

**FATHERS BEHIND BARS:
THE IMPACT OF INCARCERATION
ON FAMILY FORMATION**

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Fathers Behind Bars:
The Impact of Incarceration on Family Formation¹

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Increases in divorce and non-marital childbearing have dramatically altered children's living arrangements and access to parental resources. Whereas in 1960, the vast majority of children lived with both of their biological parents from birth to adulthood, by 2000 less than half of all children were expected to grow up with both parents (Bumpass and XX). Today, a third of all births in the U.S. are to unmarried parents, and many of these children will never live with their fathers (Ventura 1995).

Not only have children experienced substantial declines in parental resources, their access to public resources have declined as well. Cash transfers to disadvantaged households have been discredited as an instrument of social welfare. In 1996, the Federal government abandoned it's national standard for public assistance by replacing Aid for Dependent Children with Temporary Assistance for Needy Families. The new welfare law shifts responsibility for children from government to parents by limiting cash assistance to single mothers and by forcing non-resident fathers to pay child support. Although the shifting policy climate targets single mothers, the burden of welfare reform falls on children. Not surprisingly, child poverty rates have remained stubbornly high despite unprecedented prosperity throughout the economy as a whole.

Although welfare policies seek to encourage marriage and increase parental responsibility, parallel developments in our criminal justice policies have had the opposite effect. Criminal sentences have become more punitive, imposing long terms of incarceration on drug offenders and third-time felons. Under this new sentencing regime, the US penal system grew by nearly 700,000 between 1990 and 1998 to include more 1.8 million inmates (Gilliard 1999). These aggregate figures conceal enormous racial disparity. Incarceration rates for African Americans are about seven times higher than those for whites. Estimates indicate that 12.1% of black men aged 20 to 35 were behind bars on an average day in 1996 (Western and Pettit forthcoming). Figures based on 1991 incarceration rates indicate that 28.5% of black men will spend time in prison at some time in their lives compared to a lifetime risk of 4.4% for white men (Bonczar and Beck 1997). Insofar as incarceration is concentrated among young poorly-educated minority men, the expansion of the penal system over the last two decades emerges as a key suspect in explaining the growing number of single-parent families in disadvantaged communities. Incarceration is likely to deter family formation both directly, by making it more

difficult for fathers to live with their children, and indirectly, by reducing fathers' employment prospects and earnings capacity. Both outcomes discourage marriage and family formation.

In this paper we use data from a new survey, the *Fragile Families and Child Wellbeing Study*, to examine the relationship between incarceration and family structure among new parents. The analysis looks at how incarceration patterns influence cohabitation and marriage one year after the birth of a child. While other data sets provide information about marriage and cohabitation among new parents, the Fragile Families Survey is unique in offering a detailed picture of the criminal justice history of a sample of new fathers, including a large sample of unmarried fathers. An analysis of these data thus provides an important first step in assessing the impact of incarceration on family formation among low-income parents.

The Rise in Incarceration

Before discussing the relationship between incarceration and family structure, we provide some background by detailing the increase in incarceration in the United States. Throughout the first seven decades of the twentieth century, incarceration rates remained roughly constant. The proportion of people in prison remained at around .1% of the U.S. population. Rapid increase in the incarceration rate began in the early 1970s. By 1980, the incarceration rate had increased to .15% of the population. The growth of the penal system accelerated after this point and by 1998 nearly .45% of the population were housed in state or federal prisons. This understates the true extent of the penal system because it ignores inmates detained in local jails while awaiting trial or serving short sentences. The most recent figures indicate that the total incarceration rate is .67% (BJS 1999). Prison and jail inmates are overwhelmingly male implying that well over 1% of the adult male population is currently behind bars. In a comparative survey of incarceration rates around the world, Mauer (1998, 23) found that only Russia exceeds the United States in the use of imprisonment. While easily surpassing the incarceration rates of Western Europe, the United States also imprisons a significantly larger proportion of its population than Singapore, China, Poland, and South Africa.

A striking feature of the expansion of the US penal system is the extraordinary incarceration rates recorded by young minority men (Western

and Pettit forthcoming). In 1982, the incarceration rate for white men aged 20 to 35 was .83% compared 5.52% for young black men. By 1996, the same white incarceration rate had increased to 2.05% while 12.18% of young black men were in prison or jail. Among young male high school dropouts, the black incarceration rate was 36.30% in 1996 compared to 7.39% for whites. More young black low-education males were in prison or jail on average day in 1996 than were in paid employment. Indeed, prison and jail steadily eroded employment rates among young unskilled black men through the 1990s, despite rising employment rates throughout the labor market as a whole.

Why has incarceration in America increased so dramatically? Criminologists suggest that much of this growth is due to tougher sentences for repeat offenders and the increased likelihood of custodial sentences for drug offenders. Long sentences for repeat offenders have increased the average time served. Three strikes laws, truth in sentencing provisions, and the abandonment of parole boards have all increased the duration of prison sentences, raising incarceration rates by as much as 36% between 1980 and 1996 (Blumstein and Beck 1999, 43). The intensified policing and prosecution of drug offenders has been particularly spectacular. The incarceration rate for drug offenses today is now comparable to the total rate of incarceration that prevailed in the United States over much of the past century. Although the link between drugs and criminal behavior is often claimed (Boyum and Kleiman 1995), crime rates are not strongly related to trends in incarceration. The analysis of Blumstein and Beck (1999) attributes just 10% of the rise in state imprisonment between 1980 and 1996 to patterns of offending. By contrast, more the 50% of the rise in imprisonment is traced to the use of custodial sentences, particularly for drug offenders.

The rise in incarceration thus involves a massive institutionalization significantly affecting young, poorly educated, minority males. This expansion of the penal system does not appear to be strongly related to crime rates but is instead rooted policy shifts closely connected with Federal and state governments' "war on crime" and war on drugs."

Incarceration and Family Structure

The impact of male incarceration on parental relationships and child wellbeing has received little systematic empirical study (Hagan and Dinovitzer 1999). However, other research on the post-release experiences of ex-inmates suggests how incarceration may influence family structure.

The most obvious consequence of incarceration is its incapacitative effect. Incapacitation commonly refers to criminals' inability to commit crimes while detained in prison (Zimring and Hawkins 1995). We can expand this idea to consider a variety of positive social functions that inmates would perform, if released. If the incarceration rate were lower, many of those currently in prison might otherwise have held jobs and contributed to the support of families. Around 20% of male state prison inmates are married, so about 260,000 couples were separated by incarceration in 1998. The estimate is conservative because it ignores marital disruption through jail time or among female inmates (currently about 6% of the total prison population). The incapacitative effect of incarceration on children is even larger. According the 1991 Survey of Inmates of State Correctional Facilities, 56% of state prison inmates have children under age 18. If this proportion remained constant about 730,000 fathers were nonresident in 1998 due to their incarceration. Many of these fathers have more than one child. Thus recent studies find that 1.5 million children have a parent in prison (Hagan and Dinovitzer 1999, 137). The total prison population grew at an annual rate of 6.7% in the 1990s, underlining a dramatic expansion of the number of families caught in the web of the penal system.

Incapacitation describes the immediate effect of prison detention, but the impact of incarceration also continues well after release. Incarceration is a watershed event that can disrupt key life course transitions setting in a motion a downward spiral of accumulating disadvantage (Sampson and Laub 1993). The stigma of incarceration can produce strong feelings of shame and anger, both for inmates and their families (Hagan and Dinovitzer 1999, 126-127). Incarceration is thus likely to be a significant shock to family relationships, contributing to marital strain among ex-inmates. Among unmarried men, the stigma of incarceration also shrinks the pool of possible partners. Thus counties with large population returning prisoners have large numbers of female-headed families (Sabol and Lynch 1998). Ethnographic research also suggests that single mothers are reluctant to marry or live with fathers

of their children if the father has a history of incarceration (Edin 2000; Waller 1997).

The impact of incarceration on family formation would be especially severe where prisons have a criminogenic effect on inmates. In this scenario, prisons serve as entry points for careers in crime. If the prison experience made men more prone to violence or abuse, incarceration would have large negative effects on family welfare. The criminogenic effects of the prison, however, are hotly contested. Evaluation research indicates that criminogenic effects - or least recidivism - can be reduced by well-designed treatment programs (Gaes, Flanagan, Motiuk and Stewart 1999). Resources for rehabilitation are scarce in the current policy context. For instance, while three-quarters or more of all state prison inmates require substance abuse treatment, only 13% of inmates will be in some kind of program during their prison term (McCaffrey 1998). When prison overcrowding creates pressure to cut the costs of corrections, many state legislatures have been unwilling to expand resources for prisoner services. Deteriorating conditions inside prisons may thus be raising the social costs of incarceration after release.

Whatever the criminogenic effects of prison, there is reasonable evidence that incarceration reduces the employment and earnings of ex-inmates. Studies of administrative data and unemployment insurance records find relatively large but temporary effects of incarceration on employment and earnings (Grogger 1992; Kling 1999). While these studies usefully examine longitudinal data on legitimate earnings, the analyses provide no comparison with the un-convicted general population. Social survey data offer the opportunity of comparing ex-inmates to those that have never been incarcerated. Results from survey data tend to find larger economic penalties associated with prison time. Analysis of data from the National Longitudinal Study of Youth (NLSY) shows that juvenile detention can have extremely persistent negative effects on employment. Freeman (1991) reports that respondents serving time as juveniles experience an unemployment penalty of about 10 weeks in the year, up to eight years after juvenile detention. Using more recent data, Western and Beckett (1999) show that employment among NLSY respondents is almost 10% lower among juvenile detainees, 10 years after the original spell of incarceration, even controlling for accumulated work experience and adult incarceration. In this analysis the impact of juvenile incarceration was three times larger and more persistent than the employment effect of adult

incarceration. Researchers argue that these negative economic effects may be due to employer discrimination against ex-inmates or the erosion of human capital during spells of prison time.

How does this research inform the study of family formation? The decision of low-income mothers to marry or remarry depends in part on the economic prospects, social respectability, and trustworthiness of their potential partners (Edin 2000). Incarceration undermines all these qualities. Ex-inmates tend to be low-earners with irregular employment records. The stigma of incarceration significantly reduces the social status of young men and signals their unreliability to possible marriage partners. In short, incarceration has potentially devastating consequences for the marriage markets of communities with high incarceration rates.

While the behavioral and economic effects of incarceration may disrupt family relationships, we must also consider the possibility that criminal conviction simply identifies those with few economic or social prospects. Prison time may be subject to endogeneity in which incarceration selects those unlikely to be married or at high risk of divorce or separation. The problem of endogeneity is central to much of the research on incarceration and employment. Thus analyses of panel data have tried to adjust for fixed or random effects, and instrumental variables have been used to identify the exogenous component of incarceration (Freeman 1991; Western and Beckett 1999; Kling 1999).

Although endogeneity certainly poses a threat to causal inference we caution that this threat may be overstated in the current policy climate. The incarceration rate has increased threefold in the two decades since 1980. There is little support for the idea that criminal behavior is driving the rise in incarceration. Instead, it appears that the exogenous influence of criminal justice policy is now capturing new kinds of offenders who would not have been detained earlier under a less punitive sentencing regime. The endogeneity of imprisonment to criminal and other anti-social behavior is thus likely to be weaker now in the period of mass incarceration.

Table 1. Characteristics of male state prison inmates, all noninstitutional men aged 18-45, and noninstitutional black and Hispanic men aged 18-45 (CPS men), 1979 and 1991.

	1979			1991		
	Inmates (1)	CPS Men (2)	Ratio (1)/(2)	Inmates (1)	CPS Men (2)	Ratio (1)/(2)
Mean age (years)	29.1	29.8	-	31.9	31.5	-
Race or ethnicity						
White	41.5%	83.0%	.50	35.4%	78.0%	.45
Black	46.6	10.7	4.36	45.5	11.9	3.82
Hispanic	9.5	6.2	1.53	16.8	10.1	1.66
Schooling						
Less than HS	52.6	19.8	2.66	40.3	15.8	2.55
HS or equivalent	39.1	38.4	1.02	46.0	38.9	1.18
Some college	8.4	41.8	.20	13.7	45.3	.30
Family Status						
Never married	52.5	34.0	1.54	55.9	37.5	1.49
Married	22.4	59.2	.38	18.2	53.2	.34
Divorced or Separated	23.1	6.5	3.55	24.3	9.1	2.67
Children under 18	50.8	56.9	.89	56.0	48.8	1.15
Sample size	9142	30074	5213	11031	29943	7244

Source: Survey of Inmates in State Correctional Facilities (1979, 1991), March Current Population Survey (1979, 1991).

Support for this idea can be seen from Table 1 comparing male state prison inmates to noninstitutional males in the years 1979 and 1991. The noninstitutional men come from the March Current Population Survey (CPS). We restrict analysis to CPS men aged 18-45 because 95% of all prison inmates are aged in this range. The table shows that the inmate pool has become somewhat more mainstream in several respects. The educational attainment of prisoners increased between 1979 and 1991. In 1979, inmates were only 20% as likely as noninstitutional men to have attended at least some college. By 1991 the gap in college attendance had closed as the chances of college attendance among inmates had increased to 30% of the college attendance rates of their noninstitutional counterparts. The difference in high school dropout rates also shrunk slightly between 1979 and 1991. Other analysis, not reported here, shows that gap in schooling shrinks even more if inmates are compared only to young noninstitutional

black and Hispanic men. The family and marital status of prisoners also improved in relation to the noninstitutional population through the 1980s. While inmates in 1979 were 3.5 times more likely to be divorced or separated than noninmate men, the relative separation rate of state prison inmates had fallen to 2.67 by 1991. The relative rate of nonmarriage fell slightly. The average age of prisoners increased and they were also more likely to have young children in 1991 than in 1979. In contrast to these trends however, the proportion of non-Hispanic whites has declined while the proportion of Hispanics has increased by nearly three-quarters. In short, the average inmate is increasingly coming to resemble the modal young male of the noninstitutional minority population.

Data and Method

To study the impact of incarceration on marriage and cohabitation, we analyze data from the Fragile Families survey which contains information both on the relationship status of new parents and the fathers' history of contact with the criminal justice system. Data for the Fragile Families and Child Wellbeing Study is being collected in twenty U.S. cities, stratified by different labor market conditions and varying welfare and child support policy regimes. The sample will be representative of nonmarital births to parents residing in each of the twenty cities. When all the data are collected, the sample will be representative of nonmarital births to parents residing in cities with populations over 200,000. A comparison group of married parents will also be followed. The total sample size will be 4900 families, including 3600 unwed couples and 1100 married couples. New mothers will be interviewed at the hospital within 24 hours after they have given birth. Follow-up interviews with both parents will be conducted when the child is 1, 2.5, and 4 years old. At the time of writing baseline and follow-up data were available for 656 families in Oakland and Austin.

Table 2 describes the characteristics of our two samples of married parents and unmarried parents taken from the baseline interviews in Oakland and Austin. Although the two samples share similar age distributions, the unmarried parents are substantially more likely to be African American and less educated than married parents. Among fathers, African Americans make up nearly half the unmarried sample (48.0%) while they account for fewer than one in six (14.9%) of the married sample. The racial composition of the mothers' sample is similar. Nearly half of the

unmarried mothers are African American compared to just 16% of the married mothers. Ethnic differences between married and unmarried parents are less pronounced. Around 40% of unmarried mothers and fathers are Hispanic compared to around 50% of married parents. The sample of married parents is also characterized by relatively high rates of college attendance. Almost half of the married mothers and fathers have completed at least some college education while only about a quarter of the unmarried sample (24% for fathers and 22% for mothers) has attended college. The unmarried sample shows higher rates of high school graduation than the married sample, and similar proportions of couples with less than twelve years of schooling. The high rate of high school dropouts among the married sample is due to the large proportion of Hispanics in the married sample. We investigate the relationship between marital status and education more systematically below.

Table 2. Characteristics of mothers and fathers in the Fragile Families Survey at baseline interview.

	Unmarried	Married
Father's age (median)	26.0	26.0
Mother's age (median)	24.0	24.0
Father's race		
White	9.2%	32.8%
Black	48.0	14.9
Hispanic	42.8	52.2
Total	100.0	100.0
Mother's race		
White	11.5%	32.1%
Black	44.8	16.4
Hispanic	43.8	51.5
Total	100.0	100.0
Father's education		
Less than H.S.	39.5%	39.5%
H.S. graduate	36.5	14.2
Some college	24.0	46.3
Total	100.0	100.0
Mother's education		
Less than H.S.	48.0%	37.3%
H.S. graduate	39.8	15.7
Some college	22.2	47.0
Total	100.0	100.0
Sample size	400	134

Table 3 provides a preliminary idea of the accuracy of the Fragile Families measure of incarceration status compared to other data sources. The incarceration status of the Fragile Families fathers is recorded in two ways. First, we note whether the father was in jail at the time of the baseline interview, and second, we note whether the father had ever been incarcerated by the time of the follow-up survey. Whether respondents have even been incarcerated at the time of the follow-up interview reflects their cumulative risk of incarceration. This information about fathers is obtained in both the fathers' and mothers' surveys.

The table reports the cumulative risk of incarceration and the point-in-time incarceration rate for the samples of new fathers. Data on the cumulative risk of incarceration matches the variation by race found in other data sources. Black men have a much higher incarceration rate than whites. The survey data tend to understate the cumulative

incarceration risk for Hispanics, which falls between incarceration risks for blacks and whites calculated by the Bureau of Justice Statistics (BJS). Still, the proportions of black and Hispanic men in the Fragile Families data who report they have been incarcerated at some time approximately equals BJS figures and cumulative incarceration risks reported by respondents from the National Longitudinal Sample of Youth.

The mother's reports of the father's status indicate a much higher risk of imprisonment. Mother's reports are particularly informative about fathers who are hard to find and whose incarceration risk is likely to be high. Because the fathers in the Fragile Families survey are disproportionately young with little education, it seems likely that the father's reports understate the true incidence of incarceration. Mother's reports of cumulative incarceration risk may be more accurate. In the analysis below, we contrast incarceration data from mother's and father's reports in an effort to minimize the effect of nonrandom sample selection in the re-interview of fathers. The final two lines of Table~2 compare the BJS incarceration rates for 1996 to the percentage of fathers known to be in prison or jail at the time of the baby's birth. The BJS incarceration rates are calculated for the entire adult male population. The relatively young and uneducated Fragile Families sample is thus likely to have a higher incarceration rate than is reflected in most survey data.

Table 3. Percentage of males incarcerated in Fragile Families Survey compared to other data sources. (Counts in parentheses.)

	Race or Ethnicity		
	Black	White	Hispanic
Cumulative risk			
Ever incarcerated (FF Fathers)	28.1 (39)	18.2 (12)	12.4 (23)
Ever incarcerated (FF Mothers)	55.6 (110)	23.1 (39)	27.7 (39)
Lifetime incarceration risk (BJS)	28.5	4.4	16.0
Ever incarcerated, 1981-1994 (NLSY)	17.2 (242)	4.4 (144)	9.9 (89)
One-day rate			
Ever incarcerated, 1981-1994 (NLSY)	17.2 (242)	4.4 (144)	9.9 (89)
Incarcerated at baby's birth (FF)	5.6 (60)	1.1 (4)	2.0 (5)
Incarceration rate, 1996 (BJS)	7.5	1.1	

Note: Lifetime risk is reported for state prisoners using 1991 incarceration rates by Bonczar and Beck (1997). The NLSY cumulative risk is measured proportion of respondents interviewed in correctional facilities between 1982 and 1996. All Fragile Families results use the follow-up survey, except for data on incarceration status at interview which uses the full baseline survey. Cell

entries for fathers use father's reports of incarceration status. Cell entries for mothers use mother's reports of father's incarceration status. The 1996 rate using BJS data are calculated by Western and Pettit (forthcoming). Hispanics are included among blacks and whites for the BJS rates.

Results

The relationship status of non-inmates and ex-inmates is described in Table 4. If incarceration status is measured by the father's cumulative risk of imprisonment, father's reports indicate that men who have never been incarcerated are about twice as likely to be married as ex-inmates. Ex-inmates are also fifty% more likely to have no relationship with their baby's mother a year after the birth. Similar but stronger patterns can be found in the mother's reports of father's incarceration status. The mothers' reports indicate that nearly half of all ex-inmate fathers are neither living with nor romantically involved with the mother at the time of the follow-up interview. Finally, data from the full baseline survey show a similar pattern for the men who were incarcerated at the time of the baby's birth. Virtually none of the inmates in the sample were married and over 15% were no longer in a relationship with the mother at the time of birth.

Table 4. Percentage distribution of relationships by incarceration status, Fragile Families baseline and follow-up surveys.

	Father's Report Ever Incarcerated?		Mother's Report Ever Incarcerated	
	No	Yes	No	Yes
Married	41.1%	21.5%	42.8%	16.3%
Cohabiting	34.4	31.6	34.1	23.5
Visiting	5.8	17.7	6.9	13.8
Other	18.7	29.1	16.2	46.4
Total	100.0	100.0	100.0	100.0
Sample size	343	79	334	196

Regression analysis offers a more systematic picture of the impact of incarceration on relationship status. The regression analysis proceeds in two stages. We first estimate the probability that a couple is living together (either cohabiting or married) at the time of the follow-up interview. Then conditional on the couple living together, we estimate the likelihood of marriage. The key predictor is a dummy variable that indicates whether the father was ever incarcerated. The main control

variables are the age, race, ethnicity, and education of the parents. To minimize collinearity among the predictors we code the race and ethnicity of the couples rather than the race or ethnicity of individual partners. We also add a measure of relationship quality that reflects how often the couple socializes and engages in other activities together. This relationship index is intended to capture the father's commitment to the mother. Fathers that are strongly committed to their partners are more likely to be interviewed and more likely to be married or cohabiting. Because the father's commitment to the mother influences the probability of observing the father and the parents' relationship status, the relationship index can be understood as a control for sample selectivity in the analysis of the father's data. Sample selectivity can also be investigated by contrasting father's reports and mother's reports of father's status. Mother's reports are more complete since they provide information about those fathers that have been hard to find and interview. By including a larger proportion of the high-risk fathers, the mother's reports are likely to yield relatively large incarceration effects.

Table 5 reports the logistic regression results. The results show that father's incarceration status has a large negative effect on the likelihood that the parents will be living together one year after the birth of their child. Using fathers' reported history of criminal justice system contact we find that prior incarceration status lowers the odds of cohabitation by about 50% ($e^{-.66}=.51$). As expected, mother's reports yield even larger incarceration effects. Mother's data suggest that prior incarceration lowers the odds of living together by about 70% ($e^{-1.01}=.36$). Results for the other independent variables indicate that couples' relationships are strongly patterned by race and age. Mothers' and fathers' data both suggest that black couples are less than half as likely as white couples to be living together a year after the birth of their child. Hispanics, however, are not strongly different from whites. Mother's age is positively and significantly related to the probability of living together. Each additional year of age is estimated to raise the odds of living together by about 10%. By contrast, the effect of father's age is negligible. Finally, the results also suggest that the relationship index - measuring the degree of the partner's commitment to each other at baseline - provides some control for sample selectivity. We suspect that nonresponse among fathers creates bias because it is systematically related to relationships status. Consistent with this

idea, the relationship index is significantly and positively related to the probability of living together in the fathers' data, but not the mothers'.

Table 5. Logistic regression of relationship status on mother's and father's characteristics, Oakland and Austin, Fragile Families Survey.

	Father's Reports		Mother's Reports	
	Living Together	Married	Living Together	Married
Intercept	-2.40 (2.38)	-1.23 (1.08)	-1.26 (1.30)	-.45 (.43)
Couple characteristics				
Black	-.85 (1.76)	-2.26 (3.83)	-1.00 (2.09)	-2.27 (4.16)
Hispanic	.80 (1.45)	-.75 (1.19)	.35 (.67)	-.69 (1.19)
Mixed	-.23 (.41)	-1.41 (2.13)	-.35 (.64)	-1.32 (2.11)
Relationship index	.32 (2.43)	.06 (.39)	.15 (1.25)	-.07 (.49)
Mother's characteristics				
Age	.10 (2.84)	.05 (1.56)	.10 (2.73)	.06 (1.58)
Less than HS	-.09 (.27)	-.46 (1.12)	-.22 (.69)	-.21 (.55)
Some college	.25 (.64)	1.13 (2.57)	.18 (.48)	1.05 (2.49)
Father's characteristics				
Age	.00 (.14)	.01 (.22)	.00 (.03)	.01 (.16)
Less than HS	.36 (1.00)	.61 (1.44)	.49 (1.52)	-.11 (.28)
Some college	.01 (.03)	.70 (1.63)	.10 (.28)	.16 (.37)
Incarcerated	-.66 (2.02)	.03 (.06)	-1.01 (3.72)	-.10 (.30)
N	355	264	387	272

Table 5 also reports the effects of incarceration and other independent variables on the odds of marriage, given that couples are

living together at the time of the follow-up interview. In this case, both data sources indicate that father's prior incarceration status is unrelated to the likelihood of being married. This suggests that incarceration works nonlinearly, to destabilize couples with relatively weak relationships. The results also show that race and education are significantly related to the chances of marriage among couples that are living together. African American couples are highly unlikely to be married compared to whites. According to the estimates, the odds of a black couple being married a year after their child's birth is only 10% ($e^{-2.27}=.10$) of that for a white couple with similar age and education. Father's education is not strongly related to the probability of living together, but college attendance among mothers nearly triples the odds ($e^{1.05}=2.86$) of marriage among couples that are living together. Finally, mixed race couples that live together are much less likely to be married than same race couples. In sum, the evidence suggests that incarceration operates at the fringes of the marriage market, on the weakest relationships. However, mother's reports show that incarceration affects more than half of the follow-up sample and the estimated magnitudes of the incarceration effects are very large so the effects of incarceration on family formation are likely to be extensive.

Discussion

Results from this paper point to the large destabilizing effects of the penal system on low-income families. The evidence indicates that incarceration narrowly influences whether a father is present in the household; it does not affect the likelihood of marriage among couples that live together. If -- controlling for age, race, and education -- the causal effect of incarceration on father absence were just one-fifth as large as the estimated effect, the rate of father absence would be 20% lower among ex-inmates. Given estimates of lifetime risks of incarceration and 1990 population figures from the Bureau of Labor Statistics, the regression results suggest that around 425,000 African American fathers are absent due to incarceration. This totals about 15% of the black nonresident father population.² Similar calculations for whites

² This figure is calculated by first estimating the number of African American adult males who have ever been incarcerated. We calculate this by multiplying the African American adult male population (8.479 million) by the lifetime risk of incarceration (.285). We then multiply the ever-incarcerated population by the estimated difference in rates of father absence between ex-inmates and non-inmates (.20) to obtain the number of nonresident fathers due to incarceration.

suggest that about 8% or 520,000 nonresident fathers are absent because of the post-release effect of incarceration on family formation. Combine these admittedly rough estimates with a prison population that grows at more than 6.7% each year, and it is clear that the penal system is eroding the fabric of family life in poor minority communities.

From a methodological viewpoint, the analysis also demonstrates the difficulties of applying standard survey research methods to young economically disadvantaged men. They are hard to interview and high rates of survey nonresponse contribute large biases to survey data. The Fragile Families survey provides data on young high-risk men collected from their partners. These data collected from mothers were substantially more complete and yielded estimates of cumulative incarceration rates nearly double, in some cases, those obtained from fathers. The men's data also provided regression coefficients that were significantly smaller than those obtained from the data provided by women in the sample. If only the men's data were available, as is usually the case, both the incidence and the effect of incarceration may have been substantially under-estimated. Although most methodological attention in the study of incarceration effects has focused on the problem of nonrandom selection into the penal system, the fundamental problem of accurately counting ex-inmates may prove to be an even larger obstacle to accurately assessing the social impact of the penal system. Results from the Fragile Families data are certainly encouraging in suggesting a method - interviewing accessible and nearby informants - about groups that are generally under-represented in social surveys.

These findings can also be placed in the broader context of other research on the social impact of incarceration. First, if we combine the current findings with research on the employment opportunities of ex-inmates, it is clear that the resources for supporting children are significantly depleted by incarceration. Men released from prison do poorly in the labor market. In addition to their grim economic prospects, the stigma of incarceration also makes ex-convicts highly unattractive partners for marriage or cohabitation. Consequently, they are poorly-equipped to contribute financially to raising children and they are relatively uninvolved in parenting. While prisons remove men from families, the echo of incarceration continues well after release from prison.

Second, much research on family formation, crime, and incarceration has focused on how strong family relationships direct young men away from crime and the risk of serving time in prison. In this work, the social bonds of marriage reinforce social control, reducing deviant behavior. Our analysis turns this relationship around. In our approach, the experience of incarceration can undermine social bonds, straining marital and other family relationships. The formal social control of the prison may thus undermine the informal social control of family ties, contributing further to crime and deviance in high incarceration communities.

Finally, the possibility of self-reinforcing relationship between marriage and incarceration also has important policy significance. We have tried to emphasize that the link between crime and incarceration is institutionally variable. Changes in sentencing policy opened the prison gates to new categories of people. Although changes in sentencing policy represent a significant effort at crime control, the effects of this policy may create the conditions for higher crime rates in the future. In contrast to old arguments about the prison as a school for criminals, the criminogenic effect of the prison may work through its impact on the pattern of social relationships in high incarceration communities. The American experiment with mass incarceration may thus be a self-defeating strategy for crime control. Without assistance for families disrupted by incarceration, the negative social effects of the penal system may aggravate the problems it was designed to solve.

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