Intergenerational Risks of Criminal Involvement

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Project Summary:
The enormous increase in incarceration led to a parallel, but far less well-documented, increase in the proportion of children who grew up with a parent incarcerated at some point during their childhood. Moreover, the concentration of these incarceration trends among less educated African-Americans has resulted in a larger gulf between the early-life experiences of white and black children, which may have profound effects on their later-life chances. The implications for child well-being of policy-induced increases in the incidence of parental incarceration are not well understood.

The proposed study seeks to provide evidence on three related questions:

1) intergenerational correlations in the likelihood of criminal involvement (arrest, conviction, incarceration)
2) prevalence of parental incarceration by race/socioeconomic status, and effects of parental incarceration on child outcomes, including youth crime
3) assess importance of neighborhood and family background in influencing deviant behavior in adolescence and criminal involvement in adulthood; including analysis of intertemporal correlations of risky behaviors in adolescence and adulthood.

This project proposes to provide some of the first nationally-representative estimates of the intergenerational correlations in the likelihood of criminal involvement (arrest, conviction, incarceration)—and effects of parental incarceration on child outcomes, including youth crime. Using longitudinal data of a nationally-representative cohort of children born between 1951-1975 and followed through 2003, I estimate sibling and childhood neighbor correlations in adult risk preferences, adult criminal involvement, deviant behavior, risky health behaviors—age of onset of cigarette smoking initiation in adolescence and smoking behavior in adulthood—to assess the relative importance of neighborhood and family background on the early formation of these behaviors. I begin by using the restricted-use, geocoded version (at the neighborhood census block/tract level) of the Panel Study of Income Dynamics (PSID) and its Child Development Supplement (CDS), to produce nationally-representative estimates over the life cycle of the cumulative risk of being suspended/expelled from school, likelihood of being placed in a reform school, probability of ever being charged or convicted of a crime, and the risk of death or imprisonment. These descriptive statistics are presented separately by gender, race, education, and parental socioeconomic status.

Using the PSID-CDS, I will provide evidence on a series of important descriptive questions regarding how often white, black, and Hispanic children experience parental incarceration, how the risk has changed over the past 25 years (recent birth cohorts versus older birth cohorts from other data sources), and how this risk varies within racial/ethnic groups. I will present evidence that will bear on the question of the likelihood and extent that parental incarceration has exacerbated racial disparities in childhood and (in early) adulthood.

I find, using the PSID-CDS data, that the prevalence rates of parental incarceration at some point during childhood are significantly larger than these point-in-time estimates. In this study, the consequences for children are considered by using information collected on the timing of parental criminal/incarceration history and comparisons of changes in multiple dimensions of children's development and lives before and after the parental incarceration occurrence. These dimensions include: (a) child behavioral outcomes; (b) family economic resources—income, wealth, home ownership, parental work hours, parental education; (c) family non-economic resources—family structure, parenting behavior; and (d) neighborhood conditions.

Intergenerational Risks of Criminal Involvement

Introduction

A variety of "get tough" on crime sentencing laws passed during the decade of the 1980s, including truth-in-sentencing laws, mandatory minimum sentencing laws, and "three strikes" or habitual offender laws, were engines of growth for the escalating incarceration rates witnessed over the past three decades. Between 1980 and 2004 the number of inmates in U.S. state and federal prisons increased from approximately 320,000 to over 1.4 million. This corresponds to a change in the incarceration rate from 139 to 486 prisoners per 100,000 residents.

The enormous increase in incarceration led to a parallel, but far less well-documented, increase in the proportion of children who grew up with a parent incarcerated at some point during their childhood. Moreover, the concentration of these incarceration trends among less educated African-Americans has resulted in a larger gulf between the early-life experiences of white and black children, which may have profound effects on their later-life chances. The implications for child well-being of policy-induced increases in the incidence of parental incarceration are not well understood.

Research Aims

The proposed study seeks to provide evidence on three related questions:

1) intergenerational correlations in the likelihood of criminal involvement (arrest, conviction, incarceration)
2) prevalence of parental incarceration by race/socioeconomic status, and effects of parental incarceration on child outcomes, including youth crime
3) assess importance of neighborhood and family background in influencing deviant behavior in adolescence and criminal involvement in adulthood; including analysis of intertemporal correlations of risky behaviors in adolescence and adulthood.

Policy relevance

Paramount to a more comprehensive cost-benefit analysis of incarceration policy is the consideration of the unintended consequences of incarceration policy—i.e., beyond the intended effects of

punishment, incapacitation, and deterrence. Furthermore, the geographic incidence of these consequences must be examined on not only prisoners, but their families and the communities that disproportionately send young men to prison. The distributional consequences of incarceration have an important geographic dimension due to racial residential segregation and the fact that a relatively small number of communities account for a disproportionate number of felons sent to state and federal prison.

The societal consequences of dramatic increases in incarceration rates are intensified by the spatial concentration of imprisonment among a relatively small and compact set of predominately minority neighborhoods. Although increased incarceration rates have generally reduced crime rates, some speculate we have reached a tipping point where so many in a neighborhood are going to prison that it has begun to destabilize the community and the inmates' families left behind, and may have become a factor that increases crime (Clear, 2002). With escalating incarceration rates that achieve a certain density of current/former inmates in the community, prison may be transformed from a crime deterrent into a factor that incites an accelerated cycle of crime and neighborhood disorder. If this has the result of leaving communities too populated with people hardened by the experience of prison, have we already reached a point at which there are diminishing returns to the societal goal of reducing crime?

Previous Research

The literature in economics has focused primarily on the effects of a criminal record and interaction with the criminal justice system on subsequent employment and earnings of ex-offenders (Freeman, 1992; Grogger, 1995; Holzer, Raphael, Stoll, 2006; Western, 2002). Ludwig, Duncan, Hirschfield (2001) provide among the strongest findings to date to suggest that the behavior or characteristics of neighbors influences juvenile criminal activity. Their experimental evidence from the Move-to-Opportunity (MTO) demonstration indicate that providing families with the opportunity to move from high- to low-poverty neighborhoods has substantial effects on the prevalence and incidence of violent criminal behavior, particularly among adolescent males. Gaviria & Raphael (2001) find strong evidence of peer-group effects at the school level for drug use, alcohol drinking, cigarette smoking, church going, and the probability that the student will drop out of school in the future.

The small research literature on children of incarcerated parents suggests that parental incarceration is associated with increased aggressive behavior and withdrawal (Baunach, 1985), criminal involvement (Johnston, 1992), and depression (Kampfner, 1995), among children whose parents are imprisoned. Existing studies, however, have not been able to separately identify the causal effects of incarceration from the effects of pre-incarceration risk factors such as parental substance abuse, mental health problems, and abuse histories that may have already put the child at risk before the parent was imprisoned (Johnson and Waldfogel, 2002). It is important to bear in mind that not all children respond similarly to parental criminal involvement, incarceration risk, or neighborhood disadvantage. This point is emphasized in the developmental psychology literature, which posit dynamic interactions between characteristics of individuals and their social context over time and is implicit in research on resilience, which examines differential outcomes in the face of adversity (Rutter, 1987, 1993; Johnson and Waldfogel, 2002).

Parental Incarceration and Child Well-Being

The consequences for children of ever-increasing levels of incarceration are perhaps the least understood aspect of the potential positive or deleterious impacts of incarceration policy on families and communities. In 2000, nearly 7 percent of African-American children had an incarcerated parent, as compared with 1 percent of white children and 3 percent of Hispanic children.

The empirical analyses proposed in this paper will exploit unique features of the Panel Study of Income Dynamics (PSID). One key aspect used is the information on parental histories of criminal involvement and risky behaviors that might influence children's adoption/early formation of these behaviors. There is a paucity of nationally representative longitudinal data sets with information on both children and their parents that is large enough to have a reasonable sized subset of children with parents with a criminal history—the PSID is a rare exception.

There are a myriad of ways in which parental incarceration may compound disadvantage. It may 1) increase the probabilities of growing up poor and/or with a single parent; or 2) elevate the risk of criminal involvement and incarceration later in life for children of the incarcerated (prison boom). There

are a variety of potential mechanisms through which parental incarceration may affect child outcomes including economic instability, living-arrangement instability, parental attachment issues, role model effects, to name a few. A primary goal of this research is to identify the reduced-form effects, not separately identify the pathways.

I will present evidence that will bear on the question of the likelihood and extent that parental incarceration has exacerbated racial disparities in childhood and (in early) adulthood. Even the direction of the predicted impacts on children is not clear theoretically. The incarceration of an abusive or negligent parent may benefit children and contribute to a more nurturing environment. On the other hand, the incarceration of a parent may be a traumatic event in the life of a child that has deleterious impacts on subsequent emotional and behavioral outcomes.

This project proposes to provide some of the first nationally-representative estimates of the intergenerational correlations in the likelihood of criminal involvement (arrest, conviction, incarceration)—and effects of parental incarceration on child outcomes, including youth crime.

This study will also be among the first longitudinal child-outcome studies that examines the role of pre-incarceration risk factors and children's living arrangements, parent-child relationships and substitute caregiver-child relationships, to help to determine the impact of parental incarceration on families and children. Understanding if and how parental absence due to incarceration differs from separation, due to parental divorce or death, may prove instrumental in designing interventions with families where a parent is incarcerated (Johnson and Waldfogel, 2002).

Youth Risky Behavior

The Influence of Socioeconomic Environments

An important contributor to socioeconomic dimensions of inequality in adulthood is differences in the nature of risk-taking behaviors as youths (Gruber, 2000). Risky decisions made in adolescence are significant determinants of adult socioeconomic status attainments. Because
the early onset of risky behaviors are early antecedents of criminal involvement, there is a

critical need to identify their causal determinants and later-life consequences on adult socioeconomic success. My interest is to understand the changes of youth risk-taking and their long-run implications for well-being.

Youth engage in risky behaviors that not only reflect their perceived life chances, but also have causal impacts on the degree of realized success in adulthood outcomes such as long-run health, education, earnings, and family structure. This study will build on the recent research findings of Harris, Duncan, Boisjoly (2002) to explore the theory that a "nothing to lose" attitude, which ferments in high crime/ poverty neighborhoods, predicts greater involvement in risky behaviors. In this paper, I will investigate the role of parental schooling/educational expectations of their children on the children's subsequent later-life outcomes (including the propensity to engage in risky behaviors, deviant behavior and criminal involvement). I will also attempt to disentangle the influence of the youth, parental factors, peer and role model effects, and other dimensions of neighborhood and school quality.

The Influence of Risk Preferences

Risk preferences shape a variety of individuals' behavioral choices and their life chances. Youth who engage in high-risk behaviors are significantly more likely to do so as adults. Thus, analysis of risk preference formation and how they are shaped by childhood neighborhood influences has far-reaching implications and may contribute to our understanding of the emergence of the spatial clustering of a wide array of seemingly different phenomena, such as criminal activity, health-related behaviors, substance abuse, poor health outcomes, educational attainment, age of onset of adolescent sexual activity, sexually-transmitted disease, out-of-wedlock births, low earnings.

A motivation of this work is to demonstrate that risky behaviors in adolescence are responsive to an array of factors that influence an adolescent's neighborhood/school/family environments. Moreover, the confluence of these environmental contexts has not only contemporaneous impacts on youth behavior, but also has long-run implications on long-term risk taking behavior and well-being in adulthood. The negative externalities that accompany youth risky behaviors have implications for the development and implementation of more effective policy interventions.

Endogenous Risk Preference Formation and Neighborhoods

Analysis of endogenous preference formation—i.e., how space and community influence individual perceptions, aspirations, and opportunities—may illuminate a common underlying process. The key insight is that all of these choices can be viewed in an investment framework—whether health, human capital, or financial investment. Thus, it is important to investigate the effects of neighborhood context in shaping risk-taking and rate of time preference parameters, because these parameters are determinants of these outcomes.[1] Simple "culture of poverty" explanations in which individuals do not respond to incentives and opportunities are incomplete because the ways in which neighborhood context shapes preferences, beliefs, and constraints are not considered. The conceptual framework adopted for this paper will extend standard human capital model to joint human investment (education) and disinvestment (risky behavior) and will examine the interaction between education and risky behaviors that lead to criminal involvement (Levy-Garboua, Loheac, Fayolle, 2006).

The perspective developmental psychologists contribute to the model of risk taking is that the decision to engage in risky behaviors is determined by "cognitive" development (how people think about the world), "affective" development (how people feel about the world), and "social" development (the roles that neighborhood, school, and peer influences play in youth choices) (Fischoff, 1992).

Predictors of Risky Behavior

In this paper, I examine risk preferences and risky behaviors, including criminal involvement, deviant behavior, and early onset of smoking. One of the strongest predictors of adult substance use problems is early onset of substance use. Previous research on early cigarette use has focused on individual- and family-level factors, documenting a significant relationship between family socioeconomic status and young people's likelihood of smoking. There are differing views regarding whether these health behavioral patterns reflect a health lifestyle orientation or are responses to behavioral incentives resulting from neighborhood contextual-level pressures. Neighborhood conditions, such as the proliferation of liquor stores, the availability of nearby facilities, or fear of crime/violence, may make it

more or less costly to undertake health-promoting behavior. These health-behavior habits are formed to a large degree in childhood/adolescence.

An examination of sibling and child neighbor correlations in criminal involvement and risky health behaviors can be used as an omnibus measure of the overall importance of family background and neighborhood background in influencing criminality and risky health behaviors. Models of both criminal participation and health behaviors have in common a focus on individual-level risk factors. The atomistic view of crime—that decisions to engage in crime are products of the likelihood and degree of punishment if caught, independent of the context in which they live—is detached from the influence that neighborhood social environments have on individuals' preference formations and perceptions of the benefits/costs of certain behaviors. The underlying assumption in this individual-centered approach has been that the causes of crime or risky health behaviors can be found at the individual level.

What is needed, however, is a more systematic investigation of the causes of the spatial pattern of crime and risky health behaviors, to include factors at multiple levels (i.e., the multi-level determinants: neighborhood, family, individual). As well, there is a need for a closer examination of the role of incarceration policy and its impact on the spread of these phenomena affecting the health of communities. In modeling both phenomena—crime and risky health behaviors—it is crucial to incorporate the fact that the probability of an individual developing an outcome depends in part on the prevalence of the outcome of the group to which s/he belongs and the potential impacts of cycling many inmates in and out of crowded urban communities.

This paper considers endogenous risk preference formation and risky behaviors that are correlates of adult criminal involvement and lead to interaction with the criminal justice system. Prior research has documented strong intertemporal linkages between risky behaviors as youths and as adults. For example, intertemporal correlations in early-onset of risky behaviors in adolescence and adulthood have been shown for juvenile delinquency and adult criminal involvement, early-onset of smoking and substance abuse in adulthood, unprotected sex and out-of-wedlock births, and other addictive behaviors.

Simple intertemporal correlations between youth and adult risky behaviors are difficult to interpret because they may not reflect habit formation through youth participation, but may instead be driven by heterogeneity across individuals that cause some persons to participate in crime/risky activities at all ages and others to never participate at any age (Gruber, 2000; Cook and Moore, 2000). In models of peer effects, even small shifts in neighborhood/school/family environment can rapidly propagate through the entire population (through "peer multiplier" effects). An aim of this work is to disentangle the influence of the youth, parental factors, peer and role model effects, and other dimensions of neighborhood and school quality. There are well-known identification problems in the estimation of neighborhood effects and econometric difficulties with disentangling neighborhood effects from omitted factors that might be influencing the individual's decision (Manski, 1993). For example, if smoking rises among one's peers and s/he also smokes more, is this the results of a peer influence or some omitted neighborhood change that is simultaneously impacting both the individual and his/her peers? The empirical strategy proposed in this paper will contribute to distinguishing between these alternative explanations and the identification of the habit component and our understanding of the extent to which changes in the underlying environment facing youths affects their propensity to engage in crime and other risky behaviors.

The Data: PSID

I will attempt to utilize a variety of data sources for this empirical investigation. The primary data source will be the Panel Study of Income Dynamics (PSID). A unique key feature of this data is the information on parental histories of criminal involvement and risky behaviors that might influence children's early formation of these behaviors. There is a paucity of nationally representative longitudinal data sets with information on both children and their parents that is large enough to have a reasonable sized subset of children with parents with a criminal history—the PSID is a rare exception. Roughly one-third of adolescents in the CDS sample have a family member with an incarceration history.

Our data on siblings and childhood neighbors come from the PSID, a nationally representative longitudinal survey conducted by the University of Michigan's Institute for Social Research. The PSID

began by interviewing a national probability sample of families in 1968 and has re-interviewed the members of those families every year since. The PSID used a "cluster sample" (i.e., several households were selected in the same vicinity, usually within a block or two of each other) when it started in 1968 in order to economize on interviewing costs. This design effect is typically a liability in statistical analyses because one has to account for non-independence across individuals within the same cluster. But for our purposes the clustering provides the unique opportunity to examine criminal behavior outcomes for adults who were childhood neighbors in 1968. Moreover, because all 1968 family members within a given family are followed throughout their lives, we can examine the similarity in criminal involvement over the life-course of both siblings and childhood neighbors.

In our analyses, we define the neighborhood of upbringing as the census block where the child lived in 1968. Census tracts typically comprise approximately 5000 people, and due to the cluster design, respondents in urban areas may have lived just a city block apart. In rural areas, the families were spread farther apart, but still were among each other's closest neighbors due to the cluster design. The PSID cluster design is discussed in greater detail in Solon et al. (2000).

Using longitudinal data of a nationally-representative cohort of children born between 1951-1975 and followed through 2003, I estimate sibling and childhood neighbor correlations in adult risk preferences, adult criminal involvement, deviant behavior, risky health behaviors—age of onset of cigarette smoking initiation in adolescence and smoking behavior in adulthood—to assess the relative importance of neighborhood and family background on the early formation of these behaviors.[2] I begin by using the restricted-use, geocoded version (at the neighborhood census block/tract level) of the Panel Study of Income Dynamics (PSID) and its Child Development Supplement (CDS), to produce nationally-representative estimates over the life cycle of the cumulative risk of being suspended/expelled from school, likelihood of being placed in a reform school, probability of ever being charged or convicted of a crime, and the risk of death or imprisonment. These descriptive statistics are presented separately by gender, race, education, and parental socioeconomic status. Where possible, these prevalence estimates

are compared with previous research that has used other data sources, including the NLSY, BJS data, and the Fragile Families data.

Using the PSID-CDS, I will provide evidence on a series of important descriptive questions regarding how often white, black, and Hispanic children experience paternal incarceration, how the risk has changed over the past 25 years (recent birth cohorts versus older birth cohorts from other data sources), and how this risk varies within racial/ethnic groups. Few empirical estimates of this kind exist (Wilderman (2006) is one exception).

I find, using the PSID-CDS data, that the prevalence rates of parental incarceration at some point during childhood are significantly larger than these point-in-time estimates. In this study, the consequences for children are considered by using information collected on the timing of parental criminal/incarceration history and comparisons of changes in multiple dimensions of children's development and lives before and after the parental incarceration occurrence. These dimensions include: (a) child behavioral outcomes; (b) family economic resources—income, wealth, home ownership, parental work hours, parental education; (c) family non-economic resources—family structure, parenting behavior; and (d) neighborhood conditions.

Armed with this array of information, the PSID-CDS is uniquely suited to consider the impacts of parental criminal/incarceration history on adolescent outcomes, and this work is among the first studies to analyze the intergenerational transmission of risks of imprisonment. The child behavior problems index that will be analyzed as an outcome has been shown to be a predictor of juvenile crime. Where data permits, I will utilize multiple informants of child behavior. The role of neighborhood conditions will be examined. In a subset of analyses I will estimate four-level hierarchical random effects models (with nested levels: neighborhoods, families, individuals, over time) and will consider the role of spatial autocorrelation in analyzing neighborhood-level factors.

I use new, experimental data from a 1996 supplement to the PSID to explore the extent to which an index of risk tolerance measured in adulthood is correlated between siblings and correlated between childhood neighbors. Our measure of risk tolerance is developed from a series of questions asked of

respondents about the circumstances under which they would take different hypothetical gambles. The PSID risk tolerance measures are computed from an identical set of questions to those used by Barsky et al. (1997), who show that these measures predict risky behaviors, including smoking, by respondents in the Health and Retirement Survey (HRS).[3] Our estimates indicate that roughly one-quarter of males in our sample have high risk tolerance.

This analysis is the first to investigate both the effects of neighborhood context on the age of onset of cigarette smoking initiation in adolescence, and the effects of the neighborhood of upbringing on the subsequent smoking behavior of these same individuals in adulthood. Among individuals who have ever smoked cigarettes regularly, two-thirds began smoking before age 19 (based on the PSID). Roughly half of both males and females in our sample had ever smoked cigarettes. The average age corresponding to our measure of smoking behavior in adulthood is 40. Twenty-seven percent of males and 22% of females in our sample currently smoke in adulthood.

After investigating contextual-level effects on the age of onset of cigarette smoking initiation in adolescence, I then estimate sibling and childhood neighbor correlations in subsequent smoking behavior in adulthood. These results have implications for the importance of neighborhood context in shaping the early formation of addictive health behaviors that persist throughout adulthood.

The PSID is the only survey that contains information on adult risk preferences, criminal and risky-health behaviors, the neighborhood in which the person grew up, along with the same information on that individual's siblings and childhood neighbors. In addition, the PSID over-sampled minority and low-income families, which generate sufficient medium to high poverty neighborhoods that allow investigation of nonlinear neighborhood effects. I will investigate whether neighborhood effects are linear or emerge only at some threshold, such as high poverty concentrations. Similarly, I will also examine differential impacts of neighborhood effects by race/ethnicity and parental education.

I examine the effects of parental incarceration on children's educational and behavioral outcomes using data from the Child Development Supplement to the PSID, allowing for differential impacts for

father's and mother's incarceration. These data include a rich set of variables related to both the mother and the child, including parental criminal history and a set of standardized child cognitive assessments. An example of a potential source of omitted variable bias considered in the regression analysis is that a drop in family income could lead both to a child experiencing lower levels of development investment and to a parent engaging in crime. I will explore child- and sibling fixed effect models to address the presence of time-invariant heterogeneity that may be correlated with both parental incarceration and child outcomes.

I will employ an instrumental variables approach to address the endogeneity of parental incarceration using variation across states over time in incarceration rates and sentencing policy reforms as instruments for parental incarceration. The main source of information I will employ about crime in the U.S. comes from the Federal Bureau of Investigation's Uniform Crime Reports (UCR), geocoded to the zip code level. I will use annual prison admission and release data at the county level, and will merge on data of neighborhood characteristics over time from the Census and other sources. To address methodological issues regarding simultaneity bias between changes in incarceration and changes in crime, I will attempt to use sentencing policy reforms as an instrumental variable approach to isolate the discretionary portion of arrests that is not related to changes in crime.

This study will identify some potential unintended negative consequences for children of incarceration policies designed to "get tough" on crime. A key goal of social welfare policy in the U.S. should be to "break the cycle" of poverty and unemployment from one generation to the next. It is only by following the children of at-risk parents, that we can know whether their developmental trajectories point toward a brighter economic future than the one their own parents once faced. Our long-run study is uniquely positioned to assess this important issue.

Endnotes

[1] This represents a significant departure from simplistic assumptions embodied in Tiebout sorting of exogenous preferences into neighborhoods with homogeneous preferences within neighborhoods.

[2] The adult sample consists of original sample PSID males born between 1951-1975 who answered the criminal history questions in the 1995 wave of the PSID or were positively identified as incarcerated in any wave of the survey between 1968 and 2003 (blacks N=920; whites N=1250).

[3] The questions in the PSID are as follows: "Suppose you had a job that guaranteed you income for life equal to your current, total income. And that job was (your/your family's) only source of income. Then you are given the opportunity to take a new, and equally good job with a 50-50 chance that it will cut your income by one-third, or, on the other hand, it could double your income with a 50-50 probability. Would you take that new job?" Based on the response to that question, the PSID asks follow-ups about jobs that double their income with a 50 percent probability or either cut your income by 10%, 20%, 50%, or 75% with a 50 percent probability. The risk aversion questions were only asked of 1996 PSID household heads who were working. Assuming a CES utility function and correcting for measurement error, PSID respondents can be sorted into four distinct levels of risk tolerance (high risk tolerance, medium risk tolerance, low risk tolerance, and very low risk tolerance), based on their responses to these questions. Barsky et al. (1997) summarize the procedure on how the risk aversion parameters are computed using the HRS data. The same procedure was used to compute the risk aversion measures using the PSID data (Luoh & Stafford, 2001). Assuming CES preferences, the four categories (high risk tolerance, medium risk tolerance, low risk tolerance, and very low risk tolerance) correspond to estimated risk aversion measures of 1.75, 2.86, 3.57, and 6.67, respectively (Barsky et al., 1997).

References

Baunach, Phyllis J. (1995). *Mothers in prison*. New Brunswick, NG: Transaction Books.

Barsky, Robert B., F. T. Juster, M. S. Kimball and M. D. Shapiro. 1997. "Preference Paramaters and Behavioral Heterogeneity: An Experimental Approach in the Health and Retirement Study". *The Quarterly Journal of Economics*. May, 112(2): 1937-1996.

Freeman, Richard. 1992. Crime and the Employment of Disadvantaged Youth, in *Urban Labor Markets and Job Opportunity*, Peterson, George and Wayne Vroman (eds.), Urban Institute: Washington, DC., 171-192.

Gaviria, Alejandro and Steven Raphael. 2001. School-based peer effects and juvenile behavior. *The Review of Economics and Statistics*, MIT Press, May, 83(2): 257-268.

Grogger, Jeffrey. 1995. The effect of arrests on the employment and earnings of young men. The *Quarterly Journal of Economics*, February, 110(1): 51-71.

Gruber, Jonathan 2001. *Risky Behavior Among Youth: An Economic Analysis* (edited volume). University of Chicago Press.

Hagan, John and Ronit Dinovitzer. "Collateral Consequences of Imprisonment for Children Communities, and Prisoners". *Crime and Justice*, Vol. 26. 1999.

Holzer, Harry, Steven Raphael, and Michael Stoll. Perceived criminality, criminal background checks and the racial hiring practices of employers. *Forthcoming* in *The Journal of Law and Economics*.

Johnson, Elizabeth Inez and Jane Waldfogel. "Children of incarcerated parents: Cumulative risk and children's living arrangement". JCPR Working Paper #306. Chicago: Joint Center for Poverty Research, Northwestern University/University of Chicago. July 17, 2002.

Johnston, Denise. "Effects of Parental Incarcerations" in Katherine Gabel and Denise Johnston, M.D. eds., *Children of Incarcerated Parents*, Lexington Books. 1995.

Kampfner, Christina J. "Post-traumatic stress reactions in children of imprisoned mothers" in Katherine Gabel and Denise Johnston, M.D. eds., *Children of Incarcerated Parents*, Lexington Books. 1995.

LaLonde, Robert J. and Susan M. George. *Incarcerated Mothers: The Chicago Project on Female Prisoners and Their Children.* The Irving B. Harris Graduate School of Public Policy Studies, University of Chicago. June 2002.

Lévy-Garboua, Louis, Lohéac, Y., and B. Fayolle. 2006. Preference formation, school dissatisfaction and risky behavior of adolescents. *Journal of Economic Psychology*, 27: 165-183.

Manski, Charles F. 1993. "Identification of Endogenous Social Effects: The Reflection Problem". *The Review of Economic Studies*. 60(3): 531-542.

Moore, Quinn, and Heidi Shierholz . Externalities of Imprisonment: Does Maternal Incarceration Affect Child Outcomes? Unpublished manuscript.

Raphael, Steven. 2005. "The Socioeconomic Status of Black Males: The Increasing Importance of Incarceration." In *Poverty, the Distribution of Income, and Public Policy*, edited by Alan Auerbach, David Card, and John Quigley. New York: Russell Sage.

Solon, Gary, Marianne Page, and Greg Duncan. 2000. "Correlations between neighboring children in their subsequent educational Attainment". *The Review of Economics and Statistics*. 82(3): 383-392.

Western, Bruce. 2002. "The Impact of Incarceration on Wage Mobility and Inequality." *American Sociological Review* 67: 526-546.

Wildeman, Christopher. 2006. Paternal incarceration, the prison boom, and the concentration of disadvantage. Unpublished manuscript.

Table 1: Cumulative Risk of Criminal History, Imprisonment, or Death by Ages 35 - 40, by Race & Education

Men born b/w 1951-1975, Data: PSID*

	All	HS Dropout	HS Grad/GED	All Non-college	Some College+
Cumulative Risk of Death or Imprisonment (%)					
Black Men	27.20	51.18	27.76	34.61	13.14
White Men	13.49	43.16	14.98	21.52	6.15
Cumulative Risk of Imprisonment					
Black Men	22.76	42.42	24.25	29.32	10.98
White Men	10.45	32.03	12.51	16.56	5.11
Cumulative Risk of Criminal History**					
Black Men	26.64	43.61	27.27	31.83	17.34
White Men	16.42	36.09	19.81	23.19	10.51
Cumulative Risk of Deviant Behavior***					
Black Men	39.17	50.21	42.18	44.42	29.76
White Men	24.94	50.65	30.42	34.62	16.48

*The sample consists of original sample PSID males born between 1951-1975 who answered the criminal history questions in the 1995 wave of the survey OR were positively identified as incarcerated in any wave of the survey between 1968 and 2003. (blacks N=920; whites N=1251)

**"Criminal history" is defined as ever charged with a crime and/or incarcerated for a crime.

***"History of deviant behavior" defined as ever charged with a crime, incarcerated for a crime, or suspended/expelled from school.

All descriptive statistics are sample-weighted to account for the oversampling of blacks and low-income families, to generate nationally-representative estimates.