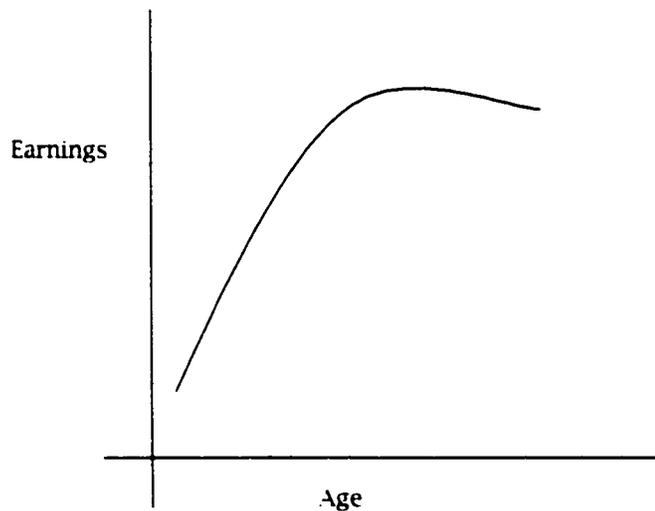


Figure 1. Age-Earnings Curve

Individual decisions to pursue educational attainment are constrained by ability, rate of time preference, and a family's initial financial endowment (Murphy & Welch, 1990). These decisions are affected by decisions to pursue

criminal and not legitimate work opportunities resulting in poor labor market outcomes. Because these decisions are made at an early age and incarceration also occurs early in the work life, significant penalties are expected.

Incarceration without rehabilitative efforts retards human capital development and, given the criminogenic effects of prison culture, may work to reduce human capital by replacing productive social skills with dysfunctional ones.

Human capital is also accumulated through on-the-job training. In fact, Mincer (1962) estimates that as much as half of a worker's human capital is accumulated through various on-the-job knowledge and skills acquisition. Examples of on-the-job training include learning to operate machines, learning computer skills, developing contacts, etc. (Addison & Sierbert, 1979). Generally employers are willing to invest in developing the specific skills of a worker expecting a return on that investment by getting a more productive worker. The stigma of incarceration would more than likely reduce a worker's chances for specific skills development by reducing his chances for employment.

IV. Labor Market Theory & Marriage and Cohabitation

If, as this study hypothesizes, fathers who were incarcerated suffer significant labor market penalties, then it would lead to an expectation of lower marriage rates among incarcerated fathers. And, the negative effects of incarceration should be greater on marriage than cohabitation since the former requires a legal binding and stronger economic ties between the two people.

Becker (1981) first proposed a link between family formation and the labor market, suggesting that marriage and marital stability depended on couples having greater utility in marriage than as single persons. He linked the rise in divorce and decline in fertility to the increase in female labor market

participation. There have been a number of studies since examining the confluence of greater female labor market participation and declines in marriage among the general population and particularly among African Americans.

Using data from the 1980 U.S. Census, Shultz (1994) found men's market wages significantly associated with more frequent marriage and higher fertility and higher wage opportunities for women had a substantial effect in the opposite direction. He found AFDC and Medicaid had modest effects on marriage and fertility.

Tzeng and Mare (1995) used a probability sample of 12,686 men and women in the National Longitudinal Surveys of Youth (NLSY) for 1979-1987, of Young Men (NLSYM), and of Young Women (NLYSW) to measure the labor market and socioeconomic factors on marital stability. They found couples that were better educated and had stronger attachment to the workforce enjoyed more stable marriages. They found greater equality between husband and wives in work experience had negative effects on marriage. They attributed the lower socioeconomic status of blacks for their high rates of marital dissolution.

Smock and Manning (1997) used data from the 1987-1988 National Survey of Families and Households (NSFH) and its follow-up survey in 1992-1994, to examine the effects of economic circumstances of both cohabiting partners on their chance of their marrying. They found significant effects only for men's economic circumstances. Men with higher earnings, greater education, and full-time employment had higher odds of moving into marriage and lower odds of terminating the relationship. They found women's economic circumstance had no effect on transitions out of cohabitation.

Using 1970, 1980, and 1990 U.S. Census data, Blau, Kahn & Waldfogel (2000) found better labor markets for women and a less favorable ratio of marriageable men reduced marriage rates for young white women (16 to 24 years old) in all education groups. They found better male market prospects raised rates among these women. They found similar effects among older white women (25-34 years old) and stronger effects for older black women. Higher adult male unemployment rates and lower adult average wage rates lowered marriage rates.

Wilson (1987) first proposed to explain deteriorating marriage rates among African Americans by the decline in employment among black males as a result in the reduction in manufacturing jobs. He hypothesized that black women were confronted with a shrinking "male marriageable pool" and as a result retreated from marriage in the face of less desirable potential husbands.

Subsequent studies supported his hypothesis (see Lichter, McLaughlin, Kephart & Landry; Darity & Myers, 1995; Testa & Krogh, 1995) arguing that the declining economic prospects of black men were large responsible in the worsening marriage rates among black women. However, Lerman (1989) disputed Wilson's theory, pointing out that marriage rates among marriageable men declined almost as much as they did for less marriageable men. He found that between 1973 and 1986, the percent married and living with their wives fell as much for college graduates and for less educated groups suffering losses in earnings. Wood (1993), like Lerman, found the dwindling marriageable pool of black men accounted for only three to four percent of the falling marriage rates of young black women during the 1970s.

Labor market theory suggests that poor economic prospects among unmarried men would render them less likely to marry or have stable unions. However, the evidence is largely inconclusive. Ellwood & Crane (1990) suggest that economic models have not been successful in explaining changes in black or white families and that the dramatic changes are the results of a “complex interaction of social, cultural, legal, and economic factors” that would be difficult to unweave (see also Dickson, 1993).

We argue here that incarceration histories do lower economic prospects and work to render offenders less likely to marry than their never incarcerated counterparts. However, it is also reasonable to expect incarceration may negatively impact family formation if prison has a criminogenic effect on inmates that would make them more prone to violence or abuse (Western & McLanahan, 2000).

V. Summary

While there is growing evidence that incarceration has negative effects on the earnings and employment of jailed offenders, there are still questions about how much that is due to unexplained heterogeneity. Are these men faring poorly after incarceration because they have poor economic viability before entering jail? Would their outcomes be as bleak had they not been imprisoned? Would their personal deficits hinder their chances for marriage and cohabitation?

This study begins to answer those questions by being able to control for more of the characteristics in questions such as mental health, overall health, and family background. What also makes this study unique is that it compares the outcomes of incarcerated fathers and non-incarcerated fathers with similar

background while controlling for the differences between the groups, something other studies have not done.

Chapter 3: Data and Methodology

I. The Data

A. Sample

1. The Fragile Families Survey

The Fragile Families and Child Wellbeing Study was inaugurated in 1998 to explore three areas of interest to policymakers—non-marital childbearing, welfare reform, and the role fathers play in the lives of their children. The study follows cohorts of unwed parents and their children, providing information about relationships between the mother and father and between fathers and mothers and their child/children.

Data for the study is being collected in 20 cities in the United States, stratified by different labor market conditions and varying policy regimes. The sample will be representative of non-marital births to parents living in cities with populations of more than 200,000 people. Comparison groups of married parents will also be followed. The total sample size is expected to be approximately 4,800 families that include 3675 unwed couples and 1125 married couples. New mothers are interviewed at hospitals within 24 hours of birth. Fathers are interviewed at the hospitals or shortly thereafter.

Follow-up data on both parents will be collected when the child is 12, 30, and 48 months old. Data on child health and development will be collected each year from the mother. Additionally, in-home assessments of child well-being will be conducted as part of the interview. Child well-being measures will be the same as those used in evaluations of the Infant Health and development Program, the Early Head Start Evaluation, the Teenage Parent Demonstration Project, and the proposed ECLS-Birth Cohort Study.

Mothers are asked a battery of questions about their children's fathers to facilitate estimates of the characteristics and experiences of the fathers who not available for interviews. A retrospective measure of the fathers' incarceration histories was added in the first-year follow-up survey that allows for a study of the effects of incarceration on male earnings, parental relations—including union formation—and child well being.

Baseline questionnaires for mothers and fathers include sections on (1) pre-natal care; (2) mother-father relationships; (3) expectations about fathers' rights and responsibilities; (4) attitudes towards marriage; (5) parents' health and family background; (6) social support and extended kin; (7) knowledge about local policies and community resources; and (8) education, employment, and income (including income made "off-the-books" and "under-the-table". Follow-up surveys will collect additional information on (1) access to and utilization of health healthcare and childcare services, (2) experiences with local welfare and child support agencies, and (3) parental conflict and domestic violence.

2. The Austin, Texas and Oakland, California Sample

Data for the dissertation were collected in Austin, Texas and Oakland, California as part of the Fragile Families and Child Well-being Study. Oakland and Austin were the first two collection cities. Both the Oakland and Austin cohorts consist of 325 families each—250 unmarried couples and 75 married couples who serve as a comparison group. Data were collected in Oakland at the Summit and Highland hospitals from February 14 through June 15, 1998 and data were collected in all Austin birthing hospitals from April 9 through June 30, 1999.

All mothers giving birth during the data collection period were approached in the hospitals and asked to participate in the study until the non-marital and marital quotas were reached. Approximately 93 percent of the mothers agreed to participate and provide locating information on the fathers who were contacted at the hospital or shortly after the birth of the child. Approximately 90 percent of married fathers and 75 percent of unmarried fathers agreed to participate.

Since this sample included only fathers, the effects of incarceration on fertility could not be detected. It is reasonable to assume that incarceration would have a negative effect on fertility since the potential father would have less opportunity for procreation. Fathering children would increase the likelihood that the dad would remain in a formal or close relationship with the mother. Therefore, the effects of incarceration in this study would be biased downward. It is likely that absent any children in a relationship the mother and the father would be less likely to form a household. The effects of incarceration or marriage and cohabitation among men who are not fathers is likely to be greater than the effects on this cohort of fathers.

A total of 656 mothers and 524 fathers were interviewed at baseline. During the follow-up phase, a total of 577 mothers and 441 fathers were re-interviewed. There were 14 cases where the mother was not interviewed during the follow-up survey but the data was collected from the respective father. Of the 441 fathers interviewed during the follow-up survey, 413 were interviewed at baseline. For the purposes of this study, we will examine the sample of mothers (n=577) interviewed during the follow-up survey and (2) the sub sample of fathers (n=441) interviewed in the follow-up survey.

Data on fathers were collected both from the self-reports of fathers and from information obtained from the mothers. The mothers' surveys gleaned extensive data on fathers because it was anticipated that many of the fathers would be difficult if not impossible to locate and to interview. Comparisons are made between fathers' self-reported data and the data reported by the corresponding mothers.

3. Sample and Sub-Sample Used in this Study

This dissertation will use data collected from the sample of mothers in Austin, Texas and Oakland, California and a sub sample of all fathers interviewed during the one-year follow-up phase. The fathers' sample includes 28 fathers who were not interviewed at baseline. Missing data will be obtained from the reports of the respective mothers.

B. Description of the Variables

1. Dependent Variables

Dependent variables will be used to measure difference in the effects of incarceration and incarceration over time between fathers who reported that they spent time in a correctional facility and those who did not while controlling for age, education, ethnicity and a number of other socio-demographic and human capital variables. The areas of policy concern that will be analyzed are earnings and employment, and marriage and cohabitation. Following are descriptions of the dependent variables in this study:

- a. wrlstwk** (did father work for pay last week?) is a dichotomous dependent variable from the mothers' follow-up reports indicating whether or not the father was employed during the week prior the interview.

- b. **wrlstwk2** (did father work for pay last week?) is a dichotomous dependent variable from the fathers' follow-up survey indicating whether or not the father was employed during the week prior the interview.
- c. **offbks** (father worked off the books) is a dichotomous dependent variable obtained from the mothers' follow-up data denoting whether or not the father participate in off-the-books work activities.
- d. **offbks2** (father worked off the books) is a dichotomous dependent variable from the fathers' follow-up data denoting whether or not the father participate in off-the-books work activities.
- e. **married** (whether father and mother were married at child's birth) is a dichotomous dependent variable—from mothers' follow-up data—denoting whether or not mother and father were legally married at the time of their child's birth.
- f. **married2** (whether father and mother were married at child's birth) is a dichotomous dependent variable—from fathers' follow-up data—denoting whether or not mother and father were legally married at the time of their child's birth.
- g. **cohab** (whether father and mother were living together at child's birth) is a dichotomous dependent variable—from the mothers' follow-up survey—denoting whether or not the mother and father were living together at the time of their child's birth. It includes both married and unwed cohabitants.
- g. **cohab2** (whether father and mother were living together at child's birth) is a dichotomous dependent variable—from the fathers' follow-up data—denoting whether or not the mother and father were living together at the

time of their child's birth. The measure includes both married and unwed cohabitants.

- h. logearn** (log of annual legitimate earnings) is the log of the continuous measure of self-reported income by fathers interviewed in the follow-up surveys. Respondents were asked how much they earned from all of their "regular" jobs in the last 12 months? They were asked not to count earnings from any "off-the-books" or "under-the-table" jobs. Respondents who were unsure of the exact amount were asked to provide a range in increments of \$5,000 from under \$5,000 to more than \$60,000. An income measure was computed for the fathers in each category by using the mean earnings of the respondents whose reported income fell within the respective category. This measure is a better measure than the median of each category because low earners tend to fall near the low end of the range and high earners tend to place nearer to the higher end of the range.
- j. earnob** (annual non-legitimate earnings) is a continuous measure of self-reported "off-the-books" or "under-the-table" income by fathers interviewed in the follow-up survey. Respondents were asked how much they had gained from work off the books or under the table in the past year. Earnings could be from an informal job, or work like housecleaning, helping with household maintenance and repairs, or providing childcare, transportation, or another service. Respondents who were unsure of the exact amount were asked to provide a range from under \$500 to more than \$40,000. The mean earnings of respondents

whose reported exact income fell within the respective category used for fathers who gave a range.

- k. wkswrk** (number of weeks worked in the past 12 months) is a continuous dependent variable denoting the total number of weeks respondents worked at all their regular jobs. This measure was obtained from the follow-up data.
- l. hrswrk** (hours worked per week) is a continuous measure denoting the number of hours worked at either a main job or at all jobs if the respondent had worked more than one job during the year. The measure was obtained from the follow-up data.
- m. wage** (earnings per hour in current or most recent job) is a continuous variable denoting the hourly wages respondents earned at their current or most recent job. The wage measure—taken from the follow-up data—was computed by dividing annual legitimate earnings (earn) by hours worked (hrswrk) times the number of weeks worked (wkswrk). [wage = $\text{earn}/\text{hrswrk}*\text{wkswrk}$].

2. The Key Independent Variables: Incarceration Measures

This study will use retrospective measures of involvement with the criminal justice system at the level of arrest, conviction, incarceration, and incarceration over time to measure these variables effects on earnings and employment, marriage and cohabitation, and child well-being while controlling for several socio-demographic and human capital variables. The following are descriptions of the variables:

- a. **incar** (was father ever incarcerated?) is the main incarceration variable—a dummy variable indicating whether or not the father was incarcerated based on reports from the mother and the father.
- b. **incar1** (ever been incarcerated) is a dummy variable from the fathers' subsample indicating whether or not the father reported he was incarcerated.
- c. **incar2** (ever been incarcerated) is a dummy variable based on mothers' reports where the father did not report he was incarcerated but the mother did.
- d. **incar3** (ever been incarcerated) is a dummy variable where the mother and the father both reported that he was never incarcerated.
- e. **incar4** (incarceration status is unknown) is a dummy variable where neither the mother or father affirmed or denied that he was incarcerated.
- f. **timesrv** (times spent incarcerated in an adult facility) is a continuous variable for the number of month spent incarcerated.
- g. **incarag1-3** (age of first incarceration) is a set of dummy variables an age range that the respondent was first incarcerated. The variables are categorized as follows: (1) the respondent was first incarcerated at the age of 16 years old or younger (**incarag1**), (2) the respondent was first incarcerated between the ages of 17 years old and 21 years old, (3) the respondent was first incarcerated at age 22 years old or older.

3. Fathers' Independent Variables

These variables describing fathers will be used as controls in analyzing the effects of criminal justice involvement on the earnings and employment dependent variables described above.

- a. **fage** (age of father at baby's birth) is a continuous variable indicating the mothers' reports of the age of the father at the time of the baby's birth taken from the mothers' baseline survey.
- b. **age** (age of father at baby's birth) is self-reported continuous variable from the fathers' baseline survey of his age (in years) at the time of the baby's birth. Baseline reports from the respective mothers were used to replace missing data from fathers not interviewed in the follow-up survey.
- c. **fblack** (is father black/African American?) is a dummy variable from the mothers' baseline reports indicating whether or not father is black/African American.
- d. **black** (is father black/African American?) is a dummy variable from the fathers' baseline survey denoting whether or not father is black/African American.
- e. **flatino** (is father of Latino or Hispanic descent?) is a dummy variable from the mothers' baseline reports indicating whether or not father is Latino or Hispanic.
- f. **latino** (is father of Latino or Hispanic descent?) is a dummy variable from the fathers' baseline survey denoting whether or not father is Latino or Hispanic.
- g. **fwhite** (is father white?) is a dummy variable from the mothers' baseline reports indicating whether or not father is non-Latino white.
- h. **white** (is father white?) is a dummy variable from the fathers' baseline survey denoting whether or not father is non-Latino white.

- i. **fothrace** (is father of another race?) is a dummy variable from the mothers' baseline reports indicating whether or not father is a race other than black, Latino or white.
- j. **othrace** (is father of another race?) is a dummy variable from the fathers' baseline reports indicating whether or not father is a race other than black, Latino or white.
- k. **feduc1-4** (level of education) is a set of dummy variables from the mothers' baseline reports indicating whether or not the baby's father falls within a specific category for level of education. The variables are segregated as follows: *feduc1* (some high school or less), *feduc2* (high school graduate, including G.E.D.), *feduc3* (some college, including trade or technical school), or *feduc4* (college degree).
- l. **educ1-4** (level of education) is a set of dummy variables from the fathers' baseline survey denoting whether or not the baby's father falls within a specific category for level of education. The variables are segregated as follows: *feduc1* (some high school or less), *feduc2* (high school graduate, including G.E.D.), *feduc3* (some college, including trade or technical school), or *feduc4* (college degree).
- m. **drugprob** (did father have a problem with alcohol or drugs?) is a dichotomous variable indicating whether or not the mother or the father reported he had problems keeping a job or getting along with family and friends because of alcohol or drug use.
- n. **city** (city where interview occurred) is Oakland, California (1) or Austin, Texas (0).

- o. alcohol1-4** (father's use of alcohol) is a set of dummy variables denoting whether or not the baby's father falls within a specific category for the level of alcohol use. The variables are segregated as follows: *alcohol0* (respondent did not drink alcohol in the past month), *alcohol1* (respondent drank but did not drink 5 or more drinks on any day in the past month), *alcohol2* (1-2 days of 5 or more drinks in the past month), *alcohol3* (3 or more days of 5 or more drinks in the past month).
- k. marij** (did father use marijuana in the past month) is a dichotomous variable from the fathers' follow-up survey denoting whether or not the father reported using marijuana in the past month.
- l. depress** (was father depressed) is a dichotomous variable indicating whether or not the father had experienced sadness or a loss of interest in pleasurable things for a period of two weeks or more following the birth of his child.
- m. poorhlth** is a dichotomous variable indicating whether the father reported himself to be in fair or poor health or had a serious health problem that limited his ability to work.
- n. intact** (did father grow up with biological parents) is a dichotomous variable from the baseline survey indicating whether or not the father was living with both biological parents at the age of 15 years old.
- o. nofather** (was biological father involved in your life) is a dichotomous variable indicating that the father's biological father was not involved in his life.

4. Mothers' Independent Variables

These variables describing mothers will be used as controls in analyzing the effects of incarceration on employment, marriage, cohabitation and birth weight for the mothers' sub sample only.

- a. **mage** (age of mother at baby's birth) is self-reported continuous variable from the mothers' baseline survey of her age (in years) at the time of the baby's birth.
- b. **city** (city where interview occurred) is Oakland, California (1) or Austin, Texas (0).
- c. **mblack** (is mother black/African American?) is a dummy variable from the mothers' baseline survey denoting whether or not mother is black/African American.
- d. **mlatino** (is mother of Latino or Hispanic descent?) is a dummy variable from the mothers' baseline survey denoting whether or not mother is Latino or Hispanic.
- e. **mwhite** (is mother white?) is a dummy variable from the mothers' baseline survey denoting whether or not mother is non-Latino white.
- f. **mothrace** (is mother of another race?) is a dummy variable from the mothers' baseline survey denoting whether or not mother is a race other than black, Latino or white.
- g. **meduc1-4** (level of education) is a set of dummy variables from the mothers' baseline reports indicating whether or not she falls within a specific category for level of education. The variables are segregated as follows: *meduc1* (some high school or less), *meduc2* (high school graduate, including G.E.D.), *meduc3* (some college, including trade or technical school), or *meduc4* (college degree).

- h. income** (household income) is a continuous measure of the mother's household income in the 12 months prior to the birth of the baby.
- i. health1-4** (mother's perceived health during pregnancy) is a set of dummy variables indicating how the mother perceived her health to be during her pregnancy. The variables are segregated as follows: (1) *health1* (health is excellent), (2) *health2* (health is very good), (3) *health3* (health is good), or *health4* (health is fair or poor).
- j. intact** (did mother grow up with biological parents) is a dichotomous variable from the mothers' baseline reports indicating whether or not the mother was living with both biological parents at the age of 15 years old.
- k. msubstan** (mother's use of alcohol or drugs during pregnancy) is a dichotomous variable from the mothers' baseline surveys indicating the whether the mother drank alcohol several times a week or more during pregnancy or used drugs several times a week or more during pregnancy.
- l. mcigar** (mother's cigarette smoking during pregnancy) is a dichotomous variable from the mothers' baseline reports indicating whether or not the mother smoked cigarettes during pregnancy.

5. Missing Data

Missing data for fathers on age, education and race were replaced by reports from the mothers. Certain missing values for earnings were calculated as described above. Some cases were lost due to missing data on the father's dependent variables.

II. Methodology

A. The Use of Multiple Samples

1. The Sample and Sub Sample

The effects of incarceration on employment and earnings, marriage and cohabitation and birth weight will be assessed using the sample and a sub sample of Fragile Families data. The sample consists of mothers interviewed during the follow-up survey (n=577). The sub sample consists of reports from fathers interviewed during the follow-up survey (n=441). Data for the 28 fathers not interviewed at baseline will be obtained from the reports of the respective mothers.

2. What Can Be Learned from the Sub Sample?

The sample of mothers provides comprehensive set of data by which the effects of incarceration can be measured on employment, marriage and cohabitation. The sample allows these effects to be quantified contrasting a comparable control group of subjects not affected by incarceration.

The full sample also provides a limited set of control variables including age, education level, ethnicity, and substance use. The sub sample of fathers provides a richer set of data for earnings and employment. Data for annual legitimate earnings, off-the-book earnings, weeks worked in the past year, average hours worked, and a wage rate will allow analyses of the effects of incarceration on several key earnings and employment dependent variables. The policy variables, while retrospective, provide a good measure of the respondent's involvement with the criminal justice system. Measures of time served in correctional facilities will allow the analyses of the effects of variations of time spent incarcerated. This retrospective measurement is

particularly sound because it is highly unlikely that a respondent would forget the amount of time he spent separated from the outside world.

The fathers' sub sample also provides measures for age, ethnicity, education level and several measures for substance abuse, including prevalence of alcohol and marijuana use. By controlling for these variables, the coefficients in the regression model will be more credible measures of the incarceration effects. Also, few studies have attempted to measure the effects of incarceration on earnings and employment using a comparable control group on non-incarcerated respondents.

3. The Strengths and Weaknesses of the Sub Sample

The mothers' interviews allow for the largest possible number of cases and a more robust analysis of the effects of incarceration on the dependent variables. However, the mothers' surveys afford only a narrow analysis of the outcomes because we are able to examine the effects of incarceration on just two employment outcomes—whether or not the father worked for pay last week and whether or not fathers worked off the books. In addition, we are limited to one measure of involvement with the criminal justice system, a measure of "ever-incarcerated" and can not include measures for the a length of time served or the age of first incarceration which are limited to the fathers' reports.

The sub sample of fathers (n=441)—though smaller than the sample—allows for an evaluation of a richer array of dependent variables for employment and earnings. It also has a richer array of independent variables measuring a father's involvement with the criminal justice system. Using the smaller sample raises questions of selection biases because it is likely the fathers who made themselves available for interview are more attached to their

children or the mothers of their children. We expect the men in the fathers' sub sample to work more, have less incarceration, be married and living with their child's mother. However, limiting the study to these fathers would lessen the expected negative effects of incarceration on outcome variables.

B. Bivariate Analyses

Bivariate analyses will consist of cross-tabulations of dependent variables by measures of incarceration—mothers' reports, fathers' reports, unknown cases and never incarcerated. The study will use *t*-tests to analyze the significance of differences between the means of fathers who were involved in the incarcerated and those who were not.

C. Multivariate Analyses

Using data reported by mothers, logistic regression models will be used to determine the odds ratio on dichotomous dependent variables for fathers with a history of incarceration compared to those who were never incarcerated (omitted category). The dependent variables are *wrlstwk*, *offbks*, *married* and *cohab*.

Self-reported data from fathers will be used to measure the effects of the main independent variables on five continuous dependent variables measuring earnings and employment using ordinary least squares regression. The dependent variables are *earn*, *wkswrk*, *hrswrk*, *wages*, and *earnob*. Logistic regression models will be used to measure effects on the dichotomous dependent variables used in the models using data reported by mothers.

1. Employment Models Using Mother Reports

Using data from the mothers sub sample—logistic regression is used to examine the effects of incarceration on dependent variables indicating whether or not the father worked last week (Wl) and whether or not he worked off the books last year (Ob).

Hypothesis #1 Fathers who had been incarcerated were less likely to have worked last week than fathers who had never been incarcerated.

$$H_A: \beta_1 < 1$$

$$Wl = \beta_0 + \beta_1 In + \beta_2 Df + \beta_3 Sa + \varepsilon$$

Independent variables are a group of dummy variables (Df) that include age, city of interview, sets of dummy variables for level of education and ethnicity, and a substance abuse dummy (Sa) indicating whether or not the father had problems with alcohol or drugs.

Hypothesis #2 Fathers who had been incarcerated were more likely to work off the books than fathers who had never been incarcerated.

$$H_A: \beta_1 > 1$$

$$Ob = \beta_0 + \beta_1 In + \beta_2 Df + \beta_3 Sa + \varepsilon$$

2. Earnings and Employment Models Using Fathers Reports

Using data from the fathers sub sample, OLS regressions are used to measure the effects of the main independent variables on continuous dependent variables for earnings and employment.

Hypothesis #3 The main independent variables will have a negative effect on legitimate earnings, weeks worked, hours worked, and wages.

$$H_3: \beta_1 < 0$$

$$Y = \beta_0 + \beta_1 In + \beta_2 Df + \beta_3 Sa + \varepsilon$$

Independent variables are a group of dummy variables (In) for incarceration and a group of demographic variables (Df) that include age, city of interview, sets of dummy variables for level of education and ethnicity, sets of substance abuse dummies (Sa) for alcohol and marijuana use, and dummies for health status, family origin, and depression.

Hypothesis #4 Incarceration will have a positive effect on off-the-book earnings and the absolute magnitude of the effect on off-the-book earnings will be smaller than the effect on legitimate earnings.

$$H_4: \beta_1 < 0, \alpha_1 > 0; \beta_1 < \alpha_1$$

$$Y_\varepsilon = \beta_0 + \beta_1 In + \beta_2 Df + \beta_3 Sa + \varepsilon$$

$$Y_{ob} = \alpha_0 + \alpha_1 In + \alpha_2 Df + \alpha_3 Sa + \varepsilon$$

Hypothesis #5 The incarceration effect will be larger the longer the length of incarceration.

$$H_5: \beta_1 < 0$$

$$Y = \beta_0 + \beta_1 In + \beta_2 Ts + \beta_3 Df + \beta_4 Sa + \varepsilon$$

The independent variable time served (Ts) is a continuous variable measuring the number of months incarcerated.

Hypothesis #6 The incarceration effect will be larger the older the age of first incarceration.

$$Y = \beta_0 + \beta_1 In + \beta_2 Ia + \beta_3 Df + \beta_4 Sa + \varepsilon$$

The independent variable for age of first incarceration time served (Ia) is a set of dummy variables indicating the range of years of the respondent's first incarceration. Coefficients for the categories indicating the older age of first incarceration will be larger than the coefficients for categories for younger age of first incarceration.

Logistic regression models will be used to measure the effects of the main independent variables on whether or not the father worked last week (Wl) and whether or not he worked off the books (Ob).

Hypothesis #7 Fathers who had been incarcerated were less likely to have worked last week than fathers who had never been incarcerated.

$$H_1: \beta_1 < 1$$

$$Wl = \beta_0 + \beta_1 In + \beta_4 Df + \beta_7 Sa + \varepsilon$$

Hypothesis #8 Fathers who had been incarcerated were more likely to have worked off the books than fathers who had never been incarcerated.

$$H_1: \beta_1 > 1$$

$$Ob = \beta_0 + \beta_1 In + \beta_4 Df + \beta_7 Sa + \varepsilon$$

3. Marriage and Cohabitation

Using data from the mothers' sub sample, logistic regression models are used to examine the effects of incarceration on dependent variables denoting whether or not the mother and father were married (M) or living together (C) at the birth of their child.

Hypothesis #8 Fathers who had been incarcerated were less likely to be married and/or cohabitating with their baby's mother at the time of the baby's birth than fathers who had never been incarcerated.

$$H_A: \beta_1 < 1$$

$$M = \beta_0 + \beta_1 \text{In} + \beta_2 \text{Df} + \beta_3 \text{Sa} + \varepsilon$$

$$C = \beta_0 + \beta_1 \text{In} + \beta_2 \text{Df} + \beta_3 \text{Sa} + \varepsilon$$

Using the data from the fathers sub sample, logistic regression is used to examine the effects of the main independent variables on marriage and cohabitation.

Hypothesis #9 Fathers who had been incarcerated were less likely to be married and/or cohabitating with their baby's mother at the time of the baby's birth than fathers who had never been incarcerated.

$$H_A: \beta_1 < 1$$

$$M = \beta_0 + \beta_1 \text{In} + \beta_2 \text{Df} + \beta_3 \text{Sa} + \varepsilon$$

$$C = \beta_0 + \beta_1 \text{In} + \beta_2 \text{Df} + \beta_3 \text{Sa} + \varepsilon$$

Chapter Four • Results

Descriptive statistics of all variables in the study are presented in the first section of this chapter. Data is provided for the full sample and for the sub sample based on fathers' interviews. In the second section, the effects of incarceration on the fathers' employment status and earnings are examined using descriptives, cross-tabs and multiple regression analysis.

Mother-reported data and father-reported data are used to determine the effects of a father ever being incarcerated on whether or not the father worked last week (*wrlstwk*) or whether or not he worked off the books last year (*offbks*). Father-reported data are used to examine the effects of incarceration on annual legitimate earnings (*logearn*), weeks worked last year (*wkswrk*), average hours worked (*hrswrk*), hourly wage rate (*wages*) and off-the-book earnings (*earnob*).

I. Descriptive Statistics

Table 4.1 presents descriptive statistics of all variables in the study. The valid number of cases, means, and standard deviations are given for all variables. Comparisons of mother-reported data for the sample and sub sample are provided on the dependent variables *wklastwk*, *offbks*, *married*, *cohab*, and *brthwgt*, on the set of incarceration dummy variables and on other independent variables. Statistics for the full sample (N=577) are based on data from mothers and statistics for the sub sample (n=441) are based on data from the fathers interviewed at follow-up.

The mean age of the fathers in both the sample and sub sample is about 28 years old. Thirty-nine percent of the sample and 34 of the sub sample is black. Approximately 45 percent of the fathers are Latino, about 15 percent are white, and 4 percent are of another race. For the purposes of this study, if a

respondent reported being black and Latino, he was coded as black. If he reported being Latino and white, he was coded Latino.

Mothers reported 28 percent of the fathers were incarcerated (not shown in table) and 21 percent of the mothers reported incarceration when the father had not.¹ Fathers who were interviewed reported an incarceration rate of 18 percent. As expected, a higher percentage of the sub sample reported never being incarcerated than in the full sample. This was expected since these fathers were interviewed and their availability for interview suggested that they were less problematic and maintained closer ties to their mates and children.

The higher rate of incarceration reported by mothers provides evidence that fathers underreported their incarceration history. It is reasonable to believe the mothers' reports are more accurate. They would have knowledge of the father's incarceration history and it is likely that some fathers would like to suppress these facts, particularly if they are trying to move beyond regrettable past events.

Nearly 40 percent of the fathers in the sample did not complete high school, about 30 percent had a high school diploma or equivalent, less than a quarter had attended college, and about 10 percent graduated college or held a professional or post-graduate degree.

Approximately 17 percent of the fathers had a problem with alcohol or drugs. Non-drinkers accounted for 39 percent of the fathers who were interviewed and 31 percent reported never drinking 5 drinks or more at any time in the previous month. Heavy drinkers—those with 3 or more days of 5 or

¹ Table 4.1 presents mother reports only when the father does not report he was incarcerated. However, there are cases where both the father and the mother reported he was incarcerated and 28 percent of the mothers reported he had been incarcerated.

Table 4.1 • Variables for Mother and Fathers Sample

Dependent Variables		Mother Sample (n=577)			Father Sample (n=441)		
Variable	Variable Label	Valid	Mean	S. D.	Valid	Mean	S. D.
wrk1stwk	did father work last week? (moms)	530	.78	.41	409	.82	.39
wrk1stwk2	did father work last week?	x	x	x	441	.80	.40
offbks	did father work off books? (moms)	534	.12	.33	407	.12	.33
offbks2	did father work off books?	x	x	x	440	.19	.39
married	married at follow-up (moms)	577	.31	.46	427	.37	.48
married2	married at birth	x	x	x	441	.32	.47
cohab	living together? (moms)	575	.32	.47	426	.37	.48
cohab2	living together?	x	x	x	441	.77	.42
brthwgt	baby's weight <2500 gm (moms)	576	.09	.28	424	.08	.26
earn	annual legitimate earnings	x	x	x	417	21643	29176
wkswrk	weeks worked in past 12 mos.	x	x	x	420	39.01	17.88
hrswrk	hours worked per week	x	x	x	423	47.71	13.76
wage	hourly wage rate	x	x	x	395	12.67	13.22
earnob	annual underground earnings	x	x	x	71	4369	7872
Main Independent Variables		Valid	Mean	S. D.	Valid	Mean	S. D.
incar1	father reports he was incarcerated	577	.12	.33	440	.18	.38
incar2	mother-only reports incarcerated	577	.21	.41	440	.16	.37
incar3	no incarceration reported	577	.44	.50	440	.58	.49
incar4	incarceration unknown	577	.22	.42	440	.08	.27
arrest	ever charged with an offense?	x	x	x	441	.30	.46
convict	ever convicted of a charge?	x	x	x	441	.20	.40
timesrv	Number of months incarcerated	x	x	x	441	2.29	9.73
incarag1	1" incarceration at 16 yrs or less	x	x	x	439	.04	.20
incarag2	1" incarceration between 17 & 21	x	x	x	439	.08	.27
incarag3	1" incarceration at 22 yrs or older	x	x	x	439	.05	.23
Other Independent Variables		Valid	Mean	S. D.	Valid	Mean	S. D.
fage	dad's age (moms)	577	27.7	6.87	424	28.0	7.09
age	dad's age	x	x	x	441	28.0	7.07
fblack	is dad black? (moms)	577	.39	.49	427	.35	.48
black	is dad black?	x	x	x	441	.37	.48
flatino	is dad Latino? (moms)	577	.43	.50	427	.45	.50
latino	is dad Latino?	x	x	x	441	.43	.50
fwhite	is dad non-Latino white? (moms)	577	.14	.35	427	.17	.37
white	is dad non-Latino white?	x	x	x	441	.15	.36
fotracer	is dad other race? (mom)	577	.04	.20	427	.04	.20
otracer	is father another race?	x	x	x	441	.05	.21

Table 4.1 Continued • Variables for Mothers and Fathers Samples

feduc1	some high school or less (moms)	559	.38	.49	422	.38	.49
educ1	some high school or less	x	x	x	436	.39	.49
feduc2	high school graduate (moms)	559	.30	.46	422	.28	.45
educ2	high school graduate	x	x	x	436	.26	.44
feduc3	some college (moms)	559	.22	.41	422	.23	.42
educ3	some college	x	x	x	436	.24	.43
feduc4	college graduate (moms)	559	.10	.30	422	.11	.31
educ4	college graduate	x	x	x	436	.11	.31
drgprob	father's drug problems	567	.17	.38	439	.18	.38
city	city of interview	x	x	x	441	.50	.50
alcohol0	drank no alcohol in past month	x	x	x	440	.39	.49
alcohol1	no days of 5 or more drinks	x	x	x	437	.31	.46
alcohol2	1-2 days of 5 or more drinks	x	x	x	437	.16	.37
alcohol3	3/more days of 5 or more drinks	x	x	x	437	.14	.34
marij	smoked pot in past month	x	x	x	441	.10	.30
depress	felt sad or lost pleasure interest	x	x	x	440	.17	.37
poorhlt	health less than good/impaired	x	x	x	441	.21	.41
nofather	not involved w/biological father	x	x	x	435	.28	.45
injail98	father in jail in 1998	x	x	x	441	.02	.15
injail99	father in jail in 1999	x	x	x	441	.04	.20
Mothers' Independent Variables		Valid	Mean	S. D.	Valid	Mean	S. D.
mage	mother's age	575	25.09	5.80	x	x	x
mcity	city of interview	577	.50	.50	x	x	x
mblack	is mother black?	577	.37	.48	x	x	x
mlatino	is mother of Latino descent?	577	.43	.50	x	x	x
mwhite	is mother white?	577	.15	.36	x	x	x
mothrace	is mother's race other?	577	.05	.22	x	x	x
meduc1	some high school or less	575	.45	.50	x	x	x
meduc2	high school graduate	575	.26	.44	x	x	x
meduc3	some college	575	.20	.40	x	x	x
meduc4	college graduate	575	.10	.30	x	x	x
income	household income				x	x	x
prenatal	late or no prenatal care	566	.22	.42	x	x	x
health1	mother rates health excellent	577	.30	.46	x	x	x
health2	mother rates health very good	577	.33	.47	x	x	x
health3	mother rates health good	577	.28	.45	x	x	x
health4	mother rates health fair or poor	577	.09	.28	x	x	x
intact	did mom live w/both parents?	570	.48	.50	x	x	x
child1	had one other child	568	.32	.47	x	x	x
child2	had more than one other child	568	.31	.46	x	x	x
msubstan	used drugs/drank alcohol	570	.05	.23	x	x	x
mcigar	smoked during pregnancy	574	.16	.37	x	x	x

more drinks—made up about 14 percent of the sub sample. Only 10 percent of the fathers reported smoking marijuana.

Twenty-eight percent of the fathers reported that they had not been involved with their biological father. About one-fifth (21 percent) reported they had less than good health (fair or poor) or had an impairment that would diminish their ability to work. One in ten father reported being depressed for two weeks or more after their child was born.

The data show that 78 percent of fathers in the full sample had worked last week compared to 82 percent of the fathers interviewed. Mothers reported 12 percent of the fathers worked off the books while 19 percent of the father said they had underground earnings. About a third of the fathers were married or cohabitating with the baby's mother at the time of birth. Both the sample and sub sample yielded nearly identical percentages of low birth babies (8 percent and 9 percent).

The mean age of mothers in the sample was about 25 years old. Slightly more than a third (37 percent) were black, 42 percent were Latino, 15 percent were white and 5 percent were of another race. Nearly half of the mothers in the sample (45 percent) failed to complete high school. Slightly more than a quarter (26 percent) earned a high school diploma or its equivalent, 20 percent attended some college, and 10 percent graduated college or held a professional or post-graduate degree.

Nearly a third of the mothers (32 percent) had one other child besides the child reported in this data and almost the same percentage (31 percent) had more than one child. Only 6 percent reported they used alcohol or drugs during

their pregnancy and 16 percent said they smoked cigarettes. Almost all of the mothers (91 percent) reported their health during pregnancy as good or better.

II. Bivariate Analyses of the Effects of Incarceration

Table 4.2 presents the results of cross-tabulations using data reported by mothers for the sample and sub sample. As hypothesized, significant incarceration effects are found on earnings and employment for the fathers in this study. Analysis of the data reveals that significantly more never-incarcerated fathers (90 percent) had worked last week compared to fathers who had been incarcerated—65 percent in sample when the fathers reported incarceration and 67 percent when the mothers reported incarceration, both significant at the $p \leq .001$ level. A slightly higher percentage (71 percent) of the unknowns had worked the previous week, also significant at the $p \leq .001$ level.

In the sub sample, 64 percent of the fathers who reported they were incarcerated worked last week, 75 percent of the fathers reported incarcerated by mothers worked last week, and 67 percent of the unknowns worked last week. These findings were significantly different than the never incarcerated fathers' work experience.

The data revealed little differences between the sample and sub sample. As expected, slightly more of the incarcerated fathers worked off the books (12 and 15 percent) compared to fathers who were never incarcerated (10 percent) although these differences were not significant. However, a significant number of the unknowns in the sub sample (28 percent) had worked off the books. One might suspect that a significant number of these fathers had incarceration histories that they were trying to conceal, even from the mothers of their children.

Table 4.2 • Work Experience by Incarceration Status (Mother Reports)

Dependent Variable	Not Incarcerated		Incarcerated (father reports)		Incarcerated (mother reports)		Incarceration Unknown	
	Sample	Sub Sample	Sample	Sub Sample	Sample	Sub Sample	Sample	Sub Sample
wrlstwk (worked last week)	.90 (.31)	.90 (.31)	***.65 (.48) 5.19	***.64 (.48) 5.37	***.67 (.47) 5.50	** .75 (.31) 3.06	***.71 (.45) 4.38	***.67 (.31) 3.62
offbks (worked off books)	.10 (.31)	.10 (.31)	.13 (.34) -0.61	.12 (.33) -0.38	.14 (.35) -0.96	.15 (.36) -1.04	.15 (.37) -1.16	** .28 (.45) -2.69

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

Table 4.3 presents the results of cross-tabulations of father-reported data. Fathers who reported they were incarcerated and fathers who the mother reported incarcerated earned less than half that of fathers who were never incarcerated (\$13,135 and \$12,931 respectively compared to \$27,071), both significant at the $p < .01$ level. Fathers whose incarceration status was unknown earned slightly more than incarcerated fathers (\$16,734 compared to \$13,135 and \$12,931) and much less than fathers who were not incarcerated, but the differences were not statistically significant.

Fathers who reported they were incarcerated worked significantly less weeks (30.8 weeks) than those who were not (42.2 weeks), $p \leq .01$. However, fathers who were reported incarcerated by mothers did not work significantly less, another indication that these fathers might be trying to escape their pasts. There was, however, a significant difference between the numbers of weeks worked by fathers whose incarceration was unknown (34.1 weeks) and never incarcerated fathers, $p \leq .01$, an indication that some of the unknowns were been incarcerated.

Table 4.3 • Earnings, weeks, hours and wage rates by Incarceration Status (Father Reports)

Dependent Variable	Not Incarcerated	Incarcerated (father reports)	Incarcerated (mother reports)	Incarceration Unknown
earn (annual earnings)	27,071 (34608)	**13,135 (17694) 3.29	**12,931 (11239) 3.24	16,734 (18485) 1.68
wkswrk (weeks worked)	42.2 (15.6)	***30.8 (20.8) 5.04	39.1 (18.3) 1.37	**34.1 (19.9) 2.74
hrswrk (avg. hours worked)	49.1 (13.5)	*44.5 (14.0) 2.51	47.0 (13.7) 1.16	45.4 (14.5) 1.49
wages (hourly wage rate)	14.12 (15.83)	10.48 (9.27) 1.82	10.43 (5.11) 1.75	10.56 (5.59) 1.22
earnob (off-books earnings)	3296 (3126)	6574 (11704) -1.52	2491 (3862) 0.77	9150 (17285) -1.88
wrlstwk2 (worked last week)	.89 (.31)	***.47 (.50) 8.94	*.80 (.40) 2.06	.83 (.38) 1.08
offbks2 (worked off books)	.15 (.35)	*.28 (.45) -2.78	*.25 (.44) -2.15	.19 (.40) -0.76

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

Only fathers who reported they were incarcerated worked significantly less hours per week (44.5 hours) than fathers who were not incarcerated (49.1 hours), $p \leq .05$. Mother-reported incarcerated fathers and fathers whose incarceration was unknown worked slightly less hours. The differences in wage rates between the never incarcerated fathers and those who were incarcerated appear to be large (about \$3.50 per hour), but they are not statistically significant which could be due to the large disparities in wage rates among the never incarcerated fathers in our sample resulting in a large standard deviation.

There were no significant differences in the off-the-books earnings of the incarcerated fathers and the never incarcerated fathers although the fathers

who reported they were incarcerated earned nearly twice as much off the books as the never incarcerated fathers. There was a significant difference in the work experience of fathers in our sample. Fathers who reported they were incarcerated were almost half as likely to have worked the previous week (47 percent compared to 89 percent). However, the differences between mother-reported incarcerated fathers and never incarcerated fathers and fathers whose incarceration status was unknown and never incarcerated fathers were insignificant. Fathers who were incarcerated—reported by fathers or mothers—were significantly more likely to have worked off the books in the previous year.

It is possible that the differences in employment between those who were and were not incarcerated are due to pre-existing differences between these groups of men rather than the experience of incarceration. Table 4.4 presents cross-tabulations of the independent variables by incarceration status. There are significant differences in age, race, education, and drug problems between incarcerated fathers and those who were not which justifies the use of multivariate analyzes to control for these differences.

Overall, incarcerated dads were younger and mother-reported incarcerated fathers were significantly younger (26.8 years compared to 28.8 years), $p \leq .01$. More than half of the incarcerated fathers (54 percent) in the sample and sub sample (54 percent) were black compared to those who were not incarcerated (21 percent), $p \leq .001$. About a quarter of the fathers who reported they were incarcerated in the sample and sub sample were Latino compared to never-incarcerated fathers.

Only 14 percent of fathers in the sample who reported they were incarcerated were white and just 2 percent of the mother-reported incarcerated

Table 4.4 • Independent Variables by Incarceration Status

Independent Variables	Mothers Sub Sample					Fathers Sub Sample				
	Not Incarcerated	Incarcerated (dad report)	Incarcerated (mom report)	Incarceration Unknown	Not Incarcerated	Incarcerated (dad report)	Incarcerated (mom report)	Incarceration Unknown		
age (father's age at baby's birth)	28.8	27.9	**26.8	***26.4	28.3	27.8	27.6	26.4		
black (father is black)	.21	***.54	***.56	***.51	.25	***.54	***.54	***.53		
latino (father is Latino)	.54	***.25	***.34	** .39	.51	***.27	** .32	.44		
white (father is white)	.21	.14	***.02	***.07	.18	.17	.10	*.03		
othrace (father is other race)	.04	.07	.04	.03	.06	.03	.04	.00		
educ1 (some high school/less)	.39	.34	.39	.39	.39	.44	.41	.30		
educ2 (high school graduate)	.21	***.47	***.37	*.33	.25	.29	.21	.36		
educ3 (some college)	.23	.17	.21	.22	.22	.22	.29	.27		
educ4 (college graduate)	.17	***.01	***.03	** .06	.13	*.05	.09	.06		
city (Oakland/Austin)	.49	.50	.52	.49	.49	.53	.49	.53		
drugprob (baseline & follow-up)	.10	***.36	***.24	.14	.10	***.38	***.25	.14		

* $p < .05$, ** $p < .01$, *** $p < .001$

fathers were white compared to 21 percent of the never incarcerated fathers, both differences were significant at the $p \leq .001$ level. Black fathers comprised 51 percent of the unknowns ($p \leq .001$), Latino fathers made up 39 percent of the unknowns, and white fathers comprised 7 percent of the unknown category, roughly the same percentages as incarcerated fathers.

Incarcerated fathers were more likely to be high school dropouts and high school graduates than college-educated. A significantly larger percentage of never-incarcerated fathers in sample (17 percent) and sub sample (13 percent) completed college. Only 6 percent of the unknowns completed college ($p \leq .001$).

Significantly more of the incarcerated fathers had problems with alcohol or drugs—36 percent of the fathers who reported they had been incarcerated and 24 percent of the fathers reported incarcerated by mothers experienced drug problems compared to just 10 percent of the never incarcerated fathers, both significant at the $p \leq .001$ level. The numbers in the sub sample were nearly identical. Percentages across the full sample and sub sample were similar, providing some evidence of the lack of bias between the mothers and fathers sub samples.

Table 4.5 presents cross-tabulations of several independent variables for the father's interviews for depression, father involvement, and health status. These mostly exogenous variables will control for some of the unobserved heterogeneity that might mitigate the effects of incarceration on the dependent variables.

There is a significant difference in depression between the fathers who reported they had been incarcerated (27 percent) and those who were never

Table 4.5 • Other Independent Variables by Incarceration Status (Father Reports)

	Never Incarcerated	Incarcerated (father reports)	Incarcerated (mother reports)	Incarceration Unknown
depress	.13 (.34)	** .27 (.45) -2.85	.15 (.36) -0.48	.23 (.43) -1.50
nofather	.23 (.42)	** .38 (.49) -2.72	.33 (.47) -1.77	.36 (.49) -1.77
poorh1th	.22 (.42)	.20 (.40) -0.57	.20 (.40) -0.66	.25 (.44) 0.03

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

incarcerated (13 percent), $p \leq .01$. Fathers who reported they were incarcerated reported nearly twice the incidence of depression as fathers who were reported incarcerated by mothers. Again, this could be a measure of the fact that these fathers had taken steps to get beyond their negative pasts.

A greater percentage of fathers who were incarcerated reported they had no involvement with their biological father than those who were never incarcerated. However, only the fathers who reported they were incarcerated had a significant difference (38 percent to 23 percent) at the $p \leq .01$ level. This provides further evidence that the fathers who were incarcerated were more disadvantaged than non-incarcerated fathers and would be expected to perform more poorly in the labor market.

III. Multivariate Analyses of the Effects of Incarceration

A. Logistic Regression Analyses Using Mother-Reported Data

The results of the bivariate analyses demonstrated that fathers who were incarcerated differed from those who were not in ways that would lead to them having lower earnings even if they had not been incarcerated. In this

Table 4.6 • Odds Ratios of the Effects of Incarceration on Fathers' Employment

	Sample (N=577)			Sub Sample (n=441)					
	Model 1	Model 2	Model 3	Model 1		Model 2		Model 3	
				mother reports	father reports	mother reports	father reports	mother reports	father reports
Incarceration (dads reports)	***.213 (.070)	***.317 (.119)	*.457 (.181)	***.218 (.069)	***.111 (.034)	** .340 (.123)	***.129 (.043)	.503 (.199)	***.154 (.058)
Incarceration (moms reports)	***.232 (.067)	** .385 (.126)	.606 (.236)	** .362 (.125)	.500 (.180)	.524 (.198)	.623 (.240)	.690 (.284)	.670 (.291)
Incarceration (unknown)	***.288 (.087)	*.498 (.169)	.900 (.412)	***.241 (.105)	.614 (.301)	.392 (.186)	.992 (.544)	.529 (.280)	1.540 (.981)
Incarceration (mom & dads)	***.225 (.058)	***.359 (.107)	*.530 (.177)	***.265 (.073)	***.202 (.054)	***.402 (.125)	***.247 (.072)	.564 (.191)	***.288 (.093)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard errors in parentheses

section, multiple regression analysis is used to control for these differences in an attempt to ascertain the net effects of incarceration.

Table 4.6 presents the results of logistic regression analyses on data from the sample and sub sample. Columns 2-4 present the odds ratios based on mothers' reports in the sample. Columns 5, 7 and 9 gives odds ratios based on mothers' reports but only for the sub sample. Columns 6, 8, and 10 give odds ratios based on fathers' reports which are limited to the sub sample.

There are four incarceration variables—one based on father reports, where the father says he was incarcerated; another based on mother reports where the father says he was not incarcerated and the mother says he was; a third where incarceration was unknown; and a fourth variable that collapsed the first two into one "ever incarcerated" variable. The omitted category was "never incarcerated" where both the father and mother reported he was never in confinement. The collapsed variable was substituted for the first two incarceration variables in a separate run. The collapsed incarceration variable

provides the average effects of the two separate variables and is the best estimate of the overall effects of incarceration.

Three regression models are used. The first model presents the effects using incarceration variables only. Model 2 presents coefficients for the incarceration variables after controlling for age, ethnicity, education, marital status and city of interview—controls used largely in previous studies. The third model adds variables for drug problems, alcohol use, marijuana use, depression, poor health, and whether the father was living with both biological parents at age 15, controls not generally included in previous studies.

As expected, the effects of incarceration diminished moving from Model 1 to Model 3. Looking at the sample of 577 mothers, the incarceration effects in Model 1 were highly significant with incarcerated fathers 22.5 percent as likely to work last week compared to non-incarcerated fathers. After adding control variables to Model 2, fathers who reported they were incarcerated were 36 percent as likely to work as non-incarcerated fathers. The results were significant at the $p \leq .001$ level.

In the third model, adding the father characteristics variables, the effects of incarceration are reduced further with incarcerated fathers only 53 percent as likely to work last week as non-incarcerated fathers. The effects remained significant at the $p \leq .01$ level. The city of interview was a significant variable with fathers in Oakland less than half as likely (41 percent) to have worked the previous week than fathers in Austin, $p \leq .001$ (see Appendix X). Austin, Texas had one of the nation's lowest unemployment rates at 1.5 percent in November 1999, according the Bureau of Labor Statistics. Oakland's rate was higher at 1.9 percent.

Age, black and other race were significant in Models 2 and 3 using the sample. The ethnicity variables were significant as a group ($\chi^2=13.96$, $p\leq.01$) in the full sample as well. In the third model, fathers reporting a problem with drugs or alcohol were less than a third as likely (28 percent) to have worked the previous week than those fathers who had not.

Columns 5-10 compare the effects of incarceration on whether or not fathers worked last week using father-reported data and mother reported data in the sub sample. Looking at the collapsed variable, in Model 1, the effects were stronger using the fathers' reports with incarcerated fathers 20.2 percent as likely to have worked compared to a 26.5 percent likelihood using mothers' reports.

In Model 2, adding controls, using fathers' reports, incarcerated fathers were about a quarter as likely to have worked as non-incarcerated fathers compared to 40 percent using mothers' reports. In Model 3, the effects using fathers' reports remain highly significant with incarcerated fathers 30 percent as likely to have worked compared to 56 percent using mothers' reports. Again, the results diminished as controls were added.

These results provide evidence that the effects of incarceration on whether or not a father worked last week may be more pronounced using father-reported data than the effects reported using the mothers' reports in the full sample. The results based on reports from the fathers should be more accurate as the fathers knew whether or not they worked last week while mothers may or not have full and accurate information on the father's work status the previous week.

Table 4.7 • Odds Ratios of the Effects of Incarceration on Fathers' Underground Work

	Sample (N=577)			Sub Sample (n=441)					
	Model 1	Model 2	Model 3	Model 1		Model 2		Model 3	
				mother reports	father reports	mother reports	father reports	mother reports	father reports
Incarceration (dad reports)	1.287 (.532)	.801 (.363)	.738 (.346)	1.175 (.483)	**2.314 (.713)	.592 (.285)	1.642 (.555)	.583 (.291)	1.164 (.428)
Incarceration (moms reports)	1.386 (.471)	.922 (.351)	1.130 (.478)	1.511 (.605)	*2.001 (.652)	.956 (.437)	1.542 (.543)	1.030 (.488)	1.231 (.464)
Incarceration (unknown)	1.496 (.521)	1.022 (.395)	1.486 (.746)	**3.282 (1.524)	1.422 (.650)	2.078 (1.061)	.948 (.458)	2.215 (1.182)	.885 (.454)
Incarceration (mom & dads)	1.349 (.403)	.876 (.301)	.933 (.344)	1.325 (.427)	**2.152 (.552)	.739 (.285)	1.570 (.448)	.760 (.305)	1.174 (.363)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard errors in parentheses

Table 4.7 presents the results of logistic regression analyses estimating the effects of incarceration on the underground work opportunities. There were no significant incarceration effects in the models using data from the full sample. Using the model with the combined incarceration variable, black fathers in the full sample were almost three times as likely to work off the books than white fathers, significant at the $p < .05$ level (see Appendix X).

Columns 6-10 give the odds ratios using data from the sub sample. In Model 1, using mothers' reports, only the effects on fathers whose incarceration status was unknown were significant. These fathers were more than three times as likely to work off the books than fathers who had never been incarcerated. That these dads were that much likely to seek and find illegitimate work may give credence to the fact that they may have had a history they were trying to escape.

Father-reported data yielded a significant incarceration effect on the collapsed variable with incarcerated fathers more than twice as likely to work

off the books as never incarcerated fathers. The effects based on father-reported data are stronger than the effects based on mother-reported data. And, as expected, the effects diminished across models as controls were added. This provides evidence that the effects reported in the full sample may be lower than the actual effects because the father-reported data are more believable.

B. OLS Regression Analyses Using Father-Reported Data

The effects of incarceration on annual legitimate earning, weeks worked, hours worked, wage rates and underground earnings were estimated using Ordinary Least Squares regression based on father-reported data. Three estimation models were used as was done with the logistic models. Measures of alcohol use, marijuana use, depression, poor health, and no relationship with biological father were included providing substantial more controls for the incarceration effects. Because the effects were similar, mother and father reports of incarceration were collapsed into a single variable that provided an average of the two.

Table 4.8 presents the results of the OLS regressions. As expected, the effects of incarceration on log earnings diminish across models as control variables are added. In Model 1, without controls, incarcerated fathers experienced a 111 percent decrease in earnings compared to fathers who were never incarcerated. The effect is reduced when control variables were included; however in Model 3 incarcerated fathers still experience a 53 percent reduction in annual earnings compared to never incarcerated fathers, significant at the $p \leq .05$ level. Thus, we were able to explain more than half of the effects of incarceration by controlling for the differences between the incarcerated fathers and those who were never incarcerated.

Table 4.8 • OLS Regression Results for Legitimate Earnings and Underground Earnings

Dependent Variables	Model 1	Model 2	Model 3
logearn (log of annual earnings)	***-1.11 (.27)	**-.69 (.28)	*-.53 (.27)
wkswrk (weeks worked)	***-7.46 (1.86)	** -5.59 (1.96)	*-3.98 (1.91)
hrswrk (avg. hours worked)	*-3.40 (1.45)	-2.93 (1.55)	*-3.26 (1.59)
wages (hourly wage rate)	** -3.66 (1.44)	-1.02 (1.37)	-.78 (1.39)
earnob (underground earnings)	1422 (1931)	3371 (2186)	3668 (2297)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard errors in parentheses

We can conclude that fathers who were incarcerated at some point in their lives suffered a loss in earnings as a result. One concern about this finding is that some of the incarcerated fathers spent time in confinement during the data collection year. We will address this issue later in the chapter.

Similar results were found for weeks worked. In Model 1, incarcerated fathers worked nearly seven and one-half weeks less than never incarcerated fathers. The effects were reduced in succeeding models but remained significant in Models 2 and 3. After all control variables were added, incarcerated fathers worked about 4 weeks less per year than never incarcerated fathers. Again, part of the explanation is due to the fact that some of the fathers may have spent part of the past year imprisoned. Black fathers worked significantly fewer weeks ($p \leq .05$) than white fathers, working 5.5 less weeks. The ethnicity variables were significant as a group, ($F=2.76$, $p \leq .05$).

Wages are not as likely to be affected as much by time out of the workforce as earnings and the number of weeks worked, yet our findings were similar to those above. In Model 1, incarcerated fathers earned \$3.66 less per

hour than never incarcerated fathers. In subsequent models, after controlling for heterogeneity, incarcerated fathers earned \$1.02 less in Model 2 and \$.78 less in Model 3, although the effects were not significant at the $p \leq .05$ level. After controlling for differences between the groups, incarcerated fathers made less per hour than their never incarcerated counterparts. Both the ethnicity variables ($F=3.43$, $p \leq .05$) and the education variables ($F=8.54$, $p \leq .001$) were significant. Differences in education accounted for a large portion of the effect.

Hours worked presented a mixed picture. In Model 1, without controls, incarcerated fathers worked 3.4 less hours per week than never incarcerated fathers ($p \leq .05$). After adding controls for age, ethnicity, education, marital status, and city of interview, incarcerated fathers about 3 hours less per week and the result was not significant. When additional controls were added, incarcerated fathers worked 3.3 hours less per week and the finding was again significant at the $p \leq .05$ level. This fluctuation could be due to the small sample size and the loss of 4 cases from Model 2 to Model 3.

The effects of incarceration on underground earnings were as expected. In Model 1, incarcerated fathers earned \$1,422 more off the books than fathers who were never incarcerated. Controlling for differences, these earnings grew in Model 2 to \$3,371 and to \$3,668 in Model 3. As expected, fathers who were incarcerated sought non-legitimate income to compensate for the difficulties they may have experienced finding legitimate work.

An interaction term was added to the full models to examine how the effects vary by city. That is, what were the effects on log earnings if you were from Oakland and were incarcerated? Overall, fathers in Oakland had poorer outcomes, however, none of the interaction terms for log earnings, weeks

worked, hours worked, wages or off-the-book earnings were significant. Incarcerated fathers in Oakland suffered a 103 percent reduction in earnings compared to fathers who were never incarcerated. This was expected since fathers in Oakland earned 14 percent less than fathers in Austin (see Table C1 in Appendices).

Oakland fathers who were incarcerated worked 8.5 fewer weeks, 4.3 fewer hours, and earned 2.2 less dollars per hour than never incarcerated fathers. They also earned \$5,177 more dollars than fathers who were never incarcerated.

Next, Table 4.9 presents the effects of incarceration on earnings by the number of months fathers were incarcerated. In all models, incarcerated fathers suffered a five percent loss in income for each month they were incarcerated as they moved from zero months to a high of 120 months imprisoned ($p \leq .001$). This finding seems to dispute Kling's (1997) finding that the negative effects of incarceration do not vary with the length of time served.

However, his analysis was limited to the pre- and post-incarceration earnings of a sample of violent and drug offenders who he judged to have very low legitimate earnings overall and we look at a broader range of earnings.

Table 4.9 • Log Earnings by Months Incarcerated

	Model 1	Model 2	Model 3
Months Incarcerated	***-.05 (.01)	***-.05 (.01)	***-.05 (.01)
Ever Incarcerated	-.81 (.28)	-.37 (.29)	-.21 (.28)
Incarceration Unknown	-.57 (.46)	-.12 (.47)	-.08 (.44)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard errors in parentheses

Table 4.10 • Log Earnings by Age of First Incarceration

	Model 1	Model 2	Model 3
Incarcerated at 16 Years or Less	-.54 (.65)	-.34 (.63)	-.19 (.63)
Incarcerated between 17 and 21 Years	***-2.49 (.43)	***-2.15 (.44)	***-1.79 (.43)
Incarcerated at 22 Years or Older	-.67 (.55)	-.30 (.54)	-.32 (.53)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard errors in parentheses

Table 4.10 presents the effects of the age of first incarceration on annual earnings. Fathers who were first incarcerated between the ages of 17 and 21 years suffered the greatest penalty with a 249 percent reduction in earnings in Model 1 compared to fathers who were never incarcerated. The effects of being incarcerated before 17 years old and after 21 years old were not significant.

In Model 2, after the first set of control variables were introduced, the effect of being incarcerated between 17 and 21 years old was a whopping 215 percent. Even with additional control variables added in Model 3, the effect remained enormously high at 179 percent. Black fathers were at a significant disadvantage compared to white fathers in Model 2 (-82 percent, $p \leq .05$) and Model 3 (-85 percent, $p \leq .05$). Married fathers in Model 2 enjoyed a 98 percent income advantage over unmarried fathers and more than doubled the income of unmarried fathers in Model 3, $p \leq .001$. Fathers who reported poor health suffered an income loss of 156 percent ($p \leq .001$). Alcohol drinkers were significant ($F=3.44$, $p \leq .05$).

While I found no study that looked at the effects of age of first incarceration on earnings, Nagin and Waldfogel (1998) looked at the effects of first conviction on federal fraud offenders of various ages and found that first conviction was actually correlated with higher earnings for offenders under the

age of 25 which is slightly at odds with these findings. However, they acknowledged their sample is atypical of offenders generally and not all convicted felons actually go to prison.

However, our finding that offenders under 17 years old suffer less penalty than those between the ages of 17 and 21 and marginally less than those over 21 years old is consistent with his idea that youthful offenders are able to rebound from deficits incurred from being involved in the criminal justice system.

C. Fathers In Confinement

Undoubtedly, the primary depressant of employment rates and earnings by incarceration is incapacitation, which physically removes an individual from the workforce. Fifteen of the fathers in this sample were interviewed in jail and another 35 spent some portion of the earnings data collection years incarcerated. By eliminating the fathers who were incarcerated, we can determine how much of the effect is reduced when they are not included in the regressions.

Table 4.11 compares the odds ratios of whether the father was working in the previous week with and without the fathers who were interviewed in jail assuming those fathers could not have worked that week. Examining the effects of the main incarceration variable (bottom row) in Model 3 after all controls were added, the effect is still highly significant with incarcerated fathers 35 percent as likely to have worked the past week ($p \leq .001$) although the effects is about 23 percent less than it was with the jailed fathers included.

Table 4.11 • Comparison of Odds Ratios of the Effects of Incarceration on Father's Employment last Week with and without Fathers who were Jailed at Interview

	Model 1			Model 2			Model 3		
	With Jailees	W/O Jailees	Pct. Diff.	With Jailees	W/O Jailees	Pct. Diff.	With Jailees	W/O Jailees	Pct. Diff.
Incarceration (fathers reports)	***.111 (.034)	***.164 (.053)	49.1	***.129 (.043)	***.182 (.065)	41.1	***.154 (.058)	.215 (.085)	39.6
Incarceration (mothers reports)	*.500 (.180)	*.500 (.180)	0.0	.623 (.240)	.588 (.226)	5.6	.670 (.291)	.629 (.261)	6.1
Incarceration (unknown)	.614 (.301)	.614 (.301)	0.0	.992 (.544)	.776 (.400)	21.8	1.540 (.981)	1.219 (.721)	20.8
Incarceration (mom & dads)	***.202 (.054)	***.269 (.091)	33.2	***.247 (.072)	***.311 (.095)	25.9	***.288 (.093)	***.354 (.119)	22.9

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard errors in parentheses

Next we added a variable to control for the 35 fathers who were incarcerated for some time during the earnings data collection year. This is a rather crude measure that over corrects for their effect because for some of the fathers there is a post-incarceration effect that inappropriately being absorbed by the dummy. Table 4.12 presents the results of the regression analysis. The effects in all models are reduced and significance is eliminated. Thus, most of the incarceration effect is due to the fact that a significant number of the sample was incapacitated and removed from the workforce.

Table 4.12 • OLS Regression Coefficients after Controlling for Fathers who were Incarcerated during the Earnings Data Collection Period

	Model 1	Model 2	Model 3
Without Injail Variable	*** -1.11 (.27)	* -.69 (.28)	* -.45 (.27)
	-4.20	-2.49	-1.65
With Injail Variable	* -.67 (.28)	-.30 (.29)	-.15 (.29)
	-2.35	-1.03	-0.51

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard error in parentheses • t scores listed below

Using the date of interview and the date of last release from incarceration, we were able to identify the number of months since the last release for 52 fathers. Seventeen fathers had been out of jail for one to six months, 16 were out of jail for 7 to 36 months and 19 men had been released for more than 36 months. This allows us to examine if the effects are sustained over time. Kling (1997) found that small incarceration effects (0 to 3 percent) on employment and ex-inmates rebounded to their pre-incarceration rates. Grogger (1995) also found that deficits for arrests were short-lived.

Our findings were consistent with these. Table 4.12 presents the results of the regression analysis examining the effects of the time since last release on whether the father worked last week. Men who were the most recently out of jail were significantly less likely to work last week compared to those who had never been incarcerated. They were 24 percent less likely to have found work. In Models 1 and 2, the longer the father was out of jail, the less was the employment penalty, though these effects were not significant at the $p \leq .05$ level. In Model 3, after all the control variables were included, the effect remained significant only for the most recently released fathers.

Table 4.13 • Odds Ratios of Whether Father was Employed Last Week by the Time Since Last Release From Confinement

	Model 1	Model 2	Model 3
1-6 Months Since Last Release	** .226 (.126)	** .215 (.126)	* .239 (.161)
7-36 Months Since Last Release	.538 (.310)	.596 (.363)	.509 (.336)
More than 36 Months Since Last Release	.903 (.524)	.801 (.493)	.429 (.304)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard errors in parentheses

Obviously incapacitation has the most pronounced negative effects on these fathers' ability to work and earn income. While this reduces the ability to explain the other effects of incarceration (i.e., stigma, erosion of skills, and development of negative work habits), it is a legitimate consideration when looking at labor force performance.

IV. Summary of Findings

As predicted, fathers in our sample who were incarcerated at some point in their lives fared poorly on outcomes for employment and earnings. These fathers suffered substantial losses in earnings, weeks worked, and hours worked. After controlling for the father's characteristics, incarcerated fathers earned 53 percent less than never-incarcerated fathers, they worked four weeks less in the previous year, and averaged 3.5 less hours per week of work.

These findings are consistent with Freeman (1991) who found that incarceration was associated with a 15-to 30-percentage point reduction in employment probability and a 26-percentage point penalty in earnings among those young men who were incarcerated. Incarcerated fathers in our survey were 47 percent less likely to be employed than fathers who were never incarcerated.

Although the effects were reduced after removing fathers who were incarcerated during the data collection year, incarcerated fathers still worked significantly less than never-incarcerated fathers. The effects on earnings were not significant after controlling for fathers incarcerated during the data collection year. We can still conclude that work opportunities for fathers who were incarcerated are significantly reduced.

Caution should be taken in interpreting these results. One the sample size was relatively small and there was evidence of significant underreporting by fathers. Twenty-eight percent of the mothers in our sample reported their child's father had been incarcerated while only 18 percent of the fathers interviewed reported they were incarcerated. It is reasonable to assume the mothers' reports are true and present a more accurate picture of the rate of incarceration among the fathers that whose underreporting contributed to problems of accuracy and selectivity.

Because of under reporting by the father, analyses that rely on the fathers' reports alone are biased upward. Those fathers who were incarcerated and did not report incarceration were probably doing better than the fathers who did report they were incarcerated. Therefore, the effects reported in this and other studies that rely only on fathers' reports of incarceration reflect the outcomes of fathers who probably were doing not as well as the fathers who hid their incarceration histories, which accounts for the some of the large negative effects.

The data provided evidence that the amount of time incarcerated significantly reduced the earnings of fathers in our sample with a 5 percent reduction in annual earnings for each month incarcerated. These findings are consistent with those of Kling (1997) who found earnings were strongly affected by length of prison sentence. In his study, the earnings of those serving 1-4 quarters decreased by 9 percent. Those serving 5-24 quarters experienced a 23 to 31 percent loss over pre-case filing earnings.

The same holds true for employment opportunities over time. Kling found that employment rates were lower immediately after leaving prison but

rebounded to within zero to seven percentage points of pre-case filing earnings in quarters 5-16 after release and to zero to three percentage points 5-8 years after case filings. Grogger also found negative short-term effects on employment of four percentage points 18 months after release for those serving less than a year in jail.

Incarcerated fathers in this study were 24 percent less likely to work than never-incarcerated fathers one to six months after release. However, their employment prospects more than doubled in the period 7 to 36 months after release when they were 51 percent as likely to find work. We should keep in mind that Kling used pooled data to measure pre- and post-incarceration employment and earnings while this study is comparing the employment and earnings prospects of fathers who were incarcerated with those who were not.

For the age of first incarceration, the data showed that incarceration between the ages of 17 years and 21 years old is devastating to earnings for the fathers in our sample. This was to be expected since individuals who are incarcerated before 17 years old are most often tried as juveniles and their records do not follow them later in life. Fathers who are incarcerated later in life at 22 years old or older have had time to establish some work history and complete more schooling than those who were incarcerated earlier. The implications for policy from these findings will be explored in a subsequent chapter.

Chapter Five

This chapter examines the effects of incarceration on the likelihood that the child's father would be married or cohabiting with his baby's mother at the time of birth. It also examines how the effects vary by differences in the age, education and ethnicity of the parents. Cross-tabs and logistic regression analyses are used to measure the effects of incarceration using sets of demographic control variables for the mother and father.

The analyses in this chapter will use the full sample of data collected from mothers in the study. The incarceration measure will be a single measure indicating whether or not the father had been incarcerated that combines the mother and father reports.

I. Bivariate Analyses of Marriage and Cohabitation

Table 5.1 presents the results of cross-tabulations of the effects of incarceration on marriage and cohabitation. As expected, just 22 percent of the fathers who were incarcerated were married to their baby's mother compared to 42 percent of the never-incarcerated fathers. The difference in cohabitation rates was not significant. Of the fathers who were incarcerated, 47 percent were living with the mother compared to 45 percent of those never incarcerated.

Table 5.1 • Marriage and Cohabitation by Incarceration Status

	Never Incarcerated	Incarcerated	Unknown
Married	.42 (.03)	***.22 (.02) 7.94	***.13 (.03) 6.16
Cohabiting	.45 (.03)	.47 (.04) 0.46	***.20 (.04) 4.80

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

The percentage of never-incarcerated fathers who were married is nearly identical to the percentage that was cohabiting.

The difference between fathers whose incarceration was unknown and never-incarcerated fathers was greater with a mere 13 percent of the unknowns married and 20 percent living with the child's mother. These statistics would lend further credence to the theory that some of these men did not report their incarceration histories. However, the fact that the mothers did not know whether or not they were incarcerated also suggests they had weaker relationships with these fathers.

Table 5.2 presents cross-tabulations of the mothers' independent variables by the type of relationship they have with their child's father. There are significant differences between the married mothers, cohabiting mothers, and those in less formal relationships. We control for these differences using regression analysis to obtain a more accurate estimate of incarceration's effects on the probability that a mother would marry, cohabit, or do neither.

The married mothers in our sample are significantly older (28.1 years) than the other mothers who are about 24 years old. Among married mothers, Latinos represent the largest block (47 percent), 29 percent of the married mothers are white and 17 percent are black despite the fact that they are heavily over-represented in this sample. White mothers in our sample tend to be married (48 percent of the white mothers in our sample are married compared to 29 percent of Latino mothers and just 14 percent of black mothers).

Among the mothers in a cohabiting relationship, 48 percent are Latino, 37 percent are black and just 12 percent are white which suggests that white mothers are less likely to live with the fathers of their children outside of

Table 5.2 • Mothers Independent Variables by Relationship Status

Independent Variables	Married	Cohabiting	Neither	Significance
mage (mother's age)	28.3	24.1	24.0	F=2.94, p<.001
mblack (mother is black)	.17	.37	.52	F=45.37, p<.001
mlatino (mother is Latino)	.47	.48	.34	F=7.33, p<.01
mwhite (mother is white)	.29	.12	.09	F=24.77, p<.001
mothrace (mother is other race)	.07	.03	.05	F=0.07, p=.79
meduc1 (some high school)	.35	.48	.47	F=1.93, p=.17
meduc2 (high school graduate)	.15	.30	.29	F=6.60, p<.01
meduc3 (some college)	.22	.17	.21	F=0.21, p=.64
meduc4 (college graduate)	.28	.05	.02	F=48.82, p<.001
mcity (Oakland/Austin)	.51	.46	.52	F=0.09, p=.76
intact (w/ both parents at 15 yrs old)	.67	.46	.37	F=25.37, p<.001
health1 (health is excellent)	.31	.28	.31	F=0.01, p=.91
health2 (health is very good)	.35	.31	.35	F=0.01, p=.94
health3 (health is good)	.28	.29	.28	F=0.04, p=.85
health4 (health is fair or poor)	.06	.13	.07	F=0.00, p<.99
prenatal (late or no care)	.11	.26	.26	F=11.70, p<.001
nochild (no other children)	.38	.35	.39	F=0.11, p=.74
child1 (one other child)	.31	.36	.30	F=0.00, p=.97
child2 (more than one other child)	.32	.29	.32	F=0.09, p=.76
msubstan (used alcohol/drugs)	.03	.04	.09	F=1.30, p=.26
mcigar (smoked cigarettes)	.04	.19	.21	F=7.73, p<.01

marriage. Married mothers are also better educated with half of the mothers having a college degree or some college experience compared to 22 percent of cohabiting mothers and 23 percent of those in other relationships. As expected, two-thirds of the married mothers (67 percent) were in an intact family—living

with both biological parents—at age 15, significantly more than the other mothers, and a greater percentage of the cohabiting mothers (46 percent) were in intact families than those who were neither married nor cohabiting (38 percent). Mothers from broken families were less likely to establish a household with the fathers of their children.

There were significant differences in prenatal care and cigarette smoking. Married mothers avoided late or no prenatal care and smoked significantly less during pregnancy than the other two cohorts. There were no significant differences in perceived health, the number of children, or substance abuse.

II. Multivariate Analyses of Marriage and Cohabitation

The results of the bivariate analyses demonstrate that the mothers in our sample differed in ways that would lead to them choosing to marry or cohabit even if incarceration was not a factor. In this section we control for those differences using multiple regression analysis to obtain a net effect of incarceration. For this analysis, we use a multinomial logit model to measure the effects of incarceration on the probability that a mother would chose to marry, cohabit or do neither.

A multinomial logit model allows several discrete alternatives to be considered at the same time. One alternative is selected as the base, or omitted category and each possible choice is compared to the base alternative with a logit equation (Studenmund, 1997). The omitted category in this analysis is non-married and non-cohabiting. The *mlogit* function in Stata provides coefficients as odds ratios.

As in our analyses of earnings and employment, three models are used to examine the effects of incarceration. Model 1 will include incarceration

variables only. In Model 2, we add control variables for the mothers' age, ethnicity, education, and city of interview. In the third model, controls are added for substance use, whether or not the mother was raised in an intact family, the number of children she has, and controls for the father's characteristics that include age, education and ethnicity. In Model 4, we also include controls for alcohol use, marijuana use, depression, father absence, and poor health using father-reported data. A dummy variable is also included to correct for the 150 fathers were not interviewed at follow-up.

Table 5.3 presents the results of the multinomial logit models. STATA can be prompted to report the coefficients as relative risk ratios. They are interpreted as the likelihood that the specified variable would be in the non-omitted group (marriage or cohabitation) compared the to the omitted category of the specified variable. For example, in Model 2, the likelihood that black mothers would be married rather than in a non-marital, non-cohabiting relationship is 16 percent that of white mothers.

As expected, the effects of incarceration on marriage and cohabitation diminish across models as control variables are added. In Model 1, mothers whose partners were incarcerated were 7 percent as likely to be married as those whose partners were never incarcerated. They were 32 percent as likely to be cohabiting as the mothers whose partners were not incarcerated. Both findings are significant at the $p \leq .001$ level.

As controls are added the effect diminish, but remain significant. In Model 4, which includes all control variables, mothers whose partners were incarcerated were still only 30 percent as likely to be married as mothers whose partners were never incarcerated, significant at the $p \leq .01$ level. They were

Table 5.3 • Multinomial Logistic Regression for Marriage and Cohabitation (omitted=not married or cohabiting)

	Model 1		Model 2		Model 3		Model 4	
	Married	Cohabiting	Married	Cohabiting	Married	Cohabiting	Married	Cohabiting
<i>Incarceration Status (omitted=never)</i>								
Incarcerated	*** .07 (-8.18)	*** .32 (-4.61)	*** .14 (-5.73)	*** .35 (-4.04)	*** .21 (-4.22)	*** .39 (-3.33)	** .30 (-2.77)	* .53 (-1.98)
Incarceration (Unknown)	*** .06 (-8.50)	*** .09 (-8.16)	*** .08 (-6.79)	*** .09 (-7.79)	*** .09 (-6.07)	(-7.55)	* .24 (-2.39)	*** .21 (-3.71)
Mother's Age			*** 1.09 (3.58)	1.00 (0.08)	* 1.08 (2.11)	1.00 (0.09)	* 1.09 (2.24)	1.015 (0.46)
<i>Mother's Race (omitted=white)</i>								
Black			*** .16 (-3.95)	.60 (-1.32)	.47 (-0.98)	.81 (-0.37)	.42 (-1.04)	.80 (-0.38)
Latino			.64 (-1.01)	.90 (-0.26)	.47 (-1.25)	.66 (-0.88)	.39 (-1.39)	.67 (-0.76)
Other Race			.46 (-1.15)	.57 (-0.91)	.67 (-0.42)	.88 (-0.15)	.53 (-0.60)	1.09 (0.09)
<i>Mother's Education (omitted=HS grad)</i>								
Less than HS			1.01 (0.02)	.89 (-0.43)	.71 (-0.83)	.80 (-0.81)	.73 (-0.69)	.71 (-1.13)
Some College			1.59 (1.18)	.79 (-0.72)	1.32 (0.65)	.71 (-1.04)	1.58 (0.96)	.81 (-0.56)
College Grad			** 6.07 (2.83)	1.26 (0.36)	3.27 (1.60)	1.25 (0.32)	3.74 (1.64)	1.12 (0.14)
City of Interview (Oakland=1)			1.71 (1.80)	.88 (-0.54)	1.77 (1.79)	.95 (-0.20)	1.44 (1.04)	.79 (-0.88)
<i>Mother's Characteristics</i>								
With both parents at age 15					1.73 (0.73)	1.33 (1.20)	* 2.22 (2.38)	2.58 (1.23)
Health Excellent (omitted=fair/poor)					.81 (-0.34)	.60 (-1.16)	.94 (-0.09)	.58 (-1.11)
Health Very Good					1.63 (0.83)	.56 (-1.37)	1.78 (0.89)	.52 (-1.39)
Health Good					1.83 (1.03)	.62 (-1.11)	1.78 (0.91)	.60 (-1.10)
One Other Child					1.45 (1.02)	1.30 (0.95)	1.23 (0.52)	1.19 (0.56)
More than One Other Child					1.65 (1.25)	1.26 (0.73)	1.33 (0.66)	1.19 (0.49)
Used Drugs/Alcohol					1.49 (0.59)	.48 (-1.60)	1.51 (0.55)	.70 (-0.63)
Smoked Cigarettes					** .20 (-2.80)	1.23 (0.66)	* .28 (-2.14)	1.35 (0.85)

Father's Age						.99	.99	.98	.98
						(-0.29)	(-0.43)	(-0.73)	(-0.64)
<i>Father's Race/Ethnicity (omitted=white)</i>									
Black						*.18	.64	*.17	.69
						(-2.24)	(-0.75)	(-2.08)	(-0.56)
Latino						.56	1.10	.77	1.63
						(-0.88)	(0.18)	(-0.36)	(0.83)
Other Race						.39	.51	.53	.67
						(-0.94)	(-0.77)	(-0.56)	(-0.42)
<i>Father's Education (omitted=HS grad)</i>									
Less than HS						**2.78	1.39	**3.03	1.68
						(2.59)	(1.22)	(2.62)	(1.72)
Some College						*2.41	1.53	*3.33	1.68
						(2.00)	(1.36)	(2.47)	(1.48)
College Grad						*4.07	1.07	4.22	.88
						(1.99)	(0.10)	(1.84)	(-0.16)
<i>Father's Characteristics</i>									
Had problems with alcohol or drugs						.83	.83	*.46	*.46
						(-0.40)	(-0.40)	(-0.40)	(-2.33)
No days of 5 or more drinks (omitted=no drinks in past month)						1.42	1.42	**2.52	**2.52
						(0.80)	(0.80)	(0.80)	(2.50)
1-2 days of 5 or more drinks						.90	1.18	.90	1.18
						(-0.20)	(-0.20)	(-0.20)	(0.38)
3 or more days of 5 or more drinks						.57	.57	.57	1.76
						(-0.93)	(-0.93)	(-0.93)	(1.22)
Smoked marijuana in past month						.25	.25	.25	.92
						(-1.82)	(-1.82)	(-1.82)	(-0.19)
In poor health						**3.30	1.41	**3.30	1.41
						(2.67)	(2.67)	(2.67)	(0.93)
Was depressed in last two weeks						.47	.47	.47	1.21
						(-1.43)	(-1.43)	(-1.43)	(0.49)
With both parents at age 15						.81	.81	.81	.68
						(-0.58)	(-0.58)	(-0.58)	(-1.39)
Not interviewed						.92	.92	.92	1.21
						(-0.13)	(-0.13)	(-0.13)	(0.46)
<i>Log Likelihood</i>									
						-545.753	-545.753	-500.448	-500.448
Chi-square						155.20	155.20	245.81	245.81
Pseudo R-squared						.125	.125	.197	.197
Number of Cases						577	577	577	577
<i>Log Likelihood</i>									
						-545.753	-545.753	-500.448	-500.448
Chi-square						155.20	155.20	245.81	245.81
Pseudo R-squared						.125	.125	.197	.197
Number of Cases						577	577	577	577

p* < .05, *p* < .01, ****p* < .001 • z scores in parentheses

slightly more than half as likely (53 percent) to be cohabiting as mothers with never-incarcerated partners. Thus, it is clear from these findings that mothers who do form households with incarcerated fathers are more likely to cohabit than to marry compared to mothers who form households with never incarcerated dads.

The effects of incarceration where the father's incarceration status is unknown are more pronounced. Mothers are less likely to marry or cohabit with these dads than the dads whose incarceration history is known. Two things could be at work: 1) these fathers are hiding their pasts, and 2) these relationships may be more tenuous since the mother is not privy to this important information.

Race is a significant factor in marriage and cohabitation. Black mothers are less likely to marry or cohabit than white mothers, as are Latinos and those of other races although the findings are not significant beyond Model 2. The race variables are significant as a group in Model 2, ($\chi^2=22.54$, $p\leq.001$). The education variables are significant as well, ($\chi^2=16.01$, $p\leq.05$). No other group of variables is significant in any of the other models. The father's race was a significant predictor for marriage for blacks. Black fathers were 17 percent as likely to marry as white fathers and about two-thirds as likely to cohabit. The other race variables were not significant.

The mother's education was not a significant predictor in these models except in Model 2 where mothers who graduated college were 6 times as likely to be married as those who only graduated high school. They were only 26 percent more likely to cohabit than the high school grads. However, when more controls are added, the effects—while large—are not significant. The father's

education was a significant factor in these models. One surprising finding was that fathers who did not complete high school were three times as likely to be married as fathers who graduated ($p \leq .01$). This finding could be an aberration due to the small number of fathers in each of the categories. Subsequent studies with larger samples may have different results.

There were only two significant findings among the mother's characteristics. Mothers who lived with both biological parents at age 15 were more than twice as likely to be married at childbirth than those who were not ($p \leq .05$). They were also more likely to cohabit although this finding was not statistically significant at the $p \leq .05$ level. Also, mothers who smoked cigarettes were significantly less likely to be married. They were about a quarter as likely to be married although they were marginally more likely to be cohabiting than non-smokers.¹

Among the father's characteristics, those who had a problem with drugs and alcohol were significantly less likely to cohabit than those who did not. Although they were marginally less likely to be married, the fact that they were much less likely to cohabit suggests that mothers might be willing to live with the problems if they were in a committed relationship. Because of the small sample size and the scope of this study, it is not feasible to perform interactions that might provide additional clues about employment and education status. However, sociable drinkers were significantly more likely to cohabit than non-drinkers an indication that they were more disciplined in their pleasure pursuits.

¹ Smoking is deterred by higher education, therefore controlling for smoking captures some of the education effect.

One surprising finding was that fathers who reported they were in poor health were more than three times as likely to be married as fathers who did not. Another was that fathers who lived with both biological parents until age 15 were less likely to marry or cohabit than those who had not. Again, further study is needed to explain these findings that appear to be deviant from the norm.

Finally, in Model 3, fathers who were not interviewed were slightly more than 40 percent as likely to be married or cohabit ($p=.08$). Though not statistically significant at $p\leq.05$, these differences all but disappeared when additional controls were added in Model 4.

These results are consistent with the findings of Western and McLanahan (2000) who found that couples where the father was incarcerated were significantly less likely to be living together one year after the birth of their children. They also found, as we did, that black couples are far less likely to be living together a year after their baby's birth.²

One surprising finding was that results based on mothers' reports had stronger effects than those based on fathers' reports. Based on the fathers' reports, couples where incarceration was present were about 50 percent less likely to be living together whereas they were 70 percent less likely to live together based on mother-reported data. To test whether these findings were consistent, we ran a regression separating the incarceration variable into mothers' and fathers' reports and found similar results.

In Model 4 with all controls added, using the multinomial logit model with father-reported data, couples where the father was incarcerated were 32

² It is important to note that our study examines incarceration's effects at baseline rather than at follow-up which Western and McLanahan (2000) do in their study.

percent as likely to be married ($p \leq .05$) and 91 percent as likely to cohabit as couples where the father was not incarcerated. The effects were more pronounced using mother-reported data. Couples where the father was incarcerated were only 25 percent as likely to be married ($p \leq .01$) and 37 percent as likely to be cohabiting ($p \leq .01$) as couples where the father was not incarcerated.

These findings are surprising because, as we expected, father-reported data resulted in stronger effects on earnings and employment and the same was expected to be true with marriage and cohabitation. It was thought that these fathers would have poorer outcomes overall. One theory is that mothers who know the father was incarcerated were less likely to form a formal union with the dad.

In the next section, as an aside, we take a look at the effects of assortative mating on the likelihood that couples would be married or cohabiting at the time of the birth of their child. Ideally, it would be interesting to examine the interactions between these differences and incarceration but the effects were not significant in a sample this size.

III. Assortative Mating: Differences in Age, Education and Race

Next we looked at how differences in age, education and race might affect marriage and cohabitation in our sample. For age, three sets of dummy variables were created: 1) mother or father is less than three years older, 2) mother or father is 3 to 5 years older, and 3) mother or father is more than 5 years older than his/her partner. For education and race, separate dichotomous variables were constructed indicating whether or not the mother and father had the same level of education or were of the same race.

Table 5. 4 presents the results of the multinomial regression analyses using Model 4 with all the control variables. None of the results were significant. However, there were marginal differences. Parents who were 3 to 5 years older than each other were marginally more likely to be married than parents of the same age and marginally less likely to cohabit. However, when the age differences were greater than five years, the partners were 43 percent less likely to be married. This finding approached significance at $p=.055$.

There was negligible change in the effects of the main incarceration variable. However, there was a 53 percent reduction in the effects among the fathers whose incarceration was unknown. Thus, controlling for age difference helped to explain some of the variance in marital likelihood among this group. This would seem to be a likely result because there is evidence that the relational bonds are weakest among this group. There was no difference in the likelihood that these partners would cohabit.

Table 5.4 • Odds Ratios for Couples with Differences in Age, Race and Education

	Marriage	Cohabitation
Age Difference is 3 to 5 years	1.09 (.37)	.94 (.27)
Age Difference is >5 Years	.43 (.19)	1.15 (.36)
Education is Different	1.25 (.40)	1.10 (.27)
Race is Different	1.12 (.53)	.78 (.29)

* $p\leq.05$, ** $p\leq.01$, *** $p\leq.001$ • standard errors in parentheses

Partners at the same education level were marginally more likely to be married or cohabiting. There was a 10 percent increase in the main incarceration variable after controlling for educational differences and no

change in the effect on cohabitation. However, none of the findings were significant.

Partners of different races were marginally more likely to be married (12 percent) than partners of the same race. However, they were 22 percent as likely to cohabit. Again, these findings are not statistically significant at the $p \leq .05$ level. However, it would suggest that different race couple who entered into a serious relationship were committed to the point of forming a formal rather than informal relationship. There were minimal changes in the effects of incarceration on marriage and cohabitation for these regressions.

IV. Summary of Findings

Mothers who had children with someone who was incarcerated were significantly less likely to marry or cohabit than mothers whose mate had never been jailed. They were less likely to be married than they were to be cohabiting. They were 30 percent as likely to be married and mothers whose partners were never incarcerated and 53 percent as likely to cohabit after controlling for all characteristics.

Situations where the incarceration history of the father was unknown were even less likely to result in the formation of a formal or informal household leading to the conclusion that fathers were less attached to the mothers than the other fathers. There is a strong possibility that these fathers did not report their incarceration experiences.

There were no significant findings between couple that differed in age, education or race. However, couples with differences were marginally more likely to be married than couples with similarities and less like to cohabit.

Chapter 6: Conclusions and Discussion

I. Conclusions

This study presents evidence that those who are sent to prison are harmed by the experience. These harmful effects may prove costly to society in the long run through more crime if released inmates are not able to find legitimate work, lost productive and taxes, and increased need for social services. The study does not address the benefits to society of incarceration. The policy recommendations discussed below are designed to reduce the costs of incarceration, but may also reduce some benefits. Though a more complete analysis would examine the both the benefits and costs of the recommended policies, my focus is on reducing the costs to the imprisoned population. To reduce these costs policymakers may consider the following reforms:

There are significant advantages to this methodology. One, by controlling for the disparate characteristics between the two group, we are able to isolate incarceration as the single most distinguishing characteristic that separates one group from the other. Two, the question of heterogeneity is somewhat muted by the assumption that the characteristics of the two groups are normally distributed and we can control for them.

Freeman's study (1991) is closest to this approach using the National Longitudinal Survey of Youth (NLSY), two National Bureau of Economic Research (NBER) studies and the Boston Youth Survey. However, he limits his study to disadvantaged youth, which helps to solve the heterogeneity problem and relies on self-reported criminal activity, which could—as this study found—lead to underreported criminal data and a reduction in the effects. We were able to

overcome the problem of underreporting by obtaining data from a reliable source—the mothers of their children, giving us greater confidence in our findings.

Research conducted prior to this study found employment and earnings penalties for men involved in the criminal justice system. Waldfogel (1993), in a study of federal fraud and larceny offenders found a 6 to 10 percentage point employment penalty for imprisoned offenders compared to those who were convicted but were not sent to prison. Those who were sent to prison had an employability reduction of about 21 percentage points compared to about a 13-percentage point penalty for those not confined.

Grogger (1995) concluded that arrests and incarceration had negative effects on employment and earnings but that they were moderate and short-lived. However, he acknowledged that his data did not have a measure for time served and it was possible that longer sentences had longer-lasting effects as this study proved. Each month of time spent incarcerated resulted in a five-percentage point loss in earnings.

Nagin & Waldfogel (1998) also found that conviction had a significant and increasingly negative effect on employment rates for offenders over the age of 30 years old. They found that conviction had a positive effect on employment for offenders under the age of 25. We, too, found that incarceration had stronger effects on older offenders but found the penalty greatest for 17- to 21-year-olds. Again, the disparities in our findings may be due to the fact that Nagin & Waldfogel limited their study to federal fraud offenders who were predominantly white (88.3 percent).

Like Grogger, Kling (1997) found modest employment penalties (0 to 3 percent) after 5 to 8 years for offenders who were incarcerated. He found more pronounced negative effects on earnings (10 to 30 percent) after 5 to 8 years but concentrated among white-collar criminals. Looking at violent and drug offenders, he found that earnings effects did not vary with the length of sentence. Thus, we expected to find negative incarceration effects.

Like Freeman (1991), who found that incarceration correlated with a 15 to 30 percent reduction employment probability, the study of fathers in fragile families found a reduction of 47 percent in employment probability for fathers who were incarcerated. We may have found a larger effect because Freeman confined his study to high school dropouts whose employment rates probably were lower than the general population.

This study provides further documentation of the damaging effects of incarceration on the employment probabilities and earnings of imprisoned offenders. We were able to demonstrate that these effects do vary over time and that age of first incarceration is a significant predictor of employment and earnings losses. We also set out to test the hypothesis that incarcerated fathers would more likely earn more underground earnings than non-incarcerated fathers as they sought other than legitimate sources of income.

Although our findings were not significant due to the small sample size, the marginal evidence is clear that incarcerated fathers probably earn more off-the-books earnings than those who were never incarcerated. Fathers who were incarcerated earned \$3,668 more in annual underground earnings than never incarcerated fathers. This finding, while marginal, supports Freeman (1991),

Grogger (1995) and Waldfogel's (1993) theory that the negative effects of criminal justice sanctions steer offenders to non-legitimate sources of income.

Our findings on marriage and cohabitation support earlier theories (Edin, 2000) and research (Western & McLanahan, 2000) about union formation. That is, economically challenged men are less likely to form stable or formal unions. While Western & McLanahan (2000) looked at the likelihood of formerly-incarcerated fathers to live with the mothers of their children and then the likelihood of those co-residing couples to be married, we looked directly at the effects of incarceration on the likelihood to marry or cohabit versus having no relationship at all, adding further evidence to these ideas.

II. Implications for Future Research

The first step in expanding our knowledge on the effects of incarceration would be to redo this study using the full set of data from the 20 cities in the Fragile Families survey. The sample will be representative of non-marital births to parents residing in cities with populations of more than 200,000 and will have a sample size of 4,900 families that includes 3,600 unwed couples and 1,100 married couples.

This study opens the door for expanded research in the area of the effects of incarceration. As more data is available, there will be opportunities to delve deeper into questions of levels of involvement with the criminal justice system (arrest, conviction, probation, etc.). There will also be opportunities to explore the racial implications of incarceration's negative effects on labor force outcomes and family formation. Because data for two cities were only available for this study, interactions with characteristics like race and education were prohibitive because of the small cell sizes. Included in the new data will be

variables added by Western that measure aggressiveness and verbal ability that will help to capture more the unobserved differences between offenders and non-offenders.

In addition to expanding this study and conducting more research on incarcerations effects on individuals, more research is needed on its effects on families and children. Among the questions that need to be addressed are:

- 1) How does incarceration disrupt the lives of children?
- 2) How do these effects vary over time?
- 3) What effects does incarceration have upon the release of the inmate?

More research is needed in the area of rehabilitation. Research and practice have advanced and policymakers should reconsider their abandonment of virtually all efforts to rehabilitate offenders. Demonstration programs should be evaluated to determine if there are effective means too enhance the education, literacy, and social skills of men and women in prison. To accomplish this, however, state and federal prison officials must ameliorate some of the harsh conditions that now exist in prison that would surely undermine any rehabilitative effort.

III. Implications for Social Policy

While it is still unclear whether current prison policies are the most cost-effective means of reducing crime, this study presents evidence that those who are sent to prison are harmed by the experience. These harmful effects may prove costly to society in the long run through more crime if released inmates are not able to find legitimate work, lost productive and taxes, and increased need for social services. To ameliorate these, policymakers may consider the following reforms:

- **Repeal Mandatory Minimum Sentences.** Especially for low-level non-violent drug offenders. Policymakers should follow the lead of California voters who approved Proposition 30 in November 2000 that mandates treatment in lieu of incarceration. Get-tough-on-crime advocates like John DiIulio and James Q. Wilson have recently advocated more judicial discretion in sentencing and a rethinking of the mandatory minimum guidelines (Taylor, 2000). Reducing the use of incarceration, particularly for non-violent offenders would free-up billions of dollars that could support employment programs and drug treatment services that would increase the economic viability of low-income fathers.
- **Ameliorate the inhumane conditions of many prisons and jails.** In an effort to get tough on criminals, legislators and corrections officials campaigned to make prisons less resort-like and more punitive. What was considered by them to be amenities—television, recreational facilities, libraries, etc.—often provided incentives that promoted good behavior. In the absence of these things, gangs have proliferated and prison environments have degenerated. Corrections officials must work with administrative personnel and guards to protect prisoners from rape and assaults. They must work to create more humane conditions in prisons and jails.
- **Stop sending juveniles to adult prisons.** This study demonstrated that age of first incarceration is a significant predictor of poor labor force performance. Yet, more and more juveniles are being sentenced to adult prisons where they become easy prey and vulnerable to the criminogenic efforts of prison culture.

- **Increase drug treatment in prisons and jails.** Using the "carrot and stick" approach, drug treatment should be mandated for low-level non-violent offenders. However, for those who refuse to comply with treatment mandates, incarceration can be an effective punishment if it includes treatment. In a 1997 report by the Justice Department, 57 percent of state prisoners and 45 percent of federal prisoners said they used drugs in the month before they were incarcerated. Thirty-three percent of state prisoners and 22 percent of federal prisoners said they committed their crime under the influence. Yet, just 15 percent of state and federal prisoners received substance abuse treatment in 1997, down from 33 percent in 1991 (Mumola, 1997). Therapeutic treatment should not be limited, however, to substance abuse. In 1998, there were 283,800 mentally ill persons in state and federal prisons and local jails and another 547,800 on parole and probation (Ditton, 1999). Prisons and jails house many people with mental health conditions that should be treated while they are incarcerated.
- **Support in-prison programs designed to assist inmates.** There are programs like FamilyWorks created and operated in New York State prisons by Elizabeth Gaynes, executive director of the Osborne Society that work to maintain bonds between inmate fathers and their children during incarceration and upon release (Jeffries, Menghraj & Hairston, 2001). More of these programs should be designed and implemented in state and federal correction facilities.
- **Promote responsible fatherhood programs.** There are a growing number of programs designed to help fathers overcome the economic

and social deficits that have kept them from being better providers and fathers to their children. Sen. Evan Bayh (D-IN) recently introduced legislation in the U. S. Senate that will provide federal funds to states to support these programs (S. 653, 2001). The bill is co-sponsored by Republicans and Democrats showing bipartisan support for this effort. The National Association of Social Workers (NASW) should throw its support behind this bill.

- **Introduce clemency legislation for first-time nonviolent offenders.**

First-time nonviolent offenders who refrain from future criminal activities for five years should have their slates wiped clean. Criminal arrest and conviction records often follow released inmates decades after they have paid their debts to society. Employers routinely deny jobs to individuals with criminal records no matter how minor. Some states permanently deny ex-felons the right to vote. Thousands of people—many unjustly—were denied the right to vote in the 2000 presidential election in Florida because their names were on a list of people with a past felony conviction. If a first-time offender commits no crimes during a period of five years after release, he or she should have the right to petition to have his or her record expunged.

- **Support alternatives to incarceration.** There are a number of sanctions short of incarceration that are available to prosecutors and judges such as restitution and compensating victims, community service, mandated treatment for low-level drug offenders, day centers, and electronic monitoring.

- **Support youth development programs for at-risk youth.** Ronald Mincy (1994) advocated supporting the efforts of independent youth development programs serving young black males as a means to help inner-city youth escape the snares of crime and incarceration. He saw these programs as having "the most effective outreach to young black males of any youth programs in the country." He advocated a concerted effort on the part of health, labor and criminal justice policymakers to reach black males at younger ages. He felt, in order to be successful, the focus of programs aimed at young black males must shift from deterrence to development, nurturing competencies that would lead to success.

There are many individuals and organizations that see the danger of expanding the prison system. Recently, Catholic bishops in the United States released a detailed statement on the nation's criminal justice system entitled, "Responsibility, Rehabilitation and Restoration: A Catholic Perspective on Crime and Criminal Justice." Among other things, the report calls for opposition to "rigid" mandatory sentencing and locking up juveniles in adult prisons. It advocated for treatment for addicts and the mentally ill (Niebuhr, 2000).

The document took three years to produce and involved consultation with Catholics who were police officer, judges, defense lawyers, corrections officers, as well as victims and criminals. They pointed to a broad consensus that the status quo was not working.

IV. Implications for Social Work Practice

There is often an disconnect between research designed to inform policy and what happens at ground zero in terms of social work practice. When I began the doctoral program and had to choose a field of practice I was asked what my target population would be. My response was low-income males. I was told that there was no direct practice field that specifically addressed the needs of low-income fathers, particularly fathers of color. Therefore my choice became substance abuse, a field that addressed the social conditions of my target population albeit in a narrow sense.

At the time I entered the doctoral program four years ago, there were little funding streams to finance programs that specifically addressed the needs of fathers except the traditional child and family welfare programs. Since, however, there is a growing fatherhood movement in this country that is seeking to equip fathers with the resources and skills needed to be assets to their children whether or not they are in the household. Obviously there is a role for social workers because we have the skills and knowledge needed to provide direct services to fathers, children and families.

As research reveal that fathers' detachment from their children is often a function of their ability to be providers, the stigmatizing label of "deadbeat" dads will be used more cautiously. Clearly there are many fathers with deficits that reduce their ability to find suitable employment, earn a decent living, and contribute to the well being of their children. Incarceration is just one medium through which these deficits are accumulated.

From 1989 until 1965, I oversaw and ministry to black men at the Saint Paul Community Baptist Church under the leadership of Rev. Dr. Johnny Ray

Youngblood who orchestrated a deliberate outreach to the husbands, lovers, brothers, and friends of the women who regularly attended the church. As he was successful, more and more black men began seeking refuge and comfort at the church's weekly Tuesday night men's meeting. Soon the attendance reached an average of 80-100 men per week.¹

Many of the men confessed to having been incarcerated, many had been separated from the children and families. Some were unemployed. Some had given up hope of being a productive citizen. Others were doing well but were not feeling good about themselves. The men showed up because the church provided them with a place where they could share their grief and grievances. They could cry, hug, and laugh at themselves unashamedly. It was group therapy en masse.

In addition, there was a weekly program for fathers facilitated by a license M.S.W. It was my job to run the meetings, to set the agenda, and to bring relevant information. However, at a point I realized that many of these men needed more than just the fellowship although they were certainly better off without it. I had been in counseling for a while and I realized that many would be helped with direct counseling. Many needed to improve their job skills and social skills. Providing help in these areas is where social workers do their best work.

However, there must be a realization that many of the problems facing low-income fathers are unique to their population. Child support enforcement affects them profoundly. They are never considered to be among the deserving

¹ The men's ministry was highlighted in many newspapers and on several television broadcast and was chronicled in the HarperCollins' book, *Upon This Rock: The Miracles of a Black Church*, by Samuel G. Freedman.

poor. Certainly not all the poor performing fathers are victims of circumstances beyond their control, but there are too many to ignore the needs of this population. Many of the fathers who connected to the ministry at St. Paul Community were able to reconnect to their children if not the children's mothers. Certainly social work can help to rescue some of these fathers.

Incarceration's negative effects will leave hundreds of thousands of men and women with scars that will prevent them from becoming productive citizens and supporting parents. These effects are not limited to the individual but will be born by society through more crime, less productivity and taxes. Therefore efforts on the part of policymakers and practitioners to reduce the number of people entering prison for nonviolent crimes will benefit society.

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APPENDIX A**I. FULL REGRESSION TABLES FOR TABLE 4.6**

Table A1 • Odds Ratios for Employment Status with Father- and Mother-Reported Incarceration using Full Sample (Table 4.6)

	Model 1	Model 2	Model 3
Father-reported Incarcerated (omitted=never incarcerated)	*** .213 (.070) -4.72	*** .317 (.119) -3.07	* .457 (.182) -1.97
Mother-reported Incarcerated	*** .232 (.067) -5.06	** .385 (.126) -2.93	.606 (.236) -1.29
Incarceration Unknown	*** .288 (.087) -4.12	* .498 (.169) -2.06	.901 (.276) -0.23
Father's Age		** 1.053 (.021) 2.55	** 1.055 (.022) 2.53
Father's Black (omitted=white)		* .325 (.179) -2.04	* .298 (.170) -2.12
Father's Latino		.781 (.438) -0.44	.832 (.486) -0.32
Father's Other Race		* .209 (.153) -2.14	* .170 (.132) -2.28
Less than High School (omitted=HS grad)		.925 (.263) -0.28	.918 (.276) -0.29
Some College		1.710 (.586) 1.56	1.675 (.628) 1.38
College Graduate		.543 (.326) -1.02	.464 (.307) -1.16
Marital Status (1=yes, 0=no)		* 2.070 (.756) 1.99	2.102 (.812) 1.92
City of Interview (Oakland=1, Austin=0)		*** .431 (.111) -3.26	.402 (.111) -3.31
No days of 5 drinks (omitted=non-drinker)			1.677 (.643) 1.35
1-2 days of 5 drinks			1.644 (.773) 1.06
3 or more days of 5 drinks			.923 (.431) -0.17
Smoked marijuana			.445 (.190) -1.90
Father Has Problems w/Drugs			.284 (.096)
Poor Health			.518 (.185) -1.85
With Biological Parents at 15 Years Old			.946 (.306) -0.17
Depressed for 2 Weeks			1.118 (.441) 0.28
Log Likelihood	-258.804	-232.306	-213.098
Chi-square	39.39	92.39	130.80
Pseudo R ²	.07	.17	.23
Number of Cases	530	530	530

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • z scores listed below

Table A2 • Odds Ratios for Employment Status with Combined Incarceration Variable using Full Sample (Table 4.6)

	Model 1	Model 2	Model 3
	*** .225	*** .359	.531
Incarcerated (<i>omitted=never incarcerated</i>)	(.058)	(.107)	(.177)
	-5.74	-3.42	-1.90
Incarceration Unknown	*** .288	* .498	.832
	(.087)	(.169)	(.366)
	-4.12	-2.06	-0.418
Father's Age		** 1.052	** 1.053
		(.021)	(.022)
		2.52	2.47
Father's Black (<i>omitted=white</i>)		* .332	* .304
		(.182)	(.173)
		-2.01	-2.09
Father's Latino		.800	.859
		(.447)	(.498)
		* -0.40	* -0.26
Father's Other Race		.210	* .170
		(.154)	(.132)
		-2.13	-2.29
Less than High School (<i>omitted=HS grad</i>)		.928	.921
		(.264)	(.277)
		-0.26	-0.27
Some College		1.730	1.702
		(.592)	(.637)
		1.60	1.42
College Graduate		.554	.474
		(.331)	(.312)
		-0.99	-1.14
Marital Status (1 = yes, 0 = no)		* 2.078	2.12
		(.759)	(.817)
		2.00	1.94
City of Interview (<i>Oakland = 1, Austin = 0</i>)		*** .432	.407
		(.112)	(.112)
		-3.25	-3.28
No days of 5 drinks (<i>omitted = non-drinker</i>)			1.676
			(.643)
			1.35
1-2 days of 5 drinks			1.619
			(.758)
			1.03
3 or more days of 5 drinks			.923
			(.429)
			-0.17
Smoked marijuana			.447
			(.190)
			-1.89
Father Has Problems w Drugs			*** .281
			(.085)
			-4.19
Poor Health			.509
			(.181)
			-1.90
With Biological Parents at 15 Years Old			.948
			(.306)
			-0.17
Depressed for 2 Weeks			1.106
			(.434)
			0.26
Log Likelihood	-258.840	-232.456	-213.330
Chi-square	39.32	92.09	130.34
Pseudo R ²	.07	.16	.23
Number of Cases	530	530	530

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • z scores listed below

Table A3 • Odds Ratios for Employment Status with Father- and Mother-Reported Incarceration using Mother-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Father-reported Incarcerated (omitted=never incarcerated)	*** 218 (.069) -4.79	** 340 (.123) -2.96	.503 (.199) -1.74
Mother-reported Incarcerated	** .362 (.125) -2.94	.524 (.198) -1.71	.690 (.284) 0.90
Incarceration Unknown	*** .241 (.105) -3.25	* .392 (.186) -1.96	.529 (.280) -1.205
Father's Age		1.024 (.022) 1.11	1.020 (.023) 0.90
Father's Black (omitted=white)		.366 (.209) -1.76	* .301 (.191) -2.00
Father's Latino		.796 (.467) -0.39	.738 (.457) -0.49
Father's Other Race		.281 (.236) -1.51	.214 (.196) -1.68
Less than High School (omitted=HS grad)		.960 (.318) -0.12	1.01 (.360) 0.02
Some College		1.442 (.571) 0.93	1.325 (.594) 0.63
College Graduate		.914 (.633) -0.13	.570 (.426) -0.75
Marital Status (1=yes, 0=no)		2.131 (.835) 1.93	* 2.23 (.914) 1.95
City of Interview (Oakland=1, Austin=0)		** .466 (.139) -2.55	** .424 (.138) -2.63
No days of 5 drinks (omitted=non-drinker)			1.855 (.701) 1.63
1-2 days of 5 drinks			1.808 (.838) 1.28
3 or more days of 5 drinks			.899 (.421) -0.23
Smoked marijuana			.462 (.195) -1.83
Father Has Problems w/Drugs			*** .257 (.089) -3.92
Poor Health			.534 (.190) -1.76
With Biological Parents at 15 Years Old			1.021 (.329) 0.07
Depressed for 2 Weeks			1.092 (.433) 0.22
Log Likelihood	-190.563	-173.82	-154.871
Chi-square	28.72	60.94	95.52
Pseudo R ²	.07	.15	.24
Number of Cases	422	419	418

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • z scores listed below

Table A4 • Odds Ratios for Employment Status with Combined Incarceration Variable using Mother-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted = never incarcerated</i>)	*** .225 (.058)	*** .359 (.107)	.531 (.177)
Incarceration Unknown	-5.74 *** .288 (.087)	-3.42 * .498 (1.69)	-1.90 .832 (.366)
Father's Age		-4.12 ** 1.052 (.021)	-0.42 * 1.053 (.022)
Father's Black (<i>omitted = white</i>)		2.52 .332 (.182)	2.74 * .304 (.173)
Father's Latino		-2.01 .800 (.447)	-2.09 .859 (.498)
Father's Other Race		-0.40 .210 (.154)	-0.26 * .170 (.132)
Less than High School (<i>omitted = HS grad</i>)		-2.13 .928 (.264)	-2.29 .921 (.277)
Some College		-0.26 1.720 (.592)	-0.27 1.702 (.637)
College Graduate		1.60 .554 (.331)	1.42 .474 (.312)
Marital Status (1 = yes, 0 = no)		-0.99 * 2.078 (.759)	-1.14 2.116 (.817)
City of Interview (<i>Oakland = 1, Austin = 0</i>)		2.00 *** .432 (.112)	1.94 *** .407 (.112)
No days of 5 drinks (<i>omitted = non-drinker</i>)		-3.25 1.676 (.643)	-3.28 1.676 (.643)
1-2 days of 5 drinks			1.35 1.619 (.758)
3 or more days of 5 drinks			1.03 .923 (.429)
Smoked marijuana			-0.17 .447 (.190)
Father Has Problems w Drugs			-1.89 *** .281 (.085)
Poor Health			-4.19 509 (.181)
With Biological Parents at 15 Years Old			-1.90 .948 (.306)
Depressed for 2 Weeks			-0.17 1.106 (.434)
Log Likelihood	-258.840	-232.456	-213.330
Chi-square	39.32	92.09	130.34
Pseudo R ²	.07	.17	.23
Number of Cases	530	530	530

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • z scores listed below

Table A5 • Odds Ratios for Employment Status with Father- and Mother-Reported Incarceration using Father-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Father-reported Incarcerated (omitted = never incarcerated)	*** .111 (.034) -7.27 .500	*** .129 (.043) -6.11 .623	.154 (.058) -5.00 .690
Mother-reported Incarcerated	(.180) -1.93 .614	(.241) -1.23 .992	(.291) -0.88 1.540
Incarceration Unknown	(.301) -1.00	(.544) -0.02 1.008	(.981) 0.68 1.035
Father's Age		(.021) 0.38 507	(.025) 1.44 359
Father's Black (omitted = white)		(.263) -1.31 844	(.209) -1.76 781
Father's Latino		(.462) -0.31 411	(.473) -0.41 211
Father's Other Race		(.304) -1.20 1.228	(.173) -1.90 1.653
Less than High School (omitted = HS grad)		(.413) 0.61 1.573	(.612) 1.36 1.386
Some College		(.601) 1.19 1.579	(.588) 0.77 1.084
College Graduate		(1.076) 0.67 1.367	(.785) 0.11 1.721
Marital Status (1 = yes, 0 = no)		(.464) 0.92 521	(.639) 1.46 563
City of Interview (Oakland = 1, Austin = 0)		(.152) -2.23	(.180) -1.80
No days of 5 drinks (omitted = non-drinker)			1.369 (.480) 0.90
1-2 days of 5 drinks			1.700 (.754) 1.19
3 or more days of 5 drinks			2.385 (1.260) 1.65
Smoked marijuana			1.802 (.851) 1.25
Father Has Problems w/ Drugs			** .383 (.134) -2.74
Poor Health			*** .190 (.065) -4.85
With Biological Parents at 15 Years Old			.799 (.264) -0.68
Depressed for 2 Weeks			.538 (.191) -1.74
Log Likelihood	-193.806	-182.623	-158.046
Chi-square	55.95	78.32	121.56
Pseudo R ²	.13	.18	.28
Number of Cases	441	441	434

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • z scores listed below

Table A6 • Odds Ratios for Employment Status with Combined Incarceration Variable using Father-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted=never incarcerated</i>)	*** .202 (.054) -6.03 .592	*** .247 (.072) -4.79 .513	*** .288 (.093) -3.84 1.534
Incarceration Unknown	(.291) -1.07	(-0.12) 0.90 1.003	(.977) 0.67 1.027
Father's Age		(.020) 0.14 .665	(.023) 1.20 .446
Father's Black (<i>omitted=white</i>)		(.328) -0.83 1.102	(.248) -1.45 1.005
Father's Latino		(.574) 0.19 .550	(.582) 0.01 .266
Father's Other Race		(.399) -0.82 1.150	(.212) -1.66 1.499
Less than High School (<i>omitted=HS grad</i>)		(.378) 0.43 1.665	(.547) 1.11 1.368
Some College		(.623) 1.36 1.926	(.566) 0.76 1.215
College Graduate		(1.290) 0.98 1.406	(.856) 0.28 1.801
Marital Status (1 =yes, 0 =no)		(.468) 1.02 * .539	(.661) 1.60 .571
City of Interview (<i>Oakland =1, Austin =0</i>)		(.154) -2.17	(.177) -1.81
No days of 5 drinks (<i>omitted = non-drinker</i>)			1.31 (.462) 0.85
1-2 days of 5 drinks			1.521 (.659) 0.97
3 or more days of 5 drinks			** 2.266 (1.156) 1.60
Smoked marijuana			1.998 (.964) 1.44
Father Has Problems w/Drugs			** .368 (.125) -2.94
Poor Health			*** .207 (.070) -4.68 .783
With Biological Parents at 15 Years Old			(.253) -0.76 .477
Depressed for 2 Weeks			(.164) * -2.15
Log Likelihood	200.479	-189.889	-163.442
Chi-square	39.40	60.58	107.57
Pseudo R ²	.09	.14	.25
Number of Cases	440	440	433

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • z scores listed below

APPENDIX B**II. FULL REGRESSION TABLES FOR TABLE 4.7**

Table A1 • Odds Ratios for Underground Work Opportunities with Father & Mother Reported Incarceration using Full Sample (Table 4.6)

	Model 1	Model 2	Model 3
Father-reported Incarcerated (omitted = never incarcerated)	1.287 (.532) 0.61 1.386	.801 (.363) -0.49 .922	.738 (.346) -0.65 1.130
Mother-reported Incarcerated	(.471) 0.96 1.496	(.351) -0.21 1.022	(.478) 0.29 1.486
Incarceration Unknown	(.521) 1.16	(.395) 0.06	(.746) 0.79
Father's Age		1.006 (.021)	1.012 (.023)
Father's Black (omitted = white)		0.26 2.705 (1.428)	0.54 2.861 (1.550)
Father's Latino		1.88 .891 (.487)	1.94 887 (.495)
Father's Other Race		-0.21 513 (.578)	-0.46 592 (.678)
Less than High School (omitted = HS grad)		-0.59 .556 (.192)	-0.46 .565 (.199)
Some College		-1.70 .477 (.182)	-1.62 538 (.214)
College Graduate		-1.94 .527 (.325)	-1.56 596 (.374)
Marital Status (1 = yes, 0 = no)		-1.04 1.257 (.466)	-8.82 1.230 (.472)
City of Interview (Oakland = 1, Austin = 0)		0.62 895 (.260)	0.54 896 (.265)
No days of 5 drinks (omitted = non-drinker)		-0.38	-0.37 460 (.203)
1-2 days of 5 drinks			-1.76 1.538 (.652)
3 or more days of 5 drinks			1.02 .759 (.421)
Smoked marijuana			-0.50 1.601 (.765)
Father Has Problems w/ Drugs			1.00 1.011 (.385)
Poor Health			0.03 1.022 (.418)
With Biological Parents at 15 Years Old			0.07 1.022 (.359)
Depressed for 2 Weeks			0.06 .903 (.417)
Log Likelihood	-198.875	-188.391	-183.260
Chi-square	1.71	22.68	31.88
Pseudo R2	.00	.06	.08
Number of Cases	534	534	530

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • z scores listed below

Table B2 • Odds Ratios for Underground Work Opportunities with Combined Incarceration Variable using Full Sample (Table 4.6)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted = never incarcerated</i>)	1.349 (.403)	.876 (.301)	.933 (.344)
	1.00	-0.39	-0.19
Incarceration Unknown	1.496 (.521)	1.022 (.395)	1.355 (.675)
	1.16	0.06	0.61
Father's Age		1.005 (.021)	1.010 (.022)
		0.24	0.47
Father's Black (<i>omitted = white</i>)		2.73 (1.435)	• 2.884 (1.553)
		1.90	1.97
Father's Latino		.899 (.491)	.903 (.502)
		-0.19	-0.18
Father's Other Race		.512 (.577)	.576 (.659)
		-0.60	-0.48
Less than High School (<i>omitted = HS grad</i>)		.558 (.192)	.571 (.200)
		-1.70	-1.60
Some College		.480 (.183)	.548 (.218)
		-1.93	-1.52
College Graduate		.533 (.328)	.617 (.386)
		-1.02	-0.77
Marital Status (1 = yes, 0 = no)		1.259 (.467)	1.237 (.474)
		0.62	0.55
City of Interview (<i>Oakland = 1, Austin = 0</i>)		.897 (.260)	.906 (.268)
		-0.38	-0.33
No days of 5 drinks (<i>omitted = non-drinker</i>)			.460 (.202)
			-1.77
1-2 days of 5 drinks			1.505 (.635)
			0.97
3 or more days of 5 drinks			.767 (.425)
			-0.48
Smoked marijuana			1.619 (.768)
			1.01
Father Has Problems w/Drugs			.997 (.379)
			-0.01
Poor Health			1.012 (.410)
			0.03
With Biological Parents at 15 Years Old			1.022 (.359)
			0.63
Depressed for 2 Weeks			.886 (.410)
			-0.26
Log Likelihood	-198.889	-188.437	-183.630
Chi-square	1.68	22.59	31.14
Pseudo R ²	.00	.06	.08
Number of Cases	534	534	530

* *ps.*.05, ** *ps.*.01, *** *ps.*.001 • standard deviations in parentheses • z scores listed below

Table B3 • Odds Ratios for Underground Work Opportunities with Father- and Mother-Reported Incarceration using Mother-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Father-reported Incarcerated (<i>omitted=never incarcerated</i>)	1.175 (.483) 0.39 1.511	.592 (.285) -1.08 (.437)	.583 (.292) -1.078 (.488)
Mother-reported Incarcerated	1.03 ** 3.282 (1.524)	-0.10 2.078 (1.061)	0.06 2.215 (1.182)
Incarceration Unknown	2.56	1.43 1.00 (.024)	1.49 1.006 (.026)
Father's Age		0.20 3.668 (2.184)	0.23 * 3.951 (2.451)
Father's Black (<i>omitted=white</i>)		2.183 1.019 (.624)	2.22 .949 (.597)
Father's Latino		0.03	-0.08
Father's Other Race†			
Less than High School (<i>omitted=HS grad</i>)		.591 (.228) -1.36 * .301	.568 (.226) -1.42 * .341
Some College		(.147) -2.46 .595	(.176) -2.09 .657
College Graduate		(.401) -0.77 1.380	(.451) -0.61 1.398
Marital Status (1 =yes, 0=no)		(.539) 0.825 .877	(.562) 0.83 .859
City of Interview (<i>Oakland=1, Austin=0</i>)		(.291) -0.40	(.294) -0.45
No days of 5 drinks (<i>omitted=non-drinker</i>)			.522 (.237) -1.43 1.857
1-2 days of 5 drinks			(.797) 1.44 .923
3 or more days of 5 drinks			(.528) -0.14 1.521
Smoked marijuana			(.739) 0.39 .730
Father Has Problems w/Drugs			(.351) -0.66 1.247
Poor Health			(.493) 0.56 1.082
With Biological Parents at 15 Years Old			(.393) 0.22 .880
Depressed for 2 Weeks			(.420) -0.27
Log Likelihood	-156.281	-140.349	-134.892
Chi-square	6.13	25.40	35.23
Pseudo R ²	.02	.08	.12
Number of Cases	421	403	399

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • z scores listed below
† variable dropped because it predicts failure perfectly

Table B4 • Odds Ratios for Underground Work Opportunities with Combined Incarceration Variable using Mother-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted=never incarcerated</i>)	1.325 (.427) 0.87	.739 (.285) -0.79	.760 (.305) -0.68
Incarceration Unknown	** 3.267 (1.157) 2.55	2.052 (1.049) 1.41	2.222 (1.185) 1.50
Father's Age		1.002 (.024) 0.10	1.003 (.026) 0.13
Father's Black (<i>omitted=white</i>)		* 3.668 (2.170) 2.196	* 3.816 (2.340) 2.18
Father's Latino		1.024 (.625) 0.04	.945 (.591) -0.09
Father's Other Race†			
Less than High School (<i>omitted=HS grad</i>)		607 (.234) -1.30	.585 (.232) -1.35
Some College		* 314 (.153) -2.38	.358 (.184) -2.00
College Graduate		610 (.410) -0.74	.671 (.459) -0.58
Marital Status (<i>1=yes, 0=no</i>)		1.378 (.538) 0.82	1.402 (.564) 0.84
City of Interview (<i>Oakland=1, Austin=0</i>)		887 (.294) -0.36	872 (.299) -0.40
No days of 5 drinks (<i>omitted=non-drinker</i>)			.524 (.237) -1.43
1-2 days of 5 drinks			1.772 (.754) 1.35
3 or more days of 5 drinks			.918 (.526) -0.15
Smoked marijuana			1.607 (.779) 0.98
Father Has Problems w/ Drugs			.706 (.339) -0.73
Poor Health			1.251 (.494) 0.57
With Biological Parents at 15 Years Old			1.053 (.380) 0.14
Depressed for 2 Weeks			.844 (.404) -0.35
Log Likelihood	-156.301	-140.533	-135.208
Chi-square	5.82	24.76	34.32
Pseudo R ²	.02	.08	.11
Number of Cases	420	402	398

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • z scores listed below
† variable dropped because it predicts failure perfectly

Table B5 • Odds Ratios for Underground Work Opportunities with Father- and Mother-Reported Incarceration using Father-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Father-reported Incarcerated (<i>omitted = never incarcerated</i>)	** 2.314 (.713) 2.72	1.642 (.555) 1.47	1.164 (.428) 0.41
Mother-reported Incarcerated	* 2.001 (.652) 2.13 1.422	1.542 (.543) 1.23 948	1.241 (.464) 0.58 885
Incarceration Unknown	(.650) 0.77	(.458) -0.11 1.006	(.455) -0.24 1.006
Father's Age		(.019) 0.30 1.925	(.020) 0.27 2.077
Father's Black (<i>omitted = white</i>)		(.994) 1.26 1.250	(1.153) 1.32 1.416
Father's Latino		(.670) 0.42 1.051	(.806) 0.61 920
Father's Other Race		(.855) 0.06 618	(.836) -0.09 607
Less than High School (<i>omitted = HS grad</i>)		(.195) -1.52 741	(.206) -1.47 691
Some College		(.255) -0.87	(.258) -0.99
College Graduate		* 115 (.124) -2.00	123 (.137) -1.88
Marital Status (<i>1 = yes, 0 = no</i>)		* .503 (.169) -2.04	511 (.179) -1.92
City of Interview (<i>Oakland = 1, Austin = 0</i>)		1.453 (.407) 1.34	1.582 (.475) 1.53
No days of 5 drinks (<i>omitted = non-drinker</i>)			1.222 (.408) 0.60
1-2 days of 5 drinks			595 (.285) -1.08
3 or more days of 5 drinks			** 2.764 (1.104) 2.54
Smoked marijuana			1.246 (.520) 0.53
Father Has Problems w/ Drugs			** 2.383 (.751) 2.75
Poor Health			1.131 (.383) 0.36
With Biological Parents at 15 Years Old			.643 (.190) -1.49
Depressed for 2 Weeks			1.729 (.572) 1.66
Log Likelihood	-209.931	-196.002	-179.315
Chi-square	9.17	37.03	68.27
Pseudo R ²	.02	.09	.16
Number of Cases	440	440	435

p* < .05, *p* < .01, ****p* < .001 • standard deviations in parentheses • z scores listed below

Table B6 • Odds Ratios for Underground Work Opportunities with Combined Incarceration Variable using Father-Reported Data in the Sub Sample (Table 4.6)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted</i> =never incarcerated)	** 2.152 (.552)	1.570 (.448)	1.174 (.363)
	2.99	1.58	0.52
Incarceration Unknown	1.416 (.647)	.931 (.450)	.858 (.443)
	0.76	-0.15	-0.30
Father's Age		1.004 (.019)	1.004 (.021)
		0.26	0.20
Father's Black (<i>omitted</i> =white)		1.918 (.986)	2.079 (1.151)
		1.27	1.32
Father's Latino		1.232 (.656)	1.414 (.802)
		0.39	0.61
Father's Other Race		1.029 (.833)	.889 (.808)
		0.04	-0.13
Less than High School (<i>omitted</i> =HS grad)		.611 (.193)	.589 (.201)
		0.26	0.20
Some College		.730 (.250)	.678 (.253)
		-0.92	-1.04
College Graduate		* .114 (.123)	.122 (.136)
		-2.01	-1.88
Marital Status (1=yes, 0=no)		* .498 (.167)	* .505 (.177)
		-2.08	-1.95
City of Interview (<i>Oakland</i> =1, <i>Austin</i> =0)		1.469 (.411)	1.600 (.481)
		1.37	1.56
No days of 5 drinks (<i>omitted</i> =non-drinker)			1.243 (.415)
			0.65
1-2 days of 5 drinks			.583 (.280)
			-1.12
3 or more days of 5 drinks			** 2.735 (1.094)
			2.52
Smoked marijuana			1.325 (.556)
			0.67
Father Has Problems w Drugs			2.360 (.743)
			2.73
Poor Health			1.183 (.404)
			0.49
With Biological Parents at 15 Years Old			.632 (.187)
			-1.55
Depressed for 2 Weeks			1.699 (.561)
			1.60
Log Likelihood	-209.851	-195.598	-178.720
Chi-square	8.91	37.41	69.03
Pseudo R ²	.02	.09	.16
Number of Cases	439	439	434

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • z scores listed below

APPENDIX C**III. FULL REGRESSION TABLES FOR TABLE 4.8**

Table C1 • OLS Regression Coefficients for Log Earnings (Table 4.8)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted=never incarcerated</i>)	*** -1.11 (.27) -4.20 -.57	** -.69 (.28) -2.49 -.14	* -.53 (.27) -2.00 -.17
Incarceration Unknown	(.46) -1.24	(.46) -0.31 -.01	(.46) -0.38 -.01
Father's Age		(.02) -0.35 -.66	(.02) -0.28 -.56
Father's Black (<i>omitted=white</i>)		(.42) -1.56 -.24	(.40) -1.38 -.16
Father's Latino		(.43) -0.57 -.94	(.41) -0.41 -1.09
Father's Other Race		(.69) -1.37 -.42	(.67) -1.63 -.18
Less than High School (<i>omitted=HS grad</i>)		(.31) -1.36 .00	(.31) -0.58 -.00
Some College		(.34) 0.00 .89	(.34) -0.01 .81
College Graduate		(.52) 1.70 *** .98	(.50) 1.62 *** 1.07
Marital Status (<i>1=yes, 0=no</i>)		(.27) 3.61 -.24	(.26) 4.08 -.14
City of Interview (<i>Oakland=1, Austin=0</i>)		(.26) -0.92	(.25) -0.56
No days of 5 drinks (<i>omitted=non-drinker</i>)			** .78 (.28) 2.78
1-2 days of 5 drinks			** .87 (.34) 2.59
3 or more days of 5 drinks			.71 (.37) 1.93
Smoked marijuana			.25 (.39) 0.64
Father Has Problems w/Drugs			.16 (.56) 0.29
Poor Health			*** -1.48 (.30) 4.96
No Father Involvement			.20 (.26) 0.76
Depressed for 2 Weeks			-.43 (.31) -1.39
Constant	*** 9.31 (.16) 58.77	*** 9.57 (.66) 14.55	*** 9.06 (.66) 13.64
	n=417 Adj. R ² = .04	n=417 Adj. R ² = .10	n=414 Adj. R ² = .22

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

Table C2 • OLS Regression Coefficients for Weeks Worked (Table 4.8)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted=never incarcerated</i>)	*** -7.46 (1.86)	** -5.59 (1.96)	* -3.98 (1.91)
Incarceration Unknown	-4.02 ** -8.12 (3.19)	-2.86 -6.17 (3.24)	-2.08 -4.83 (3.14)
Father's Age	-2.54	-1.90 -0.01 (.13)	-1.54 .07 (.13)
Father's Black (<i>omitted=white</i>)		-0.05 * -6.22 (2.98)	0.54 -5.53 (2.87)
Father's Latino		-2.09 -2.93 (2.97)	-1.93 -1.50 (2.87)
Father's Other Race		-0.99 -8.12 (4.65)	-0.52 * -9.73 (4.56)
Less than High School (<i>omitted=HS grad</i>)		-1.72 -3.68 (2.25)	-2.14 -2.07 (2.19)
Some College		-1.64 -0.91 (2.47)	-0.94 -0.95 (2.39)
College Graduate		-0.37 -1.12 (3.65)	-0.40 -0.95 (3.56)
Marital Status (<i>1=yes, 0=no</i>)		-0.31 3.45 (1.92)	-0.27 * 3.92 (1.86)
City of Interview (<i>Oakland=1, Austin=0</i>)		0.07 * -3.87 (1.82)	2.11 -3.33 (1.76)
No days of 5 drinks (<i>omitted=non-drinker</i>)		-2.12	-1.89 3.83 (1.99)
1-2 days of 5 drinks			1.93 4.70 (2.41)
3 or more days of 5 drinks			1.95 .46 (2.67)
Smoked marijuana			0.17 2.37 (2.84)
Has Problems w Drugs			0.84 1.88 (3.81)
Poor Health			0.49 -11.86 (2.10)
No Father Involvement			*** -5.65 1.17 (1.88)
Depressed for 2 Weeks			0.62 -3.91 (2.17)
Constant	*** 42.21 (1.11)	*** 48.03 (4.61)	*** 44.05 (4.67)
	38.10	10.42	9.43
	n=419	n=419	n=415
	Adj. R ² =04	Adj. R ² =07	Adj. R ² =15

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

Table C3 • OLS Regression Coefficients for Hours Worked (Table 4.8)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted = never incarcerated</i>)	• -3.40 (1.45)	-2.93 (1.55)	•• -3.26 (1.59)
Incarceration Unknown	-2.34 (2.50)	-1.89 (2.59)	-2.05 (2.63)
Father's Age	-3.70 (2.50)	-3.16 (2.59)	-3.88 (2.63)
Father's Black (<i>omitted = white</i>)	-1.48 (2.50)	-1.22 (2.59)	-1.48 (2.63)
Father's Latino		-0.10 (.10)	.10 (.11)
Father's Other Race		0.98 (2.39)	0.96 (2.43)
Less than High School (<i>omitted = HS grad</i>)		0.01 (.30)	-0.01 (.15)
Some College		0.01 (1.76)	-0.01 (1.80)
College Graduate		0.30 (2.38)	.15 (2.43)
Marital Status (1 = yes, 0 = no)		0.13 (2.95)	0.06 (3.03)
City of Interview (<i>Oakland = 1, Austin = 0</i>)		2.39 (3.81)	1.90 (3.93)
No days of 5 drinks (<i>omitted = non-drinker</i>)		0.63 (1.76)	0.48 (1.80)
1-2 days of 5 drinks		-1.68 (1.76)	-1.36 (1.80)
3 or more days of 5 drinks		-0.96 (1.92)	-0.75 (1.95)
Smoked marijuana		.29 (1.92)	.46 (1.95)
Has Problems w Drugs		0.15 (2.95)	0.23 (3.03)
Poor Health		3.38 (2.95)	2.64 (3.03)
No Father Involvement		1.15 (1.53)	0.87 (1.55)
Depressed for 2 Weeks		.13 (1.53)	.44 (1.55)
Constant	••• 49.12 (.86)	••• 47.36 (3.70)	••• 47.23 (3.93)
	56.84	12.81	12.01
	n=423	n=423	n=419
	Adj. R ² = .01	Adj. R ² = .02	Adj. R ² = .01

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

Table C4 • OLS Regression Coefficients for Wages (Table 4.8)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted=never incarcerated</i>)	** -3.66 (1.44)	-1.02 (1.37)	-.78 (1.39)
	-2.53	-0.75	0.57
Incarceration Unknown	-3.55 (2.55)	-.26 (2.31)	-.30 (2.35)
	-1.40	-0.11	-0.13
Father's Age		.03 (.09)	.07 (.09)
		-0.34	0.78
Father's Black (<i>omitted=white</i>)		** -6.50 (2.14)	*** -6.64 (2.15)
		-3.04	-3.10
Father's Latino		** -6.39 (2.14)	** -5.98 (2.15)
		-2.98	-2.79
Father's Other Race		-6.46 (3.44)	6.81 (3.55)
		-1.88	-1.92
		-.90	-.63
Less than High School (<i>omitted=HS grad</i>)		(1.54)	(1.57)
		-0.59	-0.40
		.56	.20
Some College		(1.69)	(1.71)
		0.33	0.12
College Graduate		*** 12.97 (2.64)	*** 12.21 (2.66)
		4.91	4.59
Marital Status (<i>1=yes, 0=no</i>)		*** 5.53 (1.33)	*** 5.78 (1.34)
		4.17	4.32
		* 2.95	3.19
City of Interview (<i>Oakland=1, Austin=0</i>)		(1.27)	(2.35)
		2.32	-0.13
			2.35
No days of 5 drinks (<i>omitted=non-drinker</i>)			(1.45)
			1.62
			.71
1-2 days of 5 drinks			(1.74)
			0.41
			.07
3 or more days of 5 drinks			(1.87)
			0.04
			2.53
Smoked marijuana			(2.03)
			1.25
			-1.97
Has Problems w/Drugs			(3.09)
			-0.64
			*** -4.72
Poor Health			(1.53)
			-3.08
			.60
No Father Involvement			(1.36)
			0.44
			-.86
Depressed for 2 Weeks			(1.58)
			-0.55
Constant	*** 14.12 (.85)	*** 13.18 (3.31)	*** 11.58 (3.47)
	16.58	3.99	3.34
	n=395	n=395	n=392
	Adj. R ² = .01	Adj. R ² = .24	Adj. R ² = .25

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

Table C5 • OLS Regression Coefficients for Underground Earnings (Table 4.8)

	Model 1	Model 2	Model 3
Incarcerated (<i>omitted=never incarcerated</i>)	1422 (1931)	3371 (2186)	3668 (2298)
	0.74	1.54	0.12
Incarceration Unknown	5854 (3763)	4857 (3936)	3147 (4556)
	1.56	1.23	0.69
Father's Age		-119 (1.55)	-159 (172)
		1.77	-0.92
Father's Black (<i>omitted=white</i>)		-348 (4018)	358 (4881)
		-0.09	0.07
Father's Latino		3939 (4374)	6241 (5212)
		0.90	1.20
Father's Other Race		79 (6771)	896 (7711)
		0.01	0.12
Less than High School (<i>omitted=HS grad</i>)		204 (2601)	-1521 (2921)
		0.08	-0.52
Some College		-323 (2698)	130 (3147)
		-0.12	0.04
College Graduate		-1267 (8970)	-4073 (10560)
		-0.14	-0.39
Marital Status (<i>1=yes, 0=no</i>)		-551 (2582)	-1373 (2846)
		-0.21	-0.48
City of Interview (<i>Oakland=1, Austin=0</i>)			4331 (2306)
			1.88
No days of 5 drinks (<i>omitted=non-drinker</i>)			-1521 (2921)
			-0.52
1-2 days of 5 drinks			2893 (4268)
			0.68
3 or more days of 5 drinks			-1676 (3061)
			-0.55
Smoked marijuana			1896 (3387)
			0.56
Has Problem w Drugs			773 (4900)
			0.16
Poor Health			2641 (3046)
			0.87
No Father Involvement			329 (2382)
			0.14
Depressed for 2 Weeks			863 (2420)
			0.36
Constant	• 3296 (1365)	2526 (5799)	1989 (6795)
	2.41	0.44	0.29
	n=71	n=71	n=71
	Adj. R ² =01	Adj. R ² =03	Adj. R ² =10

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

APPENDIX D**IV. FULL REGRESSION TABLES FOR TABLES 4.9, 4.10, 4.11, 4.12 & 4.13**

Table D1 • OLS Regression Coefficients for Months incarcerated (Table 4.9)

	Model 1	Model 2	Model 3
Months Incarcerated	*** -.05 (.01)	*** -.05 (.01)	-.05 (.01)
Incarcerated (<i>omitted = never incarcerated</i>)	** -.81 (.28)	-.37 (.29)	-.21 (.28)
Incarceration Unknown	-2.88 (.46)	-1.29 (.47)	-0.74 (.44)
Father's Age	-.57 (.46)	-.12 (.47)	-.08 (.44)
Father's Black (<i>omitted = white</i>)	-1.26	-0.25 (.02)	-0.18 (.02)
Father's Latino		-.01 (.02)	.00 (.02)
Father's Other Race		-0.35 (.43)	-0.25 (.41)
Less than High School (<i>omitted = HS grad</i>)		* -.96 (.43)	* -.93 (.41)
Some College		-2.24 (.31)	-2.27 (.30)
College Graduate		-.47 (.53)	-.51 (.51)
Marital Status (1 = yes, 0 = no)		-1.09 (.68)	-1.24 (.65)
City of Interview (<i>Oakland = 1, Austin = 0</i>)		-.99 (.60)	-1.00 (.56)
No days of 5 drinks (<i>omitted = non-drinker</i>)		*** .91 (.27)	*** 1.01 (.26)
1-2 days of 5 drinks		3.40 (.26)	3.90 (.25)
3 or more days of 5 drinks		-.17 (.26)	-.11 (.25)
Smoked marijuana		-0.65	-0.43
Father Has Problems w Drugs			** .77 (.28)
Poor Health			2.76 (.81)
No Father Involvement			* .81 (.34)
Depressed for 2 Weeks			2.43 (.92)
Constant	*** 9.31 (.15)	*** 9.89 (.66)	9.33 (.66)
	59.58	15.04	14.18
	n=412	n=412	n=412
	Adj. R ² = .07	Adj. R ² = .14	Adj. R ² = .26

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • *t* scores listed below

Table D2 • OLS Regression Coefficients for Age of First Incarceration (Table 4.10)

	Model 1	Model 2	Model 3
Incarcerated at 16 Years Old or Younger (omitted=never incarcerated)	- .54 (.65)	- .34 (.63)	- .20 (.63)
	*** -2.49	-2.15	-1.79
Incarcerated between 17 and 21 Years Old	(.43)	(.44)	(.43)
	-5.73	-4.92	-4.19
	-.67	-.30	-.33
Incarcerated at 22 Years or Older	(.55)	(.54)	(.53)
	-1.22	-0.56	-0.62
		-.01	.00
Father's Age		(.02)	(.02)
		-0.57	-0.17
Father's Black (omitted=white)		• -.82	• -.85
		(.41)	(.40)
		-1.97	-2.13
		-.39	-.36
Father's Latino		(.42)	(.41)
		-0.92	-0.88
		-1.05	-1.27
Father's Other Race		(.68)	(.66)
		-1.54	-1.92
		-.47	-.36
Less than High School (omitted=HS grad)		(.31)	(.30)
		-1.52	-1.21
		-.11	-.27
Some College		(.34)	(.33)
		-0.32	-0.81
		.66	.35
College Graduate		(.52)	(.50)
		1.28	0.70
		*** .98	*** 1.06
Marital Status (1=yes, 0=no)		(.26)	(.25)
		3.74	4.17
		-.27	-.14
City of Interview (Oakland=1, Austin=0)		(.25)	(.25)
		-1.08	-0.58
			** .73
No days of 5 drinks (omitted=non-drinker)			(.28)
			2.64
			** .85
1-2 days of 5 drinks			(.34)
			2.53
			.72
3 or more days of 5 drinks			(.38)
			1.93
			.41
Smoked marijuana			(.40)
			1.05
			• -.74
Father Has Problems w Drugs			(.32)
			-2.30
			*** -1.56
Poor Health			(.30)
			-5.21
			.24
No Father Involvement			(.26)
			0.93
			-.25
Depressed for 2 Weeks			(.31)
			-0.80
Constant	*** 9.16 (.13)	*** 9.86 (.65)	*** 9.47 (.66)
	69.44	15.20	-5.21
	n=416	n=412	n=402
	Adj. R ² = .07	Adj. R ² = .14	Adj. R ² = .23

* p<.05, ** p<.01, *** p<.001 • standard deviations in parentheses • t scores listed below

Table D3 • Comparison of Employment Status with and without Fathers Interviewed in Jail with Father- and Mother-Reported Incarceration using Father-Reported Data in the Sub Sample (Table 4.11)

	Model 1		Model 2		Model 3	
	with Jailles	w/o Jailles	with Jailles	w/o Jailles	with Jailles	w/o Jailles
Father-reported Incarcerated <i>(omitted - never incarcerated)</i>	*** 111 (.034)	164 (.053)	*** .129 (.043)	*** .182 (.065)	.154 (.058)	.213 (.085)
Mother-reported Incarcerated	-7.27 .500 (.180)	-5.59 500 (.180)	-6.11 .623 (.241)	-4.76 .588 (.226)	-5.00 .690 (.291)	-3.88 .629 (.261)
Incarceration Unknown	-1.93 614 (.301)	-1.93 614 (.301)	-1.23 .992 (.544)	-1.38 776 (.400)	-0.88 1.540 (.981)	-1.12 1.219 (.721)
Father's Age			-0.02 1.008 (.021)	-0.49 1.006 (.021)	0.68 1.035 (.025)	0.34 1.028 (.025)
Father's Black <i>(omitted - white)</i>			0.38 507 (.263)	0.28 554 (.298)	1.44 359 (.209)	1.17 435 (.256)
Father's Latino			-1.31 844 (.462)	-1.10 953 (.541)	-1.76 781 (.473)	-1.42 932 (.575)
Father's Other Race			-0.31 411 (.304)	-0.85 431 (.320)	-0.41 211 (.173)	-0.11 350 (.286)
Less than High School <i>(omitted - HS grad)</i>			-1.20 1.228 (.413)	-1.13 1.261 (.438)	-1.90 1.653 (.612)	-1.28 1.782 (.678)
Some College			0.61 1.573 (.601)	0.67 1.655 (.647)	1.36 1.386 (.588)	1.52 1.507 (.645)
College Graduate			1.19 1.579 (1.076)	1.29 1.610 (1.10)	0.77 1.084 (.785)	0.96 1.094 (.785)
Marital Status <i>(1 = yes, 0 = no)</i>			0.67 1.367 (.464)	0.70 1.280 (.434)	0.11 1.721 (.639)	0.13 1.537 (.567)
City of Interview <i>(Oakland = 1, Austin = 0)</i>			0.92 * 521 (.152)	0.73 * 494 (.149)	1.46 563 (.180)	1.17 537 (.176)
No days of 5 drinks <i>(omitted - non-drinker)</i>			-2.23 1.369 (.480)	-2.33 1.369 (.480)	-1.80 1.369 (.480)	-1.90 1.125 (.405)
1-2 days of 5 drinks					0.90 1.700 (.754)	0.33 1.415 (.631)
3 or more days of 5 drinks					1.19 2.385 (1.260)	0.78 1.647 (.846)
Smoked marijuana					1.65 1.802 (.851)	0.97 1.488 (.703)
Has Problems w/ Drugs					1.25 ** 383 (.134)	0.84 * 446 (.161)
Poor Health					-2.74 *** 190 (.065)	-2.24 *** 178 (.060)
With Biological Parents at 15 Years Old					-4.85 .799 (.264)	-5.16 .979 (.315)
Depressed for 2 Weeks					-0.68 .538 (.191)	-0.67 610 (.221)
					-1.74	-1.36

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • z scores listed below

Table D4 • Comparison of Employment Status with and without Fathers Interviewed in Jail using Combined Incarceration Variable and Father-Reported Data in the Sub Sample (Table 4.11)

	Model 1		Model 2		Model 3	
	with Jailles	w/o Jailles	with Jailles	w/o Jailles	with Jailles	w/o Jailles
Incarcerated <i>(omitted = never incarcerated)</i>	*** .202 (.054)	*** .269 (.074)	*** .247 (.072)	*** .311 (.095)	*** .288 (.093)	*** .355 (.119)
Incarceration Unknown	-6.03 .592 (.291)	-4.75 .592 (.291)	-4.79 .513 (-0.12)	-3.84 .726 (.375)	-3.84 1.534 (.977)	-3.10 1.157 (.685)
Father's Age			0.90 1.003 (.020)	-0.62 .504 (.151)	0.67 1.027 (.023)	0.25 1.023 (.024)
Father's Black <i>(omitted = white)</i>			0.14 .665 (.328)	-2.28 .692 (.361)	1.20 .446 (.248)	0.96 .527 (.300)
Father's Latino			-0.83 1.102 (.574)	-0.71 1.186 (.651)	-1.45 1.005 (.582)	-1.12 1.153 (.687)
Father's Other Race			0.19 .550 (.399)	0.31 .524 (.382)	0.01 .266 (.212)	0.24 .416 (.334)
Less than High School <i>(omitted = HS grad)</i>			-0.82 1.150 (.378)	-0.87 1.142 (.394)	-1.66 1.499 (.547)	-1.09 1.601 (.607)
Some College			0.43 1.665 (.623)	0.38 1.651 (.642)	1.11 1.368 (.566)	1.24 1.456 (.616)
College Graduate			1.36 1.926 (1.290)	1.29 1.800 (1.222)	0.76 1.215 (.856)	0.89 1.176 (.835)
Marital Status <i>(1 = yes, 0 = no)</i>			0.98 1.406 (.468)	0.87 1.274 (.428)	0.28 1.801 (.661)	0.23 1.571 (.577)
City of Interview <i>(Oakland = 1, Austin = 0)</i>			1.02 .539 (.154)	0.72 .504 (.151)	1.60 .571 (.177)	1.23 .544 (.175)
No days of 5 drinks <i>(omitted = non-drinker)</i>			-2.17 0.98 1.406 (.468)	-2.28 0.87 1.274 (.428)	-1.81 1.31 1.801 (.661)	-1.89 1.061 1.571 (.577)
1-2 days of 5 drinks					0.85 1.521 (.659)	0.17 1.275 (.561)
3 or more days of 5 drinks					0.97 2.266 (1.156)	0.55 1.517 (.762)
Smoked marijuana					1.60 1.998 (.964)	0.83 1.579 (.761)
Has Problems w/Drugs					1.44 .368 (.125)	0.948 .443 (.157)
Poor Health					-2.94 .207 (.070)	-2.30 .183 (.061)
With Biological Parents at 15 Years Old					-4.68 .783 (.253)	-5.10 .998 (.316)
Depressed for 2 Weeks					-0.76 .477 (.164)	-0.01 .555 (.197)
					* -2.15	-1.66

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • z scores listed below

Table D5 • Comparison of Log Earnings Coefficients with and without Controlling for Fathers in Jail during Data Collection Year using Father-Reported Data in the Sub Sample (Table 4.12)

	Model 1		Model 2		Model 3	
	w/o Control	with Control	w/o Control	with Control	w/o Control	with Control
Incarcerated <i>(omitted - never incarcerated)</i>	*** -1.11 (.27)	* -.67 (.28)	** -.69 (.28)	-.30 (.29)	* -.53 (.27)	-.15 (.29)
Incarceration Unknown	-4.20 (.57)	-2.35 (.57)	-2.49 (.46)	-1.03 (.46)	-2.00 (.46)	-0.51 (.44)
Fathers in Jail at Some Point During Data Collection Year		-1.24 *** -2.64 (.47) -5.67		-0.31 *** -1.79 (.49) -3.65		-0.28 *** -1.51 (.47) -3.17
Father's Age			-.01 (.02)	-.01 (.02)	-.01 (.02)	.00 (.02)
Father's Black <i>(omitted - white)</i>			-0.35 (.42)	-0.47 (.42)	-0.28 (.40)	0.15 (.40)
Father's Latino			-1.56 (.43)	-1.41 (.42)	-1.38 (.41)	-1.52 (.41)
Father's Other Race			-.24 (.69)	-.16 (.68)	-.16 (.67)	-.21 (.66)
Less than High School <i>(omitted - HS grad)</i>			-0.57 (.31)	-0.37 (.31)	-0.41 (.31)	-0.51 (.30)
Some College			-.94 (.34)	.90 (.34)	-1.09 (.34)	-.93 (.33)
College Graduate			0.00 (.52)	-0.07 (.51)	-0.01 (.50)	-0.59 (.50)
Marital Status <i>(1 = yes, 0 = no)</i>			.89 (.70)	.90 (.75)	.81 (.62)	.53 (.60)
City of Interview <i>(Oakland = 1, Austin = 0)</i>			*** .98 (.27)	*** .91 (.27)	*** 1.07 (.26)	1.01 (.26)
No days of 5 drinks <i>(omitted - non-drinker)</i>			3.61 (.24)	3.39 (.16)	4.08 (.14)	3.88 (.11)
1-2 days of 5 drinks			-.24 (.26)	-.16 (.25)	-.14 (.25)	-.11 (.25)
3 or more days of 5 drinks			-0.92 (.26)	-0.64 (.25)	-0.56 (.25)	-0.43 (.25)
Smoked marijuana					** .78 (.28)	** .74 (.37)
Has Problems w. Drugs					2.78 (.34)	2.66 (.33)
Poor Health					** .87 (.34)	* .81 (.33)
No Father Involvement					2.59 (.37)	2.43 (.37)
Depressed for 2 Weeks					.71 (.37)	* .75 (.37)
					1.93 (.25)	2.03 (.33)
					.25 (.39)	.33 (.39)
					0.64 (.16)	0.84 (.16)
					.16 (.56)	* -.76 (.32)
					0.29 (.30)	-2.37 (.29)
					*** -1.48 (.49)	*** -1.44 (.48)
					.20 (.26)	.17 (.26)
					0.76 (.43)	0.65 (.43)
					-.43 (.31)	-.19 (.31)
					-1.39 (.31)	-0.61 (.31)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • standard deviations in parentheses • t scores listed below

Table D6 • Odds Ratios for Employment Status by Times Since Last Release using Father-Reported Data in the Sub Sample (Table 4.13)

	Model 1	Model 2	Model 3
1-6 Months since Last Release (<i>omitted=never incarcerated</i>)	** .226 (.126) -2.68 .538	** .216 (.126) -2.63 .596	* .239 (.161) -2.13 .509
7-36 Months Since Last Release	(.310) -1.08 .903	(.363) -0.85 .801	(.336) -1.02 .429
More than 36 Months Since Last Release	(.525) -0.18	(.493) -0.36 .999	(.304) -1.20 1.024
Father's Age		(.021) -0.05 .706	(.025) 1.01 .464
Father's Black (<i>omitted=white</i>)		(.378) -0.65 1.299	(.279) -1.28 1.169
Father's Latino		(.741) 0.46 .558	(.745) 0.25 .267
Father's Other Race		(.418) -0.78 1.042	(.224) -1.57 1.542
Less than High School (<i>omitted=HS grad</i>)		(.368) 0.12 1.621	(.608) 1.10 1.475
Some College		(.646) 1.21 2.030	(.652) 0.88 1.252
College Graduate		(1.427) 1.01 1.252	(.927) 0.30 1.637
Marital Status (1 =yes, 0 =no)		(.426) 0.66 * .530	(.615) 1.31 * .520
City of Interview (<i>Oakland =1, Austin =0</i>)		(.161) -2.09	(.172) -1.98
No days of 5 drinks (<i>omitted=non-drinker</i>)			1.223 (.456) 0.54
1-2 days of 5 drinks			1.427 (.644) 0.79
3 or more days of 5 drinks			1.707 (.899) 1.02
Smoked marijuana			1.903 (.967) 1.27
Father Has Problems w:Drugs			** .392 (.145) -2.54
Poor Health			*** .159 (.056) -5.18
No Father Involvement			.843 (.287) -0.50
Depressed for 2 Weeks			.620 (.237) -1.25
Log Likelihood	-180.971	-172.725	-147.674
Chi-square	31.06	47.55	91.86
Pseudo R ²	.08	.12	.23
Number of Cases	425	425	418

p*≤.05, *p*≤.01, ****p*≤.001 • standard deviations in parentheses • z scores listed below

APPENDIX E**V. FULL REGRESSION TABLE FOR TABLE 5.4**

Table E1 • Odds Ratios for Assortative Union Formation (Table 5.4)

	Odds Ratios for Age Difference		Odds Ratios for Education Difference		Odds Ratios for Race Difference	
	Married	Cohabit	Married	Cohabit	Married	Cohabit
Age Difference 3-5 Years	1.09 (0.25)	.94 (-0.23)				
Age Difference >5 Years	.43 (-1.92)	1.15 (0.45)				
Education Difference			1.25 (0.71)	1.11 (0.42)		
Race/Ethnic Difference					1.12 (0.24)	.78 (-0.67)
<i>Incarceration Status</i>						
Incarcerated	** .29 (-2.81)	* .54 (-1.96)	** .27 (-3.05)	* .51 (-2.11)	** .27 (-3.06)	* .49 (-2.25)
Incarceration Unknown	* .26 (-2.29)	*** .21 (-3.70)	* .24 (-2.40)	*** .20 (-3.75)	** .21 (-2.71)	*** .21 (-3.73)
City of Interview	1.47 (1.08)	.78 (-0.89)	1.40 (0.97)	.78 (-0.94)	1.42 (1.01)	.78 (-0.92)
<i>Mother's Characteristics</i>						
Age	* 1.08 (2.29)	1.00 (0.16)	* 1.10 (2.43)	1.01 (0.42)	* 1.09 (2.30)	1.02 (0.47)
Black (<i>white omitted</i>)	.47 (-0.91)	.83 (-0.30)	.39 (-1.17)	.88 (-0.21)	*** .11 (-3.80)	.48 (-1.54)
Latino	.38 (-1.42)	.69 (-0.70)	.39 (-1.43)	.72 (-0.63)	.36 (-1.78)	.80 (-0.47)
Other Race	.54 (-0.58)	1.17 (0.18)	.59 (-0.53)	1.20 (0.21)	.28 (-1.56)	.68 (-0.51)
Less than H. (<i>HIS grad omitted</i>)	.70 (-0.80)	.73 (-1.02)	.94 (-0.15)	.77 (-0.89)	.77 (-0.59)	.69 (-1.19)
Some College	1.49 (0.82)	.87 (-0.38)	1.84 (1.30)	.88 (-0.35)	1.66 (1.09)	.79 (-0.64)
College Grad	3.24 (1.44)	1.23 (0.40)	* 6.13 (2.40)	1.17 (0.22)	4.33 (1.86)	1.04 (0.06)
With both parents at age 15	* 2.24 (2.37)	1.39 (1.25)	** 2.42 (2.67)	1.41 (1.32)	2.19 (2.37)	1.33 (1.09)
Health Excellent (<i>poor omitted</i>)	.85 (-0.24)	.59 (-1.07)	.85 (-0.25)	.53 (-1.36)	.95 (-0.08)	.58 (-1.14)
Health Very Good	1.72 (0.83)	.52 (-1.38)	1.65 (0.79)	.49 (-1.53)	1.65 (0.78)	.52 (-1.39)
Health Good	1.74 (0.88)	.59 (-1.12)	1.62 (1.01)	.55 (-1.28)	1.75 (0.88)	.61 (-1.07)
One Other Child	1.25 (0.57)	1.19 (0.56)	1.15 (0.37)	1.20 (0.61)	1.27 (0.62)	1.17 (0.53)
More than One Other Child	1.35 (0.68)	1.19 (0.48)	1.20 (0.42)	1.22 (0.56)	1.30 (0.60)	1.17 (0.44)
Used Drugs/Alcohol	1.54 (0.57)	.65 (-0.78)	1.42 (0.46)	.66 (-0.74)	1.32 (0.37)	.72 (-0.57)
Smoked Cigarettes	* .29 (-2.07)	1.34 (0.83)	.24 (-2.33)	1.41 (1.00)	* .30 (-2.06)	1.27 (0.69)

<i>Father's Characteristics</i>						
Age			.99 (-0.26)	.98 (0.64)	.98 (-0.59)	.98 (-0.65)
Black (white omitted)	*.14 (-2.30)	.69 (-0.57)	*.17 (-2.10)	.69 (-0.56)		
Latino	.77 (-0.36)	1.64 (0.84)	.84 (-0.25)	1.84 (1.04)		
Other Race	.45 (-0.70)	.61 (-0.51)	.41 (-0.83)	.61 (-0.52)		
Less than H. (HS grad omitted)	** 2.88 (2.46)	1.71 (1.77)			** 3.03 (2.64)	* 1.80 (1.95)
Some College	** 3.30 (2.46)	1.63 (1.39)			* 3.21 (2.45)	1.65 (1.43)
College Grad	4.30 (1.89)	.77 (-0.34)			3.78 (1.74)	.79 (-0.30)
With both parents at age 15	.75 (-0.78)	.68 (-1.38)	.80 (-0.64)	.68 (-1.41)	.87 (-0.40)	.68 (-1.38)
Problems with alcohol or drugs	.81 (-0.45)	.48 * -2.18	.86 (-0.33)	*.47 (-2.27)	.81 (-0.46)	*.45 (-2.35)
No days of 5 or more drinks	1.41 (0.75)	** 2.50 (2.49)	1.65 (1.13)	** 2.68 (2.72)	1.46 (0.84)	* 2.46 (2.45)
1-2 days of 5 or more drinks	.82 (-0.38)	1.21 (0.45)	.95 (-0.10)	1.21 (0.44)	.96 (-0.09)	1.19 (0.42)
3 or more days of 5 drinks	.60 (-0.84)	1.68 (1.14)	.61 (0.82)	1.86 (1.40)	.59 (-0.87)	1.79 (1.29)
Smoked marijuana	*.20 (-2.05)	.96 (-0.10)	*.24 (-1.97)	.86 (-0.34)	.26 (-1.78)	.93 (0.53)
In poor health	3.21 (2.59)	1.39 (0.88)	** 3.08 (2.58)	1.44 (0.98)	** 3.42 (2.75)	1.47 (1.05)
Depressed last two weeks	.50 (-1.31)	1.24 (0.57)	.50 (-1.34)	1.19 (0.47)	.49 (-1.38)	1.22 (0.53)
Not interviewed	.89 (-0.19)	1.25 (0.54)	.98 (-0.04)	1.25 (0.54)	.98 (-0.04)	1.13 (0.30)
Log likelihood	-416.189	-416.189	-424.518	-424.518	-427.267	-427.267
Chi-square	414.33	414.33	397.67	397.67	392.17	392.17
Pseudo R-squared	.33	.33	.32	.32	.31	.31
Number of Cases	577	577	577	577	577	577

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ • z scores in parentheses