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National Center for Family & Marriage Research
Working Paper Series
WP-12-10
October 2012



This research was supported by the National Center for Family & Marriage Research, which is funded by a cooperative agreement, grant number 5 UOI AEOOOO0I-05, between the Assistant Secretary for Planning and Evaluation (ASPE) in the U.S. Department of Health and Human Services (HHS) and Bowling Green State University.
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Running Head: PATERNAL INCARCERATION AND FATHER INVOLVEMENT

This analysis was supported by a grant from the National Center for Family and Marriage Research (NCFMR). The Fragile Families and Child Wellbeing Study was supported by Grant R01HD36916 from the National Institute of Child Health and Human Development (NICHD), and the project described in this article was supported by Award Number R24HD058486 from the Eunice Kennedy Shriver NICHD. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NCFMR, the Eunice Kennedy Shriver NICHD or the National Institutes of Health. Ronald Mincy and Jenna Nobles provided valuable feedback on an earlier version of this analysis, as did attendees at the 2012 NCFMR grantees' meeting and members of the Fragile Families Working Group. Houze Song and Ryan Snyder provided valuable research assistance.

ABSTRACT

High rates of incarceration in the United States have motivated a far-reaching literature examining the effects of parental incarceration on child wellbeing. Although a growing body of evidence documents challenges facing the children of incarcerated men, most incarcerated fathers lived apart from their children before their arrest, raising the question of whether they were sufficiently involved with their families for their incarceration to affect their children. We use the Fragile Families and Child Wellbeing Study ($N=4,071$) to examine father involvement among incarcerated fathers, both newly incarcerated and incarcerated in the more distant past. We find that many incarcerated fathers maintained a degree of contact with their children, through visitation if not coresidence. Moreover, we find robust reductions in both father-child coresidence and visitation when fathers are incarcerated. Our findings suggest that these reductions in contact are driven by a combination of incapacitation while incarcerated, and union dissolution upon release.

Keywords: Cohabiting couples with children, Family stress and/or crisis, Father-child relations, Fragile Families and Child Wellbeing Study, Incarcerated parents, Noncustodial parents

By the middle of 2007 more than 1.7 million American children had a parent in prison, and millions more had a parent in jail, or who had been incarcerated in the past. It is well-known that incarcerated individuals face severe challenges both during and after their time in prison and jail, and that incarceration has the potential to dramatically disrupt family life. Children's interactions with incarcerated fathers are limited in both quantity and quality (Arditti, Lambert-Shute and Joest, 2003; Comfort, 2008), and formerly incarcerated fathers face a wide range of social and economic hardships (Petersilia, 2003; Travis, Solomon and Waul, 2001) that may, in turn, lead to instability for their partners and children (Geller, Garfinkel and Western, 2011; Schwartz-Soicher, Geller and Garfinkel, 2011; Sugie, 2012).

However, and challenges persist in distinguishing causal effects of incarceration from pre-existing family instability (Johnson and Easterling, 2012; Johnston, 2006), as the effects of paternal incarceration are inextricably linked to the relationships that incarcerated fathers had with their families before going to prison or jail (Geller et al., 2012; Sampson, 2011; Western and Wildeman, 2009). Inmate surveys indicate that at least half of fathers in State and Federal prisons were living apart from their children prior to incarceration (Johnson and Waldfogel, 2002; Mumola, 2006), suggesting that many prisoners played a limited role in their families before their criminal justice contact, and that the disruption driven by incarceration itself might be minimal. It is also widely noted that father involvement could lead to either positive or negative outcomes for children (Hijjawi, Wilson and Turkheimer, 2003; Murray and Farrington, 2010), and particularly if fathers are violent or criminally involved, incarceration could stabilize, rather than destabilize, their family circumstances. The effects of father involvement on child wellbeing may also be mediated by fathers' incarceration histories, given the challenges that formerly incarcerated individuals face upon re-entry. To the extent that fathers returning from

prison and jail face challenges in the labor and housing markets (Geller and Curtis, 2011; Western, 2002), these challenges are likely to be more salient for children living with their formerly incarcerated fathers.

In this paper we examine incarceration and father involvement among a contemporary sample of urban families, to estimate the exposure of children to paternal incarceration, and the extent to which incarceration might undermine father-child contact. We leave assessments of parenting quality for future research, focusing here on the quantity of father-child contact. Using repeated measures of household structure and father-child visitation, we are able to observe not only reported involvement among incarcerated fathers, but changes in father-child contact over time, and assess the extent to which incarceration both incapacitates fathers from their families, and might hasten the dissolution of family relationships.

We find that although paternal incarceration is largely concentrated among fathers who are nonresident, a non-negligible portion of paternal incarceration involves fathers who had previously been living with at least one of their children. Moreover, given the high rates of incarceration among urban men, we find that more than 10% of resident fathers have histories of incarceration, suggesting that any socioeconomic disadvantage associated with criminal justice system involvement may also extend to their children. We also find that our observed concentration of incarceration among nonresident fathers may be driven in part by incarceration's disruption of family relationships. Our results suggest that incarceration not only incapacitates fathers from parenting while they are in prison or jail, but may also hasten the dissolution of parental relationships when fathers are released. Finally, we also examine visitation patterns among incarcerated nonresident fathers, and find that while many formerly incarcerated fathers maintain some degree of contact with their children, this contact is limited

while fathers are incapacitated, and remains lower than other fathers' upon release. Our findings underscore challenges faced by both criminal justice and social service agencies that seek to mitigate the risks faced by the children of incarcerated parents (The New York City Council, 2011).

Background

Although most incarcerated fathers were not living with their children immediately preceding their involvement in the criminal justice system (Johnson and Waldfogel, 2002; Mumola, 2006), incarceration may compromise father-child contact for resident and nonresident fathers alike.

Resident Fathers

The incarceration of a resident father, and his removal from the household, are likely to limit both the quantity and quality of his interactions with his children. Travel to prisons can be logistically difficult and emotionally stressful, and mothers may choose to shield their children from the experience (Arditti, 2005; Arditti, Lambert-Shute and Joest, 2003; Comfort, 2008). Incarceration may also compromise parental relationships by undermining the father's role as a provider (Hairston, 1998) or threatening the family reputation (Edin, 2000; Anderson, 1999), which may, in turn, lead mothers to limit contact between children and their incarcerated fathers (Arditti, Smock and Parkman, 2005; Edin, Nelson and Paranal, 2004; Roy and Dyson, 2005).

Fathers released from prison and jail also face barriers to involvement with their children. Individuals with criminal histories face significant challenges in both the labor market (Holzer, 2009; Petit and Lyons, 2009; Western, 2002) and the housing market (Geller and Curtis, 2011; Human Rights Watch, 2004; Lundgren, Curtis and Oettinger, 2010; Metraux, Roman and Cho, 2007; United States Department of Housing and Urban Development, 1997), which may strain

parental relationships further, leading formerly co-resident couples to separate. Mothers may also form new relationships while fathers are incarcerated (Braman, 2004; Roy and Dyson, 2005). Father-child visitation and parents' romantic involvement is frequently seen as a "package deal" (Furstenberg and Cherlin, 1991; Tach, Mincy and Edin, 2010), in which father involvement is contingent on parents' romantic relationships, suggesting that in compromising parental relationships, incarceration is also likely to undermine fathers' relationships with their children (though see (Cheadle, Amato and King, 2010; Mincy, Pouncy and Zilanawala, 2011).

Nonresident Fathers

Even fathers who were not living with one or more of their children before incarceration may see their involvement fall further upon contact with the criminal justice system.

Nonresident fathers frequently maintain a role in their children's upbringing (Argys et al., 2006; Tach, Mincy and Edin, 2010), and see their children on a regular basis, though estimates of father involvement vary widely by both child age and the dataset used in the assessment (See Argys et al., 2006). Incarceration incapacitates fathers from such contact, particularly if children are reliant on their mothers to initiate prison visits.

Nonresident fathers also face challenges to reunification with their children upon release, although "reunification" in these cases refers to resuming a visiting relationship rather than a residential one. In many states, fathers accrue child support obligations while incarcerated (Yoder, 2011), and leave prison with unmanageable arrears. Challenges in payment may undermine subsequent visitation (Nepomnyaschy, 2007). In addition, mothers frequently assume a "gatekeeping" role (Nurse, 2002; Roy and Dyson, 2005), and may limit the amount of time that fathers may spend with their children.

Potentially Confounding Factors

Although incarceration threatens to undermine the relationships between fathers, their partners, and their children, father involvement may also be compromised among incarcerated fathers for reasons other than the prison or jail experience itself. Family stability has itself been associated with desistance from offending (Sampson and Laub, 1990), particularly among men with low propensity to marry (King, Massoglia and MacMillan, 2007), suggesting that fathers lacking these ties (either through marriage, coresidence, or father involvement in their families of origin) or experiencing other aspects of family instability such as multipartner fertility, may be at elevated risk both of incarceration and of limited ties to their children. In addition, the incarcerated population is overwhelmingly young, minority, and poorly educated (Western, 2006), with lower levels of cognitive ability and impulse control, and unstable work histories (Geller et al., 2012) that often preceded their entry into incarceration. They also face high rates of substance use and mental health challenges (Petersilia, 2003). Each of these factors has the potential to destabilize family relationships, and may confound estimates of the relationship between incarceration and father involvement.

Empirical Evidence

Although it is widely known that most fathers in prison were not living with their children before their arrest, much less is known about the effects of incarceration on fathers who had previously been resident, or the extent of visitation among nonresident incarcerated fathers, either prior to or following their time in prison or jail. Analyses of inmate surveys (Johnson and Waldfogel, 2002; Mumola, 2006) rely on fathers' retrospective reports of preincarceration involvement with their families, and tend not to follow inmates after release to observe how family involvement might change. Furthermore, inmate surveys are prison-based, rather than population-based, and are therefore largely unable to ascertain the prevalence of paternal

incarceration and its effects in family life. Given high rates of multipartner fertility among incarcerated and formerly incarcerated men (Geller, Garfinkel and Western, 2011), it is likely that the effects of paternal incarceration extend beyond the households in which fathers are or were most recently living.

Western, Lopoo, and McLanahan (2004) use the Fragile Families and Child Wellbeing Study (“Fragile Families”) to find reduced rates of cohabitation and marriage among formerly incarcerated fathers. Although their analysis is based on early waves of the study, and unable to identify changes in incarceration status over time, they examine changes in parental relationships between the study’s baseline and first follow-up, and identify declining rates of both marriage and cohabitation among fathers with incarceration histories.

The current analysis builds upon the work of Western et al. (2004), using the more extended longitudinal data now available in the Fragile Families study to observe changes in family circumstances over time, and new experiences of paternal incarceration in the years that follow the Western et al. analysis. In addition, we further quantify the extent to which incarceration might limit fathers’ contact with their children, by decomposing father involvement into two components – coresidence and visitation – and assessing changes in each over time.

Method

Data

Data are drawn from the Fragile Families and Child Wellbeing Study (“Fragile Families”), a population-based longitudinal survey that follows nearly 5,000 couples ($N=4,898$) with children born in twenty large U.S. cities. The study systematically oversamples unmarried parents, but when weighted is nationally representative of families with children born in cities of 200,000 or more, between 1998 and 2000. (Reichman et al. (2001) provide a complete

description of the sample and design.) The study was initially designed to address three areas of interest—nonmarital childbearing, the role of fathers, and welfare reform—and has since expanded to examine other aspects of social and material disadvantage. This analysis focuses on incarceration and father involvement through the study’s first five years.

Key Constructs

We measure father involvement using mothers’ indicators of fathers’ coresidence with their child, and in families where the focal couple has separated, mothers’ reports of father-child visitation. We use mothers’ reports rather than fathers’ self-reports, because the least involved fathers are at the greatest risk of attrition from the survey, and maternal reports avoid the censoring of uninvolved fathers. Fathers are considered resident either if the mother reports that they are married or cohabiting and living with the focal child (at least half the time), or if the parents are separated and she reports that the father is the child’s primary caretaker. Father-child visitation is measured as the number of days, of the 30 leading up to the mother’s survey, that she reports the father has seen the focal child.

Fathers’ incarceration history is measured using a combination of self-reports and proxy reports, including maternal reports and other “indirect” indicators of incarceration. Beginning at the first follow-up survey, both fathers and mothers are asked about the fathers’ incarceration history, and may also indicate incarceration in several other questions, such as citing prison or jail as the reason for a parent-child separation or difficulties in the labor market. Some fathers are also identified as incarcerated using “disposition data” collected by the survey subcontractors when respondents cannot be reached for interview because they are incarcerated. Given the tendency of survey respondents to underreport antisocial behavior (Groves, 2004), and incarceration in particular (Farrington, 1998; Golub et al., 2002; Gottfredson and Hirschi, 1990),

we identify fathers as having been incarcerated in a given wave if either they or their partners report incarceration, directly or indirectly, or if their disposition data suggests incarceration, although few fathers are identified by indirect or disposition reports alone (Geller et al., 2012). In the first, third, and fifth-year follow-up waves, fathers are identified as “ever incarcerated”, and in the third and fifth-year waves, are identified as “recently incarcerated” if they are known to have been incarcerated in the past two years.

Analysis Samples

Our descriptive analysis of incarceration’s prevalence varies by survey wave, and at each wave contains all families in which the mother is interviewed and the father is not reported to be deceased, with observations weighted to represent families with children born in large U.S. cities between 1998 and 2000. The analysis sample for examining incarceration’s effects on father coresidence includes the 4,071 families for whom fathers’ residence status is known at the five-year follow-up survey (or the 4,167 with residence known at Year 3), and the analysis sample for the visitation analysis is based on the 2,112 families in which parents are living apart at Year 5 (or 1,829 living apart at Year 3), and mothers report how many times the father has seen the child in the previous month.

Descriptive Analyses

We begin our analysis by examining the prevalence of incarceration history among urban families, as well as the extent to which incarceration separates fathers from their partners and children. At each of the three follow-up waves (Year 1, Year 3, and Year 5), we compute the percent of children whose fathers have histories of incarceration, with particular attention to the percent of children whose fathers were recently incarcerated. We examine rates differentially by parental coresidence status, to identify children whose wellbeing was most likely to have been

affected by their fathers' incarceration. We also compute, in Years 3 and 5, the percent of recently incarcerated fathers who had been living with their focal partners and children in the prior wave preceding their contact with the criminal justice system, in efforts to identify families in which paternal incarceration is likely to create the greatest disruption.

Regression Analyses

To identify the extent to which incarceration might compromise fathers' involvement with their children, we next estimate a series of regression models, which predict fathers' residence status as a function of their incarceration history, and control for a rich set of socioeconomic factors likely to be correlated with both criminal justice system involvement and family stability. We divide these potential confounders into "early life" (race, foreign born status, family history, impulsivity, and cognitive ability) and "contemporaneous" (e.g., age at the child's birth, education, parental relationships at year 1, labor market characteristics, substance use, and mental health) covariates ($\mathbf{X}_{\text{Early}}$ and $\mathbf{X}_{\text{Contemp}}$, respectively), assuming that while early life covariates are time-invariant and unlikely to be affected by early incarceration experiences, contemporaneous covariates might be influenced by time spent incarcerated before the Year 1 survey.

We therefore first estimate a linear probability model predicting fathers' coresidence at Year 5 by his lifetime incarceration experience, controlling only for the "early life", time-invariant demographic and behavioral characteristics listed above.

$$\text{Cores}_5 = \beta_0 + \beta_1 \text{AnyIncarc}_5 + \beta \mathbf{X}_{\text{Early}} + \varepsilon \quad (1)$$

In Model 1, the coefficient β_1 represents the adjusted difference in fathers' probability of coresidence at Year 5; however, these differences may reflect a wide range of factors correlated with both incarceration and coresidence, as well as including conditions that preceded the

fathers' first contact with the criminal justice system. We therefore narrow the range of potential confounders, by estimating three additional models that predict fathers' coresidence with their incarceration histories. These models identify fathers' incarceration histories by the period in which he was incarcerated, and control for individual and family circumstances that precede fathers' most recent incarceration experiences, including fathers' past histories of both incarceration and relationships with the focal child's mother. Model 2 focuses specifically on incarceration between the first and fifth-year surveys, Model 3 divides this period further to examine incarceration between years 3 and 5, and years 1 and 3 as separate entities, and Model 4 predicts coresidence at year 3 with incarceration in the preceding two years, as well as more distal incarceration.

$$\text{Cores}_5 = \beta_0 + \beta_1 \text{AnyIncarc}_1 + \beta_2 \text{Incarc}_{1-5} + \beta_E \mathbf{X}_{\text{Early}} + \beta_C \mathbf{X}_{\text{Contemp}} + \varepsilon \quad (2)$$

$$\text{Cores}_5 = \beta_0 + \beta_1 \text{AnyIncarc}_1 + \beta_2 \text{Incarc}_{1-3} + \beta_3 \text{Incarc}_{3-5} + \beta_E \mathbf{X}_{\text{Early}} + \beta_C \mathbf{X}_{\text{Contemp}} + \varepsilon \quad (3)$$

$$\text{Cores}_3 = \beta_0 + \beta_1 \text{AnyIncarc}_1 + \beta_2 \text{Incarc}_{1-3} + \beta_E \mathbf{X}_{\text{Early}} + \beta_C \mathbf{X}_{\text{Contemp}} + \varepsilon \quad (4)$$

We next test the extent to which reduced rates of coresidence among recently incarcerated fathers reflect relationship dissolution that follows their release, and the extent to which they reflect incapacitation while they are serving their sentences. We therefore re-estimate Models 2-4 (those taking advantage of the repeated measures of incarceration and family structure) in two sets of replications. The first set focuses specifically on the 2,190 families in which fathers were living with the focal child at the year 1 survey, to identify relationship changes that involve the end of a residential relationship. The second set focuses specifically on men who were both co-resident at Year 1 and were not incarcerated at the time of the mother's Year 5 interview (or in the case of Model 4, at the Year 3 interview). By focusing on fathers not incarcerated at the Year 5 survey, we eliminate incapacitation as a potential driver

of nonresidence, and anticipate that differences between these two sets of results reflect the role of incapacitation in limiting father-child contact.

Finally, we examine the extent to which incarceration might compromise the involvement of nonresident fathers, by estimating variations of Models 1-4 that predict maternal reports of whether fathers have seen the focal child in the past 30 days, and among those “visiting” fathers who have seen their children, on how many days. As in our analysis of coresidence, we stratify our sample to test the extent to which reductions in visitation are driven by incapacitation, as compared to reduced visitation by fathers no longer incarcerated.

Missing Data

As noted above, we use maternal reports of fathers’ residence status and visitation patterns to avoid censoring bias driven by non-response among less involved fathers. Despite these precautions, our analyses may be vulnerable to selection bias if the distribution of father involvement and incarceration patterns differs among families not consistently observed across survey waves. To the extent that uninvolved fathers are increasingly likely to have partners who are missing from the survey, the role of incarceration in their family lives (be it larger or smaller than that in other families) will be understated in our population-based estimates. We therefore use several strategies to assess the sensitivity of our findings to missing data. Our main regression results use a dummy variable adjustment (Cohen and Cohen, 1985) that permits the retention of all families in which Year 5 residence status (and visitation among nonresident fathers) is observed. However, because these models involve some risk of biased coefficients (Allison, 2002), we assess the robustness of our results to two additional estimation strategies. The first, complete case analysis (also known as listwise deletion), drops families from a regression model if they are missing data on any variables in the model. Although complete case

analysis has the potential to produce unbiased coefficient estimates, this requires that data be missing “completely at random” (Allison, 2002), which is unlikely to be the case in a longitudinal survey where retention might be affected by factors also related to family stability. We therefore also use an imputation procedure (specifically Multiple Imputation through Chained Equations – see Royston, 2004; Van Buuren, Boshuizen and Knook, 1999) to estimate missing values of both incarceration and father involvement indicators, as well as potential confounders. We compare the regression analysis presented below to both the complete case analysis and that based on imputed data.

Results

Estimated Rates of Incarceration and Father Involvement

Our descriptive results, presented in Table 1, underscore the potential for family disruption when fathers are incarcerated. We estimate that approximately 28% of urban children had fathers with incarceration histories by the time the children were five years old, and an additional 12% had fathers with unknown incarceration histories. The distribution of incarceration rates across families is heavily skewed, with more than half of nonresident fathers known to have incarceration histories. Notably, however, incarceration histories are also non-negligible among resident fathers. Approximately 12-15% of children born in large cities live with formerly incarcerated fathers. Although many of these fathers were incarcerated and released before their children were born (only 3% of children lived with a recently-incarcerated father at either age three or age five), a large population of children is exposed through coresidence to their fathers’ re-entry challenges.

It is also notable that while most incarcerated fathers lived apart from their children prior to their time in prison or jail, many paternal incarcerations do involve recently resident fathers.

More than 40% of children experiencing a father's incarceration between ages 1 and 3 had been living with their father at age 1. Of children between the ages of 3 and 5 who had fathers incarcerated, approximately one third had been living with their father at age 3.

In addition to its examination of coresidence among formerly and subsequently incarcerated fathers, Table 1 also suggests a high level of contact between non-resident formerly incarcerated fathers and their children. Although formerly incarcerated fathers are significantly less likely to see their children than are other nonresident fathers, more than 40% of mothers report at Year 5 that their children's nonresident, formerly incarcerated, fathers have visited with the child in the past month.

[Table 1 about here]

These findings suggest that although most incarcerated fathers may not live with their children, involvement of incarcerated fathers with their children is often substantial, either through coresidence, visitation, or both. Paternal criminal justice involvement has the potential to compromise this contact.

Coresidence by Paternal Incarceration History

Table 2 presents findings from our linear probability models predicting father-child coresidence, and suggests that coresidence is significantly compromised following fathers' time in prison or jail. Model 1 suggests that when comparing two similarly situated fathers with five-year-old children, one with an incarceration history and one without, the incarcerated (or formerly incarcerated) father is 24 percentage points less likely to reside with the focal child. As base rates of Year 5 coresidence are just over 60%, a 24 percentage point drop represents approximately a 40% lower rate of residence among ever-incarcerated fathers. Models 2-4, which control for Year 1 parental relationships as well as a richer set of covariates ($\mathbf{X}_{\text{Contemp}}$ as

well as X_{Early}), suggest a significant decline in fathers' probability of coresidence (between 18 and 21 percentage points) following time spent in prison or jail.

[Table 2 about here]

Although our examinations of changes in coresidence over time, and the consistently significant declines following fathers' incarceration, are suggestive of a causal effect, the possibility remains that unobserved family changes have caused both the observed incarceration reports and reductions in father-child coresidence. We are therefore unable to fully attribute these observed differences to an incarceration effect. In subsequent analyses, we therefore attempt to identify mechanisms tied to paternal incarceration that might underlie the observed declines.

Table 3 presents results that attempt to isolate two such mechanisms: those of union dissolution and father incapacitation. When re-estimating our longitudinal models focusing on fathers who were co-resident at Year 1, incarceration in subsequent years predicts nonresidence even more strongly than it did in the broader sample of fathers. The coefficients on recent incarceration increase in magnitude by between 28% (in Model 4) and 61% (in Model 3). Incarceration is also predictive of reduced coresidence among fathers nonresident at Year 1; however, the magnitude of the incarceration coefficients is substantially reduced, suggesting that incarceration is likely to be a greater driver of relationship dissolution among resident fathers than it is a unique barrier to coresidence for fathers already nonresident.

Table 3 also presents effect estimates for the sample of fathers who were resident at Year 1 and not incarcerated at Year 5 (or, in Model 4, at Year 3), permitting the assessment of the extent to which estimated incarceration effects are driven by fathers' incapacitation at the time of the mothers' survey. In this more selected sub-sample, with the exclusion of incapacitation as a

causal mechanism, the magnitude of estimated incarceration effects are diminished by between 13% (in Model 2) and 52% (in Model 4). However, the estimated effect of incarceration on subsequent coresidence remains strong and statistically significant, suggesting that while incarceration precludes father involvement in part by incapacitating fathers from being able to live with their children, other factors, including but not limited to union dissolution, remain a large and statistically significant component of diminished father coresidence.

[Table 3 about here]

Incarceration and Visitation

Finally, Tables 4 and 5 estimate the extent to which incarceration might compromise visitation between nonresident fathers and their children, both in terms of whether fathers see their children at any point in the 30 days leading up to the mother's interview, and, for fathers who do see their children, in terms of the average number of days of father-child contact. As in our analysis of coresidence, we find that father-child visitation is also significantly lower among fathers who recently spent time in prison or jail. As shown in Table 4, fathers' probability of seeing their child at least once declines by 15 to 17 percentage points in the month leading up to the Year 5 interview (as shown in Models 2 and 3), and by 26 percentage points (as shown in Model 4) in the month leading up to the Year 3 interview, when fathers have spent time in prison or jail. Given that only approximately half of nonresident fathers are reported to have seen their children in the 30-day period of interest, these estimates suggest between a 30 and 50 percent reduction associated with incarceration. The number of days that visiting fathers see their children also declines following fathers' incarceration – by between two and four days out of the past 30.

Table 5 further adjudicates between the role of incapacitation and diminished visitation among the released, and finds incapacitation to play a somewhat larger role in predicting visitation than it did in predicting coresidence. Specifically, incapacitation accounts for approximately half of the estimated effect of recent incarceration on the probability of visitation at Year 5; although still statistically significant, the estimated association between recent incarceration and the probability of visitation is substantially diminished when focusing on fathers no longer incarcerated and incapacitated from visitation. Examining the role of recent incarceration in predicting Year 3 visitation, virtually the entire estimated effect is accounted for by incapacitation; when limiting the analysis to men available for visitation, the incarceration coefficient is drastically reduced in magnitude, and no significant differences in visitation patterns can be seen.

[Tables 4 and 5 about here]

Sensitivity to Missing Data Treatment

The prevalence estimates and associations presented in Tables 1-5 are based on analyses that account for missing data using dummy variable adjustment, in which missing responses to survey items are noted with a series of dummy variables, and imputed with zeros or the mean of observed values. While this adjustment permits the retention of partial respondents in the analysis, the resulting estimates are at risk of bias (Allison, 2002). We therefore replicate our regression analyses using two alternative methods of dealing with missing data: complete case analysis and multiple imputation (detailed results are available in Appendices A and B).

As expected, the analysis sample for the complete case analysis is much reduced (by up to 50%) when item-missing observations are dropped. However, substantive findings are robust to the alternative sample: As shown in Table A.1, the probability of coresidence is reduced

among recently incarcerated fathers; this reduction is particularly pronounced among fathers who had been living with their children at Year 1, and driven by factors only partly tied to incapacitation while incarcerated. (As in the dummy variable adjustment models, the role of incapacitation is stronger in Year 3 than in Year 5.)

When analyzing father-child visitation (Tables A.2 and A.3), it is particularly notable that the complete case analysis introduces not only a sampling change (i.e., from item-missing respondents being dropped), but a substantive one: to avoid losing fathers who were living with their child at Year 1 (because their visitation history was undefined), they are assumed to see their child for all 30 days. Despite these differences, however, the main estimates, and associations between incarceration and reduced visitation, remain statistically significant, though the magnitudes of the incarceration estimates are of smaller in the complete case sample.

Using multiple imputation to adjust for missing data, substantive results are much the same: a significant decline in coresidence among fathers recently incarcerated, particularly among incarcerated fathers who had previously been co-resident, and that incapacitation explains only a small portion of the observed associations. (Detailed findings presented in Table B.1) While the estimates are somewhat reduced in magnitude, results are qualitatively similar across analysis samples. Results are also largely robust in our analysis of father-child visitation (Tables B.2 and B.3). Incarceration remains a significant predictor of diminished visitation in our multiple imputation analysis, the magnitude of the reductions are relatively stable across models, and while incapacitation appears to be a large driver of the reduction at Year 3, its role at Year 5 is minimal.

Further examining differences by missing data strategy, it bears noting that not all predictors of father involvement are robust across methods. In particular, while the dummy

variable adjustment estimates find Year 1 coresidence to be positively correlated with subsequent visitation, both the complete case and multiple imputation analyses find a negative relationship between Year 1 coresidence and Year 5 visitation. However, this discrepancy may be due in part to an assumption made in both of the robustness checks: that fathers who were coresident at year 1 saw their children in all 30 days leading up to the year 1 survey.

Discussion

Although years of inmate surveys have noted low rates of father-child coresidence among men who subsequently wind up in prison, the extremely high levels of incarceration in the United States, coupled with non-negligible visitation among nonresident fathers, suggest that paternal incarceration touches the lives of a substantial portion of American children. Examining the contemporary urban families in the Fragile Families and Child Wellbeing Study, we find that even among the relatively advantaged fathers who live with their children, more than 10 percent have been to prison or jail, many over the course of their children's lives (approximately three percent have been recently incarcerated within each two-year survey wave). Incarceration rates among nonresident fathers are higher still, with more than 15% reporting incarceration at any given wave, and nearly half known to have been incarcerated at some point. Although nonresident, many of these fathers are not uninvolved; even among nonresident and formerly incarcerated fathers, more than 40% are reported to have visited their child at least once in the past month. More generally, our findings identify considerable heterogeneity in the relationships that incarcerated fathers have with their children, and suggest that policy and social services intended to assist their families must be targeted to their particular needs (a challenge to which we return below).

Our regression analyses suggest that incarceration substantially undermines the extent of

contact between fathers and their children, both through a reduction in father-child coresidence, and through a reduction in visitation among nonresident fathers. Although the dummy variable adjustment (used in Tables 2-5) yields associations of slightly larger magnitudes than does either complete case analysis or multiple imputation, the main finding of considerable reduction in father involvement, is statistically significant and robust across missing data strategies.

Limitations

We emphasize again that our analysis was not intended to address the question of whether the involvement of incarcerated and formerly incarcerated fathers is something to encourage in urban families; we deal strictly with the quantity of father involvement, rather than the quality. Additional work is needed to examine the quality of father-child interactions, couple relationships among parents, and other family factors that might mediate the effects of incarceration on father involvement and child wellbeing. Several other limitations of the study must also be noted. First, the use of survey data to assess the effects of incarceration introduces several complications for causal inference. First, because incarceration is not randomly assigned, the possibility remains that observed disparities in coresidence and visitation are driven by an unobserved correlate of paternal incarceration, rather than incarceration itself. The study also faces a risk of mismeasurement of key constructs, particularly because mothers report both on fathers' coresidence and visitation, and on a substantial portion of paternal incarceration history. If, for example, more mothers with a stronger underlying relationship with the father of their children report both greater levels of father involvement, and are less likely to report the father's incarceration, observed associations could be driven in part by shared method variance, rather than a causal effect of incarceration.

Policy Implications

Despite these caveats, however, this paper advances our understanding of the role of incarcerated fathers in families, and has several implications for social and criminal justice policy. First, our Table 1 findings underscore the importance of nonresident fathers in the lives of their children, regardless of their incarceration history. Much of the policy discussion of incarcerated parents focuses on the incarceration of a primary caregiver, particularly if children are placed into foster care as a result (Schirmer, Nellis and Mauer, 2009; The New York City Council, 2011). Paternal incarceration rarely results in a foster care placement, and most often, children of incarcerated fathers had been living with their mothers and continue to do so (Parke and Clarke-Stewart, 2002). However, our findings suggest that many incarcerated fathers had either been living with their children or visiting frequently, and that these children may be adversely affected by their fathers' absence. Our regression findings identify a significant decline in father-child contact following a father's incarceration, both in terms of co-residence and in terms of visitation among nonresident fathers.

More generally, we identify heterogeneity in father-child relationships that underscores the challenges faced by both policymakers and social service providers in determining the most effective ways to provide assistance to families. Families in which fathers had been highly involved are likely to suffer a greater loss in his absence, potentially requiring not only support for visitation and communication, but also counseling for remaining caregivers, or a reassessment of family material needs and financial circumstances, particularly if families were already receiving public assistance. On the other hand, many incarcerated fathers had little involvement with their families prior to their incarceration (more than half were nonresident, and of those, more than half had no indication of having recently visited their child), and these services would likely have limited utility.

Identifying the strength of family ties among arrested men remains a challenge, particularly in the case of noncustodial fathers who may be reluctant to identify their children to criminal justice authorities for fear that their visitation rights might be adversely affected. Considerably more effort is needed to distinguish the nuanced needs of families with incarcerated fathers. One way in which the family circumstances of prisoners might be systematically assessed is through the child support system (CDCR Today, 2011). Policymakers have increasingly recognized that modifying child support obligations while fathers are incarcerated, and reducing the accrual of unmanageable arrears, has the potential to increase fathers' child support payments upon re-entry. As fathers seek to modify their child support obligations, collecting additional information about their family ties may help to target support services in a way that families are most likely to benefit.

Finally, although an examination of the quality of father involvement is beyond the scope of this paper, we suggest that families with a desire to maintain contact during the father's incarceration should be provided with opportunities to do so. Enabling father-child contact has several potential components, including the elimination of barriers to visitation (e.g., through the provision of affordable transportation between jails and prisons and high-incarceration neighborhoods) and supporting phone contact (by reducing the fees associated with collect calls from prisons), as well as the development of new channels of communication. The New York City Department of Correction has begun research into the feasibility of videoconferencing between incarcerated parents and their children (The New York City Council, 2011); these and other possibilities should be further explored to systematically evaluate their costs and benefits.

Table 1:

Paternal Incarceration Prevalence Among Urban Families

	Year 1	Year 3	Year 5
Observed Families (in National Sample)	3,107	3,009	2,959
<i>Percent of fathers co-resident</i>	76.12	69.02	60.51
<i>Percent of fathers nonresident</i>	23.01	29.83	37.52
<i>Percent residence unknown</i>	0.87	1.16	1.97
<i>Percent of fathers ever incarcerated</i>	19.29	26.12	27.77
<i>Percent with unknown incarceration history</i>	13.54	7.40	13.19
<i>Percent of fathers recently incarcerated</i>	Unknown	7.03	11.17
<i>Percent with recent incarceration history unknown</i>		8.82	7.37
Among Co-Resident Fathers			
<i>Percent ever incarcerated</i>	12.72	15.09	12.87
<i>Percent with unknown incarceration history</i>	9.94	5.03	9.52
<i>Percent recently incarcerated</i>	Unknown	3.08	2.95
<i>Percent with recent incarceration history unknown</i>		0.66	0.00
Among Nonresident Fathers			
<i>Percent ever incarcerated</i>	41.67	52.20	52.06
<i>Percent with unknown incarceration history</i>	24.58	9.78	15.76
<i>Percent recently incarcerated</i>	Unknown	16.33	25.01
<i>Percent with recent incarceration history unknown</i>		24.29	14.59
Average days visiting (of past 30)	7.97	6.05	6.51
<i>Percent of fathers visiting 1+ days</i>	53.90	48.82	48.19
<i>Percent with visitation unknown</i>	10.94	9.84	4.92
Average days among visitors	13.16	11.17	12.85
<i>Percent visiting – Ever incarcerated</i>	47.20	40.34	40.41
<i>Percent visitation unknown – Ever incarcerated</i>	7.03	11.08	5.85
Average Days Among Visitors – Ever incarcerated	10.41	9.32	12.52
<i>Percent visiting – Never incarcerated</i>	65.20	67.63	72.41
<i>Percent visitation unknown – Never incarcerated</i>	17.76	6.94	2.19
Average Days Among Visitors – Never incarcerated	17.21	12.14	13.80
Among Fathers Recently Incarcerated			
<i>Percent resident in the wave before incarceration</i>	Unknown	43.69	33.24
<i>Percent nonresident in the wave before incarceration</i>		44.94	58.41
<i>Percent prior residence unknown</i>		11.37	8.35

Results weighted to represent families with children born in large cities, 1998-2000.

Table 2:

Predicting Father-Child Coresidence with Incarceration History (Linear Probability Models)

	Any Incarc		Incarc Y1-Y5, Pre-Y1		Incarc Y3-Y5, Y1- Y3, Pre-Y1		Predicting Y3 Cores w/ Incarc Y1-Y3, pre-Y1	
	b	se	b	se	b	se	b	se
Any Incarceration	-0.24***	[0.02]						
Incarceration Y1-Y5			-0.21***	[0.02]				
Incarceration Y3-Y5					-0.21***	[0.02]		
Incarceration Y1-Y3					-0.03	[0.02]	-0.18***	[0.02]
Incarceration Pre-Y1			0.04*	[0.02]	0.03	[0.02]	0.02	[0.02]
Y1 Cohabitation (nonmarital)			-0.17***	[0.02]	-0.17***	[0.02]	-0.18***	[0.02]
Y1 Nonresidence			-0.50***	[0.02]	-0.50***	[0.02]	-0.62***	[0.02]
Father Race (Reference Category: White)								
Father Black	-0.23***	[0.02]	-0.09***	[0.02]	-0.09***	[0.02]	-0.06***	[0.02]
Father Hispanic	-0.09***	[0.02]	-0.01	[0.02]	0.00	[0.02]	0.02	[0.02]
Father Other Race	-0.11**	[0.04]	-0.04	[0.03]	-0.04	[0.03]	-0.05	[0.03]
Father Unknown Race	-0.16	[0.10]	-0.01	[0.09]	0.00	[0.09]	0.02	[0.02]
Father Foreign Born	0.19***	[0.02]	0.10***	[0.02]	0.10***	[0.02]	0.05**	[0.02]
Father Impulsivity	-0.09***	[0.01]	-0.05***	[0.01]	-0.04***	[0.01]	-0.01	[0.01]
Father Cognitive Ability	0.00	[0.00]	0.00	[0.02]	0.00	[0.00]	0.00	[0.00]
Father lived w/ biofather	-0.01	[0.02]	0.00	[0.02]	0.00	[0.02]	-0.03	[0.01]
Father had social father	-0.05**	[0.02]	-0.02	[0.02]	-0.02	[0.02]	-0.02	[0.02]
Baseline Age			0.02***	[0.01]	0.02***	[0.01]	0.02***	[0.00]
Baseline Age Squared			-0.00***	[0.00]	-0.00***	[0.00]	-0.00**	[0.00]
Father Education (Reference Category: HS Graduate)								
< HS			0.02	[0.02]	-0.02	[0.02]	0.03	[0.02]
Some College			0.01	[0.02]	-0.02	[0.02]	0.02	[0.02]
College Graduate			0.05*	[0.03]	0.06*	[0.03]	0.06*	[0.02]
Y1 Alcohol Problem Use			-0.01	[0.02]	-0.01	[0.02]	-0.01	[0.01]
Y1 Drug Use			-0.15	[0.09]	-0.16	[0.09]	0.01	[0.09]
BL formal Employment			0.01	[0.02]	0.00	[0.02]	0.00	[0.02]
Y1 Off-Books Work			0.01	[0.01]	0.00	[0.01]	-0.01	[0.02]
Y1 Earnings (logged)			-0.01	[0.00]	0.00	[0.00]	0.00	[0.00]
Y1 Depression			-0.05*	[0.02]	-0.05*	[0.02]	-0.04	[0.02]
MPF by Y1			-0.05***	[0.01]	-0.06***	[0.01]	-0.03*	[0.01]
N	4,071		4,071		4,071		4,167	

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

Item-missing data is accounted for using a series of dummy indicators.

Table 3:

Predicting Father-Child Coresidence with Incarceration History (LPMs), Incapacitation and Union Dissolution

	Incarc Y1-Y5, Pre-Y1				Incarc Y3-Y5, Y1-Y3, Pre-Y1				Incarc Y1-Y3, pre-Y1			
	Resident at Y1		Released Y5		Resident at Y1		Released Y3		Resident at Y1		Released by Y3	
	b	se	b	se	b	se	b	se	b	se	b	se
Incarceration Y1-Y5	-0.32*** [0.03] -0.28*** [0.03]											
Incarceration Y3-Y5					-0.34*** [0.03] -0.29*** [0.03]							
Incarceration Y1-Y3					-0.05 [0.04] -0.04 [0.04]				-0.23*** [0.03] -0.11** [0.03]			
Incarceration Pre-Y1	0.05* [0.02]		0.06* [0.02]		0.04 [0.02]		0.04 [0.02]		0.01 [0.02]		0.01 [0.02]	
Father Race (Reference Category: White)												
Father Black	-0.09*** [0.02]		-0.09*** [0.03]		-0.09*** [0.02]		-0.09*** [0.02]		-0.08*** [0.02]		-0.07** [0.02]	
Father Hispanic	-0.02 [0.03]		-0.02 [0.03]		-0.02 [0.03]		-0.02 [0.03]		0.03 [0.02]		0.05* [0.02]	
Father Other Race	-0.05 [0.05]		-0.04 [0.05]		-0.05 [0.05]		-0.04 [0.05]		-0.03 [0.04]		-0.01 [0.04]	
Father Unknown Race	0.41 [0.26]		0.28 [0.31]		0.36 [0.25]		0.21 [0.31]		-0.1 [0.23]		-0.20 [0.27]	
Father Foreign Born	0.10*** [0.03]		0.10*** [0.03]		0.10*** [0.03]		0.10*** [0.03]		0.04 [0.02]		0.04 [0.02]	
Father Impulsivity	-0.06*** [0.01]		-0.05*** [0.01]		-0.05*** [0.01]		-0.05*** [0.01]		-0.01 [0.01]		-0.02 [0.01]	
Father Cognitive Ability	0.00 [0.00]		0.00 [0.00]		-0.00 [0.00]		0.00 [0.00]		0.01 [0.00]		0.01* [0.00]	
Lived with biofather	0.02 [0.02]		0.02 [0.02]		0.02 [0.02]		0.02 [0.02]		-0.02 [0.02]		-0.01 [0.02]	
Had social father	-0.01 [0.02]		-0.01 [0.02]		-0.01 [0.02]		-0.01 [0.02]		-0.02 [0.02]		-0.02 [0.02]	
Baseline Age	0.03*** [0.01]		0.03*** [0.01]		0.03*** [0.01]		0.03*** [0.01]		0.02** [0.01]		0.02*** [0.01]	
Baseline Age Squared	-0.00*** [0.00]		-0.00*** [0.00]		-0.00*** [0.00]		-0.00*** [0.00]		-0.00** [0.00]		-0.00** [0.00]	
Father Education (Reference Category: HS Graduate)												
< HS	-0.01 [0.02]		0.01 [0.03]		0.01 [0.02]		-0.01 [0.03]		-0.03 [0.02]		0.03 [0.02]	
Some College	0.00 [0.03]		0.00 [0.03]		0.00 [0.02]		0.00 [0.02]		0.02 [0.02]		-0.02 [0.02]	
College Graduate	0.03 [0.03]		0.03 [0.03]		0.04 [0.03]		0.03 [0.03]		0.02 [0.03]		0.03 [0.03]	
Married at Y1	0.15*** [0.02]		0.15*** [0.02]		0.15*** [0.02]		0.15*** [0.02]		0.16*** [0.02]		0.15*** [0.02]	
Y1 Alcohol Problem Use	-0.01 [0.02]		-0.02 [0.02]		-0.02 [0.02]		-0.02 [0.02]		-0.01 [0.02]		-0.01 [0.02]	
Y1 Drug Use	-0.11 [0.15]		-0.13 [0.15]		-0.09 [0.15]		-0.11 [0.15]		0.13 [0.14]		0.22 [0.14]	
BL Employment (formal)	0.03 [0.03]		0.03 [0.03]		0.02 [0.03]		0.03 [0.03]		0.03 [0.02]		0.03 [0.02]	
Y1 Off-Books Employment	-0.01 [0.02]		-0.01 [0.02]		-0.01 [0.02]		-0.01 [0.02]		-0.02 [0.02]		-0.03 [0.02]	
Y1 Earnings (logged)	-0.01 [0.01]		-0.01 [0.01]		-0.01 [0.01]		-0.01 [0.01]		-0.00 [0.00]		0.00 [0.00]	
Y1 Depression	-0.10** [0.04]		-0.11** [0.04]		-0.09* [0.04]		-0.10** [0.04]		-0.05 [0.03]		-0.05 [0.03]	
MPF by Y1	-0.06** [0.02]		-0.06** [0.02]		-0.06** [0.02]		-0.06** [0.02]		-0.02 [0.02]		-0.03 [0.02]	
N	2,190		2,133		2,190		2,133		2,283		2246	

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

Item-missing data is accounted for using a series of dummy indicators.

Table 4:

Predicting Father-Child Contact with Incarceration History (LPM), Any Visitation and Days of Contact Among Visitors (OLS), Past 30 Days

	Any Incarceration				Incarceration Y1-Y5, Pre-Y1				Incarceration Y3-Y5, Y1-Y3, Pre-Y1				Incarceration Y1-Y3, pre-Y1			
	Any Visitation		Days		Any Visitation		Days		Any Visitation		Days		Any Visitation		Days	
	b	se	b	se	b	Se	b	se	b	se	b	se	b	se	b	se
Any Incarc	-0.19***	[0.02]	-2.85***	[0.65]												
Incarc Y1-Y5					-0.17***	[0.03]	-3.30***	[0.73]								
Incarc Y3-Y5									-0.15***	[0.03]	-3.83***	[0.76]				
Incarc Y1-Y3									-0.05	[0.03]	-0.42	[0.92]	-0.26***	[0.03]	-2.62**	[0.95]
Incarc Pre-Y1					-0.02	[0.03]	-0.13	[0.75]	-0.02	[0.03]	-0.08	[0.76]	-0.03	[0.03]	0.60	[0.78]
Father Race (Reference Category: White)																
Black	-0.01	[0.03]	-0.72	[0.97]	-0.01	[0.03]	-1.00	[0.98]	-0.00	[0.03]	-0.93	[0.98]	0.01	[0.04]	1.71	[1.05]
Hispanic	-0.09*	[0.04]	0.06	[1.13]	-0.09*	[0.04]	0.21	[1.12]	-0.08*	[0.04]	0.20	[1.12]	-0.06	[0.04]	1.05	[1.19]
Other Race	-0.03	[0.07]	-3.03	[1.96]	-0.04	[0.06]	-2.93	[1.94]	-0.04	[0.06]	-2.85	[1.94]	-0.03	[0.07]	0.40	[1.93]
Unknown Race	-0.38*	[0.15]			-0.26	[0.15]			-0.29*	[0.15]			-0.14	[0.14]	-5.91	[7.18]
Foreign Born	-0.02	[0.05]	0.43	[1.33]	-0.01	[0.04]	0.94	[1.32]	-0.02	[0.04]	1.03	[1.31]	-0.10*	[0.05]	-1.01	[1.41]
Impulsivity	-0.07***	[0.01]	-0.68*	[0.40]	-0.04**	[0.01]	-0.48	[0.40]	-0.03*	[0.01]	-0.43	[0.40]	0.01	[0.01]	-0.21	[0.41]
Cognitive Ability	0.00	[0.00]	0.11	[0.13]	-0.00	[0.00]	0.12	[0.13]	-0.00	[0.00]	0.09	[0.13]	0.00	[0.00]	-0.13	[0.14]
Lived with biofather	-0.01	[0.03]	-1.91*	[0.80]	-0.02	[0.03]	-1.76*	[0.78]	-0.02	[0.03]	-1.72*	[0.78]	0.01	[0.03]	-0.41	[0.85]
Had social father	-0.05	[0.03]	-0.36	[0.81]	-0.04	[0.03]	-0.22	[0.79]	-0.04	[0.03]	-0.32	[0.79]	-0.00	[0.03]	-0.29	[0.86]
Days Seen Y1					0.01***	[0.00]	0.26***	[0.04]	0.01***	[0.00]	0.25***	[0.04]	0.01***	[0.00]	0.33***	[0.04]
Y1 Days Unknown					0.27***	[0.04]	7.03***	[1.28]	0.26***	[0.04]	6.96***	[1.28]	0.21***	[0.04]	9.77***	[1.29]
Resident at Y1					0.25***	[0.03]	6.27***	[0.88]	0.24***	[0.03]	6.21***	[0.87]	0.25***	[0.03]	8.99***	[0.92]
Y1 Res Unknown					-0.11	[0.07]	-3.66	[2.27]	-0.14*	[0.07]	-3.69	[2.27]	0.08	[0.07]	-1.62	[2.32]
BL Age					-0.00	[0.01]	-0.47	[0.34]	-0.00	[0.01]	-0.45	[0.34]	0.00	[0.01]	0.16	[0.31]
BL Age Squared					0.00	[0.00]	0.01	[0.01]	0.00	[0.00]	0.01	[0.01]	0	[0.00]	-0.00	[0.00]
Father Education (Reference Category: HS Graduate)																
< HS					-0.08**	[0.03]	-0.70	[0.80]	-0.07**	[0.03]	-0.56	[0.80]	0	[0.03]	0.46	[0.84]
Some College					0.00	[0.03]	0.08	[0.88]	-0.00	[0.03]	0.08	[0.87]	0.01	[0.04]	-0.31	[0.93]
College Graduate					0.05	[0.07]	1.97	[1.72]	0.06	[0.07]	1.99	[1.72]	0.03	[0.07]	1.25	[1.96]
Married at Y1					-0.08	[0.04]	-2.24*	[1.09]	-0.07	[0.04]	-2.19*	[1.09]	-0.02	[0.05]	-3.97**	[1.43]
Y1 Problem					0.03	[0.03]	-0.28	[0.80]	-0.02	[0.03]	-0.23	[0.80]	0.03	[0.03]	0.77	[0.86]
Y1 Drug Use					-0.05	[0.13]	1.51	[4.08]	-0.06	[0.12]	1.80	[4.07]	-0.03	[0.03]	-4.05	[5.10]
BL Employment					0.01	[0.02]	-0.56	[0.76]	0.00	[0.02]	-0.55	[0.76]	-0.05	[0.15]	-1.19	[0.79]
Y1 Off-Books Work					0.03	[0.03]	2.10**	[0.10]	0.03	[0.03]	2.12**	[4.07]	-0.01	[0.01]	-0.23	[0.77]

Under Review

Y1 (log) Earnings	-0.00	[0.00]	-0.28	[0.15]	-0.00	[0.00]	-0.26	[0.14]	0.01	[0.03]	-0.28	[0.15]
Y1 Depression	-0.08*	[0.03]	-1.22*	[1.06]	-0.07*	[0.03]	-1.09	[1.06]	-0.07	[0.04]	-1.44	[1.09]
MPF by Y1	-0.08***	[0.02]	0.20	[0.69]	-0.08***	[0.02]	0.13	[0.69]	-0.09***	[0.02]	-0.78	0.72
N	2,112		1,130		2,112		1,130		1840		1,058	

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

Item-missing data is accounted for using a series of dummy indicators.

Table 5:

Predicting Father-Child Contact with Incarceration History (LPM), Any Visitation and Days of Contact Among Visitors, Past 30 Days. Released Fathers Only

	Incarc Y1-Y5, Pre-Y1				Incarc Y3-Y5, Y1-Y3, Pre-Y1				Incarc Y1-Y3, pre-Y1			
	Any Visitation		Days		Any Visitation		Days		Any Visitation		Days	
	b	se	b	se	b	se	b	se	b	se	b	se
Incarceration Y1-Y5	-0.08**	[0.03]	-2.77***	[0.55]								
Incarceration Y3-Y5					-0.07**	[0.03]	-2.86***	[0.56]				
Incarceration Y1-Y3					0.01	[0.03]	-0.19	[0.70]	-0.03	[0.04]	-0.92	[0.80]
Incarceration Pre-Y1	0.00	[0.03]	-0.04	[0.55]	-0.01	[0.03]	-0.17	[0.56]	-0.00	[0.03]	0.36	[0.60]
Father Race (Reference Category: White)												
Father Black	0.02	[0.03]	-0.49	[0.71]	0.02	[0.03]	-0.45	[0.71]	0.04	[0.04]	1.67*	[0.79]
Father Hispanic	-0.09*	[0.04]	-1.05	[0.79]	-0.08*	[0.04]	-0.96	[0.79]	-0.04	[0.04]	0.45	[0.88]
Father Other Race	-0.01	[0.07]	-2.15	[1.38]	-0.01	[0.07]	-2.11	[1.37]	-0.01	[0.07]	0.68	[1.46]
Father Unknown Race	-0.26	[0.15]	-3.95	[3.02]	-0.28	[0.14]	-4.25	[3.01]	-0.09	[0.14]	-2.29	[2.96]
Father Foreign Born	-0.03	[0.04]	0.23	[0.92]	-0.03	[0.04]	0.15	[0.91]	-0.11*	[0.05]	-1.46	[1.00]
Father Impulsivity	-0.02	[0.01]	-0.55	[0.30]	-0.02	[0.01]	-0.55	[0.30]	-0.00	[0.02]	-0.15	[0.32]
Father Cognitive Ability	-0.00	[0.01]	0.02	[0.10]	-0.01	[0.00]	-0.00	[0.10]	0.01	[0.01]	-0.02	[0.11]
Lived with biofather	-0.01	[0.03]	-1.33*	[0.60]	-0.01	[0.03]	-1.31*	[0.60]	-0.01	[0.03]	-0.54	[0.67]
Had social father	-0.05	[0.03]	-0.71	[0.59]	-0.06	[0.03]	-0.81	[0.59]	-0.01	[0.03]	-0.54	[0.67]
Days Seen at Y1	0.01***	[0.00]	0.28***	[0.03]	0.01***	[0.00]	0.27***	[0.03]	0.01***	[0.00]	0.36***	[0.03]
Y1 Days Seen Unknown	0.30***	[0.05]	7.19***	[0.95]	0.29***	[0.05]	7.14***	[0.95]	0.19***	[0.05]	7.80***	[0.97]
Father Resident at Y1	0.26***	[0.03]	6.51***	[0.63]	0.25***	[0.03]	6.39***	[0.63]	0.27***	[0.03]	8.78***	[0.72]
Y1 Residence Unknown	-0.09	[0.07]	-3.34*	[1.43]	-0.13	[0.07]	-3.87**	[1.43]	0.11	[0.07]	-0.66	[1.52]
Baseline Age	-0.00	[0.01]	-0.28	[0.24]	-0.00	[0.01]	-0.25	[0.24]	0.00	[0.01]	0.15	[0.19]
Baseline Age Squared	0.00	[0.00]	0.01	[0.00]	-0.00	[0.00]	0.00	[0.00]	-0.00	[0.00]	-0.00	[0.00]
Father Education (Reference Category: HS Graduate)												
< HS	-0.09**	[0.03]	-1.17*	[0.59]	-0.09**	[0.03]	-1.11	[0.59]	0.02	[0.03]	0.12	[0.66]
Some College	0.00	[0.03]	0.23	[0.66]	0.00	[0.03]	0.26	[0.66]	0.00	[0.03]	-0.15	[0.73]
College Graduate	0.06	[0.07]	2.53	[1.36]	0.06	[0.07]	2.60**	[1.36]	0.05	[0.07]	1.62	[1.56]
Married at Y1	-0.07	[0.04]	-2.45**	[0.85]	-0.07	[0.04]	-2.40**	[0.85]	-0.03	[0.06]	-3.36**	[1.18]
Y1 Alcohol Problem Use	-0.02	[0.03]	1.80**	[0.56]	-0.01	[0.03]	-0.47	[0.60]	0.04	[0.03]	0.17	[0.67]
Y1 Drug Use	-0.11	[0.12]	-0.61	[2.56]	-0.01	[0.03]	-0.71	[2.55]	-0.08	[0.20]	-1.60	[4.17]
BL Employment (formal)	0.00	[0.03]	-0.32	[0.54]	-0.12	[0.12]	-0.41	[0.54]	-0.02	[0.03]	-0.62	[0.59]
Y1 Worked Off-Books	0.03	[0.03]	1.80**	[0.56]	0.03	[0.03]	1.80	[0.56]	0.05	[0.03]	0.32	[0.63]
Y1 Earnings (logged)	-0.01	[0.01]	-0.25*	[0.11]	0.03	[0.03]	-0.24*	[0.11]	-0.00	[0.01]	-0.26*	[0.12]

Under Review

Y1 Depression	-0.09*	[0.04]	-1.89*	[0.76]	-0.08*	[0.04]	-1.81*	[0.76]	-0.08*	[0.04]	-2.06*	[0.83]
MPF by Y1	-0.09***	[0.02]	-1.02*	[0.50]	-0.09***	[0.02]	-1.03*	[0.50]	-0.09***	[0.03]	-1.82***	[0.55]
N	1,886		1,886		1,886		1886		1,624		1,624	

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

Item-missing data is accounted for using a series of dummy indicators.

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Table A1: Complete Case Analysis of Father-Child Coresidence (LPM), Replication of Models 2-4

	Incarceration Y1-Y5, Pre-Y1						Incarceration Y3-Y5, Y1-Y3, Pre-Y1						Incarceration Y1-Y3, Pre-Y1					
	Full CC Sample		Co-resident at Y1		Co-resident Y1 Released Y5		Full CC Sample		Co-resident at Y1		Co-resident Y1, Released Y5		Full CC Sample		Co-resident at Y1		Co-resident Y1, Released Y5	
	b	se	b	se	b	se	b	se	b	se	b	se	B	se	b	se	b	se
Incarceration Y1-Y5	-0.23***	[0.03]	-0.32***	[0.04]	-0.30***	[0.03]												
Incarceration Y3-Y5							-0.22***	[0.03]	-0.26***	[0.05]	-0.24***	[0.04]						
Incarceration Y1-Y3							-0.04	[0.04]	-0.12*	[0.05]	-0.12**	[0.05]	-0.17***	[0.03]	-0.23***	[0.05]	-0.11**	[0.04]
Incarceration Pre-Y1	0.06*	[0.02]	0.05	[0.03]	0.06*	[0.03]	0.05*	[0.02]	0.05	[0.03]	0.05	[0.03]	0.02	[0.02]	-0.01	[0.03]	-0.02	[0.02]
Father Black	-0.12***	[0.03]	-0.11***	[0.03]	-0.11***	[0.03]	-0.11***	[0.03]	-0.11***	[0.03]	-0.11***	[0.03]	-0.09***	[0.02]	-0.07**	[0.02]	-0.06**	[0.02]
Father Hispanic	-0.02	[0.03]	-0.04	[0.03]	-0.04	[0.03]	-0.02	[0.03]	-0.04	[0.03]	-0.04	[0.03]	0.03	[0.02]	0.04	[0.03]	0.05	[0.03]
Father Other Race	-0.07	[0.04]	-0.05	[0.05]	-0.05	[0.06]	-0.06	[0.05]	-0.05	[0.05]	-0.05	[0.06]	-0.10*	[0.04]	-0.06	[0.04]	-0.04	[0.05]
Father Foreign Born	0.12***	[0.03]	0.11***	[0.03]	0.11***	[0.03]	0.12***	[0.03]	0.11***	[0.03]	0.11***	[0.03]	0.04*	[0.02]	0.04	[0.02]	0.04	[0.03]
Father Impulsivity	-0.05***	[0.01]	-0.05***	[0.01]	-0.05***	[0.01]	-0.05***	[0.01]	-0.05***	[0.01]	-0.05***	[0.01]	-0.01	[0.01]	-0.01	[0.01]	-0.02	[0.01]
Father Cognitive Ability	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0.01	[0.00]	0.01	[0.00]
Family History - Biofather	0.01	[0.02]	0.03	[0.02]	0.03	[0.02]	0.01	[0.02]	0.03	[0.02]	0.03	[0.02]	-0.02	[0.02]	-0.02	[0.02]	-0.01	[0.02]
Family History - Social Father	0	[0.02]	0.01	[0.03]	0.01	[0.03]	0	[0.02]	0.01	[0.03]	0	[0.03]	0	[0.02]	0	[0.02]	0	[0.02]
Baseline Age	0.03***	[0.01]	0.04***	[0.01]	0.04***	[0.01]	0.03***	[0.01]	0.04***	[0.01]	0.04***	[0.01]	0.02	[0.01]	0.02*	[0.01]	0.02**	[0.01]
Baseline Age Squared	-0.00***	[0.00]	-0.00***	[0.00]	-0.00***	[0.00]	-0.00***	[0.00]	-0.00***	[0.00]	-0.00***	[0.00]	0	[0.00]	-0.00*	[0.00]	-0.00*	[0.00]
<HS	0.05*	[0.02]	0.05	[0.03]	0.05	[0.03]	0.05*	[0.02]	0.05	[0.03]	0.05	[0.03]	0.02	[0.02]	0.03	[0.03]	0.04	[0.02]
Some College	0.04	[0.02]	0.05	[0.03]	0.05	[0.03]	0.04	[0.02]	0.05	[0.03]	0.05	[0.03]	0.04	[0.02]	0.04	[0.02]	0.04	[0.02]
College Graduate	0.07*	[0.03]	0.06	[0.03]	0.06	[0.04]	0.08*	[0.03]	0.06	[0.03]	0.06	[0.04]	0.07**	[0.03]	0.06*	[0.03]	0.05	[0.03]
Cohabiting at Y1 (vs. Married)	-0.14***	[0.02]																
Nonresident at Y1 (vs Married)	-0.47***	[0.03]																
Married at Y1 (vs Cohabiting)			0.13***	[0.02]	0.13***	[0.02]			0.14***	[0.03]	0.13***	[0.02]			0.14***	[0.02]	0.14***	[0.02]
Y1 Off-books Employment	0.01	[0.02]	-0.01	[0.02]	-0.01	[0.02]	0.01	[0.02]	-0.01	[0.02]	-0.01	[0.02]	-0.01	[0.02]	-0.02	[0.02]	-0.02	[0.02]
Y1 Problem Alcohol Use	-0.02	[0.02]	-0.02	[0.02]	-0.02	[0.02]	-0.02	[0.02]	-0.02	[0.02]	-0.02	[0.02]	-0.01	[0.02]	-0.01	[0.02]	-0.01	[0.02]
Y1 Drug Use	-0.14	[0.11]	-0.12	[0.18]	-0.13	[0.15]	-0.14	[0.12]	-0.1	[0.18]	-0.11	[0.15]	0.01	[0.09]	0.12	[0.11]	0.22	[0.14]
Y1 Earnings (logged)	-0.01	[0.00]	-0.01*	[0.01]	-0.01*	[0.01]	-0.01	[0.00]	-0.01	[0.01]	-0.01*	[0.01]	-0.01	[0.00]	-0.01	[0.01]	0	[0.00]
BL Employment	-0.01	[0.03]	0	[0.04]	0.01	[0.03]	-0.01	[0.03]	0	[0.04]	0.01	[0.03]	-0.02	[0.03]	0.03	[0.03]	0.03	[0.03]
Y1 Depression	-0.04	[0.03]	-0.08	[0.04]	-0.09*	[0.04]	-0.04	[0.03]	-0.08	[0.04]	-0.09*	[0.04]	-0.04	[0.03]	-0.03	[0.04]	-0.04	[0.03]
MPF by Y1	-0.06**	[0.02]	-0.06*	[0.03]	-0.07**	[0.03]	-0.06**	[0.02]	-0.06*	[0.03]	-0.07**	[0.03]	-0.01	[0.02]	0.01	[0.02]	0	[0.02]
N	2215		1605		1576		2182		1591		1567		2327		1686		1650	

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

Table A2: Complete Case Analysis of Father-Child Visitation (Any, LPM), Replication of Models 2-4

	Full CC Sample		Released at Y5		Full CC Sample		Released at Y5		Full CC Sample		Released at Y3	
	Incarceration Y1-Y5, Pre-Y1				Incarceration Y3-Y5, Y1-Y3, Pre-Y1				Incarceration Y1-Y3, Pre-Y1			
	b	se	b	se	b	se	b	se	b	Se	b	se
Incarceration Y1-Y5	-0.07*	[0.04]	0.00	[0.04]								
Incarceration Y3-Y5					-0.10*	[0.04]	-0.02	[0.04]				
Incarceration Y1-Y3					0.00	[0.05]	0.06	[0.05]	-0.22***	[0.05]	0.03	[0.05]
Incarceration Pre-Y1	-0.08*	[0.04]	-0.06	[0.04]	-0.08	[0.04]	-0.07	[0.04]	-0.05	[0.04]	-0.01	[0.04]
Days visiting at Y1	0.01***	[0.00]	0.01***	[0.00]	0.01***	[0.00]	0.01***	[0.00]	0.01***	[0.00]	0.01***	[0.00]
Co-Resident at Y1	-0.12*	[0.05]	-0.08	[0.05]	-0.10*	[0.05]	-0.06	[0.05]	-0.12*	[0.05]	-0.14**	[0.05]
Father Black	0.03	[0.05]	0.04	[0.05]	0.03	[0.05]	0.04	[0.05]	0.02	[0.06]	0.07	[0.05]
Father Hispanic	0.01	[0.06]	-0.01	[0.06]	0.02	[0.06]	0.01	[0.06]	0.04	[0.06]	0.05	[0.06]
Father Other Race	-0.14	[0.10]	-0.13	[0.10]	-0.14	[0.10]	-0.12	[0.10]	-0.02	[0.10]	0.03	[0.10]
Father Foreign Born	-0.06	[0.07]	-0.07	[0.07]	-0.05	[0.07]	-0.07	[0.07]	-0.06	[0.07]	-0.08	[0.07]
Father Impulsivity	-0.05*	[0.02]	-0.04	[0.02]	-0.04*	[0.02]	-0.04	[0.02]	-0.02	[0.02]	-0.03	[0.02]
Cognitive Ability	0.00	[0.01]	0.00	[0.01]	0.00	[0.01]	0.00	[0.01]	0.00	[0.01]	0	[0.01]
Biofather	-0.05	[0.04]	-0.03	[0.04]	-0.05	[0.04]	-0.03	[0.04]	-0.05	[0.04]	-0.04	[0.04]
Social Father	-0.03	[0.04]	-0.04	[0.04]	-0.04	[0.04]	-0.05	[0.04]	-0.04	[0.04]	-0.02	[0.04]
Baseline age	0.00	[0.02]	0.01	[0.02]	0.00	[0.02]	0.01	[0.02]	0.02	[0.02]	0.01	[0.02]
Baseline age squared	0.00	[0.00]	0.00	[0.00]	0.00	[0.00]	0.00	[0.00]	0.00	[0.00]	0.00	[0.00]
<HS	-0.05	[0.04]	-0.07	[0.04]	-0.06	[0.04]	-0.08	[0.04]	-0.06	[0.04]	-0.03	[0.04]
Some College	0.07	[0.04]	0.05	[0.04]	0.05	[0.04]	0.04	[0.04]	-0.02	[0.04]	-0.02	[0.04]
College Graduate	-0.04	[0.09]	-0.04	[0.09]	-0.05	[0.09]	-0.05	[0.09]	-0.03	[0.10]	-0.01	[0.10]
Married at Y1	-0.04	[0.05]	-0.05	[0.05]	-0.03	[0.05]	-0.03	[0.05]	-0.03	[0.06]	-0.01	[0.06]
Y1 Off-Books at Y1	0.04	[0.03]	0.03	[0.03]	0.05	[0.03]	0.04	[0.03]	0	[0.04]	0.03	[0.04]
Y1 Alcohol Problem Use	-0.04	[0.04]	-0.03	[0.04]	-0.03	[0.04]	-0.03	[0.04]	-0.03	[0.04]	-0.04	[0.04]
Y1 Drug Use	-0.32	[0.17]	-0.36*	[0.17]	-0.34*	[0.17]	-0.39*	[0.17]	-0.53*	[0.21]	-0.76**	[0.29]
Y1 Earnings (logged)	0.00	[0.01]	0.00	[0.01]	0.00	[0.01]	-0.01	[0.01]	-0.01	[0.01]	0.00	[0.01]
BL employment	-0.03	[0.04]	-0.03	[0.04]	-0.04	[0.04]	-0.04	[0.04]	0.01	[0.04]	0.01	[0.05]
Y1 Depression	-0.05	[0.05]	-0.06	[0.05]	-0.04	[0.05]	-0.04	[0.05]	-0.04	[0.05]	-0.03	[0.05]
MPF by Y1	-0.08*	[0.04]	-0.11**	[0.04]	-0.07*	[0.04]	-0.11**	[0.04]	-0.09*	[0.04]	-0.10*	[0.04]
N	836		765		803		742		651		581	

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

Indicators of "days visiting at Year 1" assumes that co-resident fathers saw their children 30 out of 30 days.

Table A3: Complete Case Analysis of Father-Child Visitation (Days), Replication of Models 2-4

	Full CC Sample		Released at Y5		Full CC Sample		Released at Y5		Full CC Sample		Released at Y3	
	Incarceration Y1-Y5, Pre-Y1				Incarceration Y3-Y5, Y1-Y3, Pre-Y1				Incarceration Y1-Y3, Pre-Y1			
	b	se	b	se	b	se	b	se	b	Se	b	Se
Incarceration Y1-Y5	-2.83**	[0.98]	-2.48*	[1.01]								
Incarceration Y3-Y5					-3.80***	[1.09]	-3.43**	[1.12]				
Incarceration Y1-Y3					0.24	[1.24]	0.02	[1.29]	-2.81*	[1.40]	-0.37	[1.55]
Incarceration Pre-Y1	-0.15	[1.02]	-0.19	[1.04]	-0.19	[1.04]	-0.16	[1.06]	0.23	[1.10]	-0.48	[1.12]
Days visiting at Y1	0.25***	[0.06]	0.26***	[0.06]	0.25***	[0.06]	0.26***	[0.06]	0.38***	[0.05]	0.40***	[0.05]
Co-Resident at Y1	-1.33	[1.27]	-1.56	[1.30]	-1.14	[1.28]	-1.41	[1.31]	-1.58	[1.35]	-1.64	[1.36]
Father Black	-2.88*	[1.32]	-2.71*	[1.33]	-2.85*	[1.32]	-2.71*	[1.33]	0.24	[1.54]	0.55	[1.54]
Father Hispanic	-2.02	[1.47]	-2.11	[1.48]	-2.06	[1.48]	-2.15	[1.49]	-0.59	[1.71]	-0.04	[1.70]
Father Other Race	-3.89	[3.01]	-3.83	[3.02]	-3.87	[3.01]	-3.79	[3.02]	0.5	[2.80]	1.14	[2.82]
Father Foreign Born	1.55	[1.84]	1.32	[1.84]	1.69	[1.84]	1.52	[1.85]	-0.57	[1.96]	-0.57	[1.97]
Father Impulsivity	-0.42	[0.54]	-0.31	[0.56]	-0.45	[0.55]	-0.36	[0.56]	-0.41	[0.57]	-0.54	[0.57]
Cognitive Ability	0.26	[0.17]	0.23	[0.18]	0.21	[0.18]	0.2	[0.18]	-0.22	[0.19]	-0.14	[0.19]
Biofather	-1.63	[1.03]	-1.62	[1.05]	-1.66	[1.04]	-1.58	[1.06]	-0.11	[1.18]	-0.42	[1.19]
Social Father	0.18	[1.04]	0.09	[1.06]	-0.16	[1.05]	-0.13	[1.07]	-0.72	[1.18]	-1.09	[1.19]
Baseline age	-0.58	[0.42]	-0.52	[0.43]	-0.52	[0.43]	-0.46	[0.43]	1.02*	[0.49]	1.23*	[0.49]
Baseline age squared	0.01	[0.01]	0.01	[0.01]	0.01	[0.01]	0.01	[0.01]	-0.02*	[0.01]	-0.02*	[0.01]
<HS	0.37	[1.04]	0.81	[1.07]	0.45	[1.06]	0.8	[1.08]	-2.33*	[1.13]	-2.06	[1.14]
Some College	0.88	[1.08]	1	[1.09]	0.79	[1.08]	0.9	[1.09]	-1.83	[1.20]	-1.93	[1.20]
College Graduate	3.05	[2.31]	3.28	[2.32]	3	[2.31]	3.17	[2.32]	-0.52	[2.71]	-0.91	[2.69]
Married at Y1	-1.93	[1.24]	-1.97	[1.25]	-2.07	[1.25]	-2.04	[1.26]	-3.88*	[1.75]	-3.76*	[1.77]
Y1 Off-Books at Y1	2.68**	[0.90]	2.69**	[0.92]	2.78**	[0.91]	2.75**	[0.92]	0.13	[1.00]	0.25	[1.01]
Y1 Alcohol Problem Use	-0.19	[0.96]	-0.22	[0.98]	-0.2	[0.97]	-0.19	[0.99]	0.36	[1.08]	0.36	[1.08]
Y1 Drug Use	-7.13	[6.94]	-7.25	[6.97]	-6.91	[6.94]	-6.95	[6.97]
Y1 Earnings (logged)	-0.38*	[0.19]	-0.36	[0.19]	-0.40*	[0.19]	-0.38*	[0.19]	-0.42*	[0.20]	-0.41*	[0.20]
BL employment	0.28	[1.12]	0.23	[1.14]	0.09	[1.13]	-0.03	[1.16]	-3.03*	[1.25]	-3.81**	[1.27]
Y1 Depression	-0.69	[1.28]	-0.55	[1.31]	-0.57	[1.29]	-0.44	[1.31]	-2.18	[1.36]	-2.39	[1.37]
MPF by Y1	-0.28	[0.98]	-0.29	[1.00]	-0.4	[0.99]	-0.4	[1.01]	-1.85	[1.09]	-1.59	[1.11]
N	559		544		550		536		473		456	

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

Indicators of "days visiting at Year 1" assumes that co-resident fathers saw their children 30 out of 30 days.

Table B1: Multiple Imputation Analysis of Father-Child Coresidence (LPM), Replication of Models 2-4

	Incarceration Y1-Y5, Pre-Y1						Incarceration Y3-Y5, Y1-Y3, Pre-Y1						Incarceration Y1-Y3, Pre-Y1					
	Full MI Sample		Co-resident at Y1		Co-resident Y1 Released Y5		Full MI Sample		Co-resident at Y1		Co-resident Y1 Released Y5		Full MI Sample		Co-resident at Y1		Co-resident Y1 Released Y5	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se	B	se	b	se
Incarceration Y1-Y5	-0.17***	[0.02]	-0.29***	[0.03]	-0.26***	[0.03]												
Incarceration Y3-Y5							-0.18***	[0.02]	-0.31***	[0.03]	-0.27***	[0.03]						
Incarceration Y1-Y3							-0.02	[0.02]	-0.07	[0.04]	-0.06	[0.04]	-0.13***	[0.02]	-0.24***	[0.05]	-0.16***	[0.05]
Incarceration Pre-Y1	0.01	[0.02]	0.03	[0.03]	0.04	[0.03]	0.01	[0.02]	0.03	[0.03]	0.03	[0.03]	-0.02	[0.02]	-0.01	[0.02]	-0.01	[0.02]
Father Black	-0.08***	[0.02]	-0.09***	[0.02]	-0.09***	[0.02]	-0.08***	[0.02]	-0.09***	[0.03]	-0.09***	[0.03]	-0.07***	[0.02]	-0.07**	[0.02]	-0.06**	[0.02]
Father Hispanic	-0.01	[0.02]	0	[0.03]	0	[0.03]	-0.01	[0.02]	0	[0.03]	0	[0.03]	0	[0.02]	0.03	[0.03]	0.04	[0.03]
Father Other Race	-0.03	[0.04]	-0.03	[0.05]	-0.02	[0.05]	-0.02	[0.04]	-0.02	[0.05]	-0.02	[0.05]	-0.04	[0.04]	-0.03	[0.04]	-0.01	[0.04]
Father Foreign Born	0.07***	[0.02]	0.08***	[0.02]	0.08**	[0.02]	0.07***	[0.02]	0.08***	[0.02]	0.08***	[0.02]	0.03	[0.02]	0.04	[0.02]	0.04	[0.02]
Father Impulsivity	-0.05***	[0.01]	-0.05***	[0.01]	-0.05***	[0.01]	-0.04***	[0.01]	-0.05***	[0.01]	-0.05***	[0.01]	-0.02*	[0.01]	-0.02*	[0.01]	-0.02*	[0.01]
Cognitive Ability	0.00	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0	[0.00]	0.01	[0.00]
Biofather	-0.01	[0.02]	0.01	[0.02]	0.02	[0.02]	-0.01	[0.02]	0.01	[0.02]	0.01	[0.03]	-0.03	[0.02]	-0.01	[0.02]	-0.01	[0.02]
Social Father	-0.01	[0.02]	0	[0.02]	0	[0.02]	-0.01	[0.02]	0	[0.02]	0	[0.02]	-0.01	[0.02]	-0.01	[0.02]	-0.01	[0.02]
Baseline Age	0.02***	[0.00]	0.03**	[0.01]	0.03**	[0.01]	0.02***	[0.00]	0.03**	[0.01]	0.03**	[0.01]	0.01**	[0.00]	0.02**	[0.01]	0.02**	[0.01]
Baseline Age Squared	-0.00***	[0.00]	-0.00**	[0.00]	-0.00**	[0.00]	-0.00***	[0.00]	-0.00**	[0.00]	-0.00**	[0.00]	-0.00*	[0.00]	-0.00*	[0.00]	-0.00**	[0.00]
<HS	0.04*	[0.02]	0.03	[0.03]	0.03	[0.03]	0.04*	[0.02]	0.03	[0.03]	0.03	[0.03]	0.02	[0.02]	0.02	[0.03]	0.03	[0.03]
Some College	0.03	[0.02]	0.03	[0.03]	0.03	[0.03]	0.03	[0.02]	0.03	[0.03]	0.03	[0.03]	0.03	[0.02]	0.04	[0.02]	0.04	[0.02]
College Graduate	0.06**	[0.02]	0.04	[0.03]	0.04	[0.03]	0.07**	[0.02]	0.05	[0.03]	0.04	[0.03]	0.03	[0.02]	0.03	[0.02]	0.03	[0.03]
Cohabiting at Y1 (vs. Married)	-0.16***	[0.02]					-0.16***	[0.02]					-0.16***	[0.02]				
Nonresident at Y1 (vs Married)	-0.53***	[0.02]					-0.53***	[0.02]					-0.64***	[0.02]				
Married at Y1 (vs Cohabiting)			0.14***	[0.02]	0.14***	[0.02]			0.14***	[0.02]	0.14***	[0.02]			0.15***	[0.02]	0.14***	[0.02]
Y1 Off-books Employment	0.02	[0.02]	0.00	[0.02]	0	[0.02]	0.02	[0.02]	0	[0.02]	0	[0.02]	0.00	[0.01]	-0.02	[0.02]	-0.02	[0.02]
Y1 Problem Alcohol Use	-0.01	[0.01]	-0.02	[0.03]	-0.02	[0.03]	-0.01	[0.02]	-0.02	[0.03]	-0.03	[0.03]	-0.01	[0.02]	-0.02	[0.02]	-0.02	[0.02]
Y1 Drug Use	-0.1	[0.09]	-0.15	[0.21]	-0.15	[0.22]	-0.1	[0.09]	-0.14	[0.20]	-0.15	[0.21]	0.00	[0.10]	0.07	[0.19]	0.1	[0.21]
Y1 Earnings (logged)	-0.01*	[0.00]	-0.01	[0.00]	-0.01	[0.00]	-0.01*	[0.00]	-0.01	[0.01]	-0.01	[0.00]	0.00	[0.00]	0.00	[0.00]	0.00	[0.00]
BL Employment	0.00	[0.02]	0.02	[0.03]	0.02	[0.03]	0.00	[0.02]	0.02	[0.04]	0.03	[0.03]	-0.02	[0.02]	0.02	[0.03]	0.01	[0.03]
Y1 Depression	-0.05	[0.03]	-0.09*	[0.04]	-0.10*	[0.05]	-0.05*	[0.02]	-0.10*	[0.04]	-0.10*	[0.05]	-0.03	[0.02]	-0.04	[0.05]	-0.04	[0.05]
MPF by Y1	-0.06***	[0.02]	-0.05*	[0.02]	-0.06**	[0.02]	-0.06***	[0.02]	-0.06*	[0.02]	-0.06**	[0.02]	-0.05**	[0.02]	-0.03	[0.02]	-0.04	[0.02]
N	4834		2777		2713		4834		2777		2713		4834		2777		2709	

Table B2: MI Analysis of Father-Child Visitation (Any, LPM), Replication of Models 2-4

	Full CC Sample		Released at Y5		Full CC Sample		Released at Y5		Full CC Sample		Released at Y3	
	Incarceration Y1-Y5, Pre-Y1				Incarceration Y3-Y5, Y1-Y3, Pre-Y1				Incarceration Y1-Y3, Pre-Y1			
	b	se	b	se	b	se	b	se	b	se	b	se
Incarceration Y1-Y5	-3.28***	[0.71]	-2.87***	[0.75]								
Incarceration Y3-Y5					-3.85***	[0.76]	-3.36***	[0.80]				
Incarceration Y1-Y3					-0.33	[0.90]	-0.41	[0.93]	-2.40*	[1.01]	-1.24	[1.04]
Incarceration Pre-Y1	-0.16	[0.78]	-0.07	[0.79]	-0.1	[0.79]	-0.02	[0.80]	0.05	[0.71]	-0.1	[0.73]
Days visiting at Y1	0.27***	[0.06]	0.27***	[0.06]	0.26***	[0.05]	0.27***	[0.05]	0.37***	[0.03]	0.38***	[0.03]
Co-Resident at Y1	-2.12	[1.23]	-2.26	[1.22]	-2.04	[1.20]	-2.19	[1.20]	-2.54**	[0.94]	-2.40*	[0.96]
Father Black	-1.09	[1.00]	-0.95	[1.02]	-1.08	[1.00]	-0.96	[1.02]	1.3	[1.06]	1.51	[1.07]
Father Hispanic	-0.04	[1.13]	-0.02	[1.15]	-0.09	[1.12]	-0.08	[1.15]	0.74	[1.20]	1.06	[1.22]
Father Other Race	-3.36	[1.97]	-3.09	[2.02]	-3.23	[1.96]	-2.99	[2.01]	0.5	[1.96]	1.43	[2.02]
Father Foreign Born	1.11	[1.57]	0.98	[1.58]	1.12	[1.59]	0.99	[1.60]	-0.82	[1.37]	-0.85	[1.39]
Father Impulsivity	-0.49	[0.38]	-0.43	[0.39]	-0.43	[0.38]	-0.38	[0.39]	-0.31	[0.42]	-0.32	[0.45]
Father Cognitive Ability	0.14	[0.16]	0.12	[0.16]	0.11	[0.16]	0.09	[0.17]	-0.16	[0.13]	-0.13	[0.13]
Family History – Biofather	-1.72*	[0.74]	-1.70*	[0.76]	-1.71*	[0.73]	-1.69*	[0.75]	-0.26	[0.94]	-0.45	[0.95]
Family History - Social Father	-0.05	[0.78]	-0.07	[0.82]	-0.16	[0.79]	-0.16	[0.83]	-0.41	[0.83]	-0.62	[0.85]
Baseline age	-0.32	[0.35]	-0.3	[0.36]	-0.31	[0.34]	-0.29	[0.36]	0.17	[0.29]	0.21	[0.30]
Baseline age squared	0.01	[0.01]	0.01	[0.01]	0.01	[0.01]	0.01	[0.01]	0	[0.00]	0	[0.00]
<HS	0.17	[0.73]	0.39	[0.76]	0.26	[0.74]	0.47	[0.77]	-1.18	[0.73]	-1.09	[0.75]
Some College	0.8	[0.79]	0.9	[0.81]	0.75	[0.79]	0.86	[0.80]	-1.15	[0.84]	-1.25	[0.86]
College Graduate	1.5	[1.65]	1.68	[1.67]	1.51	[1.64]	1.68	[1.67]	-1.46	[1.71]	-1.62	[1.72]
Married at Y1	-2.35*	[1.05]	-2.35*	[1.07]	-2.29*	[1.04]	-2.28*	[1.06]	-3.59*	[1.43]	-3.39*	[1.46]
Y1 Off-Books at Y1	2.21**	[0.79]	2.28**	[0.86]	2.21**	[0.78]	2.28**	[0.84]	-0.04	[0.78]	0.01	[0.79]
Y1 Alcohol Problem Use	-0.54	[0.69]	-0.54	[0.70]	-0.5	[0.69]	-0.5	[0.71]	0.45	[1.02]	0.41	[1.03]
Y1 Drug Use	2.29	[3.78]	2.58	[3.86]	2.4	[3.56]	2.69	[3.71]	-1.67	[4.98]	-1.65	[5.33]
Y1 Earnings (logged)	-0.27*	[0.13]	-0.27*	[0.13]	-0.27*	[0.13]	-0.27	[0.14]	-0.13	[0.12]	-0.1	[0.12]
BL employment	-0.08	[0.81]	-0.17	[0.84]	-0.01	[0.82]	-0.11	[0.85]	-1.34	[0.78]	-1.62*	[0.80]
Y1 Depression	-1.21	[0.90]	-1.09	[0.92]	-1.17	[0.90]	-1.06	[0.92]	-1.62	[0.94]	-1.77	[0.97]
MPF by Y1	0.23	[0.71]	0.07	[0.73]	0.16	[0.71]	0.02	[0.73]	-1.08	[0.85]	-1.18	[0.86]
N	1130		1089		1130		1089		1058		1013	

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

Indicators of "days visiting at Year 1" assumes that co-resident fathers saw their children 30 out of 30 days.

Table B3: MI Analysis of Father-Child Visitation (Days out of past 30, among visitors), Replication of Models 2-4

	Full CC Sample		Released at Y5		Full CC Sample		Released at Y5		Full CC Sample		Released at Y3	
	Incarceration Y1-Y5, Pre-Y1				Incarceration Y3-Y5, Y1-Y3, Pre-Y1				Incarceration Y1-Y3, Pre-Y1			
	b	se	b	se	b	se	b	se	b	se	b	se
Incarceration Y1-Y5	-3.33***	[0.72]	-2.92***	[0.75]								
Incarceration Y3-Y5					-3.85***	[0.76]	-3.36***	[0.80]				
Incarceration Y1-Y3					-0.33	[0.90]	-0.41	[0.93]	-2.40*	[1.01]	-1.24	[1.04]
Incarceration Pre-Y1	-0.18	[0.79]	-0.08	[0.80]	-0.1	[0.79]	-0.02	[0.80]	0.05	[0.71]	-0.1	[0.73]
Days visiting at Y1	0.21***	[0.03]	0.22***	[0.03]	0.26***	[0.05]	0.27***	[0.05]	0.37***	[0.03]	0.38***	[0.03]
Co-Resident at Y1					-2.04	[1.20]	-2.19	[1.20]	-2.54**	[0.94]	-2.40*	[0.96]
Father Black	-0.88	[1.03]	-0.73	[1.04]	-1.08	[1.00]	-0.96	[1.02]	1.3	[1.06]	1.51	[1.07]
Father Hispanic	0.03	[1.14]	0.08	[1.16]	-0.09	[1.12]	-0.08	[1.15]	0.74	[1.20]	1.06	[1.22]
Father Other Race	-3.34	[1.97]	-3.03	[2.02]	-3.23	[1.96]	-2.99	[2.01]	0.5	[1.96]	1.43	[2.02]
Father Foreign Born	0.99	[1.56]	0.85	[1.57]	1.12	[1.59]	0.99	[1.60]	-0.82	[1.37]	-0.85	[1.39]
Father Impulsivity	-0.49	[0.38]	-0.42	[0.39]	-0.43	[0.38]	-0.38	[0.39]	-0.31	[0.42]	-0.32	[0.45]
Father Cognitive Ability	0.13	[0.15]	0.1	[0.16]	0.11	[0.16]	0.09	[0.17]	-0.16	[0.13]	-0.13	[0.13]
Family History – Biofather	-1.63*	[0.75]	-1.61*	[0.76]	-1.71*	[0.73]	-1.69*	[0.75]	-0.26	[0.94]	-0.45	[0.95]
Family History - Social Father	-0.05	[0.79]	-0.06	[0.83]	-0.16	[0.79]	-0.16	[0.83]	-0.41	[0.83]	-0.62	[0.85]
Baseline age	-0.31	[0.35]	-0.3	[0.36]	-0.31	[0.34]	-0.29	[0.36]	0.17	[0.29]	0.21	[0.30]
Baseline age squared	0.01	[0.01]	0.01	[0.01]	0.01	[0.01]	0.01	[0.01]	0	[0.00]	0	[0.00]
<HS	0.17	[0.72]	0.37	[0.75]	0.26	[0.74]	0.47	[0.77]	-1.18	[0.73]	-1.09	[0.75]
Some College	0.67	[0.81]	0.75	[0.82]	0.75	[0.79]	0.86	[0.80]	-1.15	[0.84]	-1.25	[0.86]
College Graduate	1.44	[1.65]	1.61	[1.68]	1.51	[1.64]	1.68	[1.67]	-1.46	[1.71]	-1.62	[1.72]
Married at Y1	-3.09**	[1.06]	-3.15**	[1.09]	-2.29*	[1.04]	-2.28*	[1.06]	-3.59*	[1.43]	-3.39*	[1.46]
Y1 Off-Books at Y1	2.15**	[0.81]	2.21*	[0.88]	2.21**	[0.78]	2.28**	[0.84]	-0.04	[0.78]	0.01	[0.79]
Y1 Alcohol Problem Use	-0.56	[0.69]	-0.58	[0.70]	-0.5	[0.69]	-0.5	[0.71]	0.45	[1.02]	0.41	[1.03]
Y1 Drug Use	2.32	[3.73]	2.64	[3.75]	2.4	[3.56]	2.69	[3.71]	-1.67	[4.98]	-1.65	[5.33]
Y1 Earnings (logged)	-0.27*	[0.13]	-0.27*	[0.13]	-0.27*	[0.13]	-0.27	[0.14]	-0.13	[0.12]	-0.1	[0.12]
BL employment	-0.12	[0.81]	-0.21	[0.83]	-0.01	[0.82]	-0.11	[0.85]	-1.34	[0.78]	-1.62*	[0.80]
Y1 Depression	-1.09	[0.90]	-0.93	[0.92]	-1.17	[0.90]	-1.06	[0.92]	-1.62	[0.94]	-1.77	[0.97]
MPF by Y1	0.14	[0.72]	-0.05	[0.74]	0.16	[0.71]	0.02	[0.73]	-1.08	[0.85]	-1.18	[0.86]
N	1130		1089		1130		1089		1058		1013	

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

Indicators of "days visiting at Year 1" assumes that co-resident fathers saw their children 30 out of 30 days.