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ABSTRACT

High rates of incarceration in the United States have motivated a broad examination of the effects of parental incarceration on child wellbeing. Although a growing literature documents challenges facing the children of incarcerated men, most incarcerated fathers lived apart from their children before their arrest, raising questions of whether they were sufficiently involved with their families for their incarceration to affect their children. I use the Fragile Families and Child Wellbeing Study ($N=4,071$) to examine father-child contact among incarcerated fathers, and find that most incarcerated fathers maintained a degree of contact with their children, through either coresidence or visitation. Moreover, I find robust reductions in both father-child coresidence and visitation when fathers are incarcerated – between 18 and 20 percent for co-residence, and 30 to 50 percent for the probability of visitation. My findings suggest that these reductions are driven by both 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

In 2010, 2.7 million children, or 1 in every 28, had an incarcerated parent (The Pew Charitable Trusts, 2010), and millions more have a parent who was incarcerated in the past, or will be incarcerated in the future. At least 3.6% of white children and 25.1% of black children will have a parent incarcerated by the time they are 14 years old (Wildeman, 2009). 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. The sharp rise in incarceration over the past 30 years, coupled with high rates of parenthood among incarcerated individuals (The Pew Charitable Trusts, 2010, estimate that 54% of inmates have minor children) raises serious concerns for the wellbeing of children with incarcerated parents (See reviews by Johnson and Easterling, 2012; Murray, Farrington, Sekol, & Olsen, 2009; Wildeman, Wakefield, and Turney, 2013).

Approximately 90% of incarcerated parents are fathers (The Pew Charitable Trusts, 2010), raising concerns that paternal incarceration might undermine child wellbeing by limiting fathers' involvement in their families. Fathers can influence child development through material resources, instruction, behavior, attitudes, expectations, and emotional support, yet children's interactions with incarcerated fathers are limited in both quantity and quality (Arditti, Lambert-Shute, & Joest, 2003; Comfort, 2008). It is widely noted that father involvement could lead to either positive or negative outcomes for children (Hijjawi, Wilson, & Turkheimer, 2003; Murray & Farrington, 2010), and particularly if fathers are violent, incarceration could stabilize, rather than destabilize, their family circumstances. However, incarcerated fathers face severe barriers to positive engagement with their children (Arditti, Smock, & Parkman, 2005).

Formerly incarcerated fathers also face social and economic hardships (Petersilia, 2003; Travis, Solomon, & Waul, 2001) that may lead to economic instability for their partners and children (Geller, Garfinkel, & Western, 2011; Schwartz-Soicher, Geller, & Garfinkel, 2011; Sugie, 2012) and preclude healthy relationships with their families. This, further, risks perpetuating racial inequality across generation, due to the disparate rates of black and white children with an incarcerated parent (Wakefield & Uggen, 2010; Wakefield & Wildeman, 2011; Wildeman, 2009). The effects of father involvement and father incarceration may also have interactive effects on child wellbeing. To the extent that returning prisoners face challenges in the labor and housing markets (Geller & Curtis, 2011; Western, 2002), these challenges will likely be more salient for children whose fathers are more involved in their lives.

However, challenges persist in distinguishing causal effects of incarceration from pre-existing family instability (Hagan & Dinovitzer, 1999; Johnston, 2006; Sampson, 2011; Wakefield & Uggen, 2010), 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, Cooper, Garfinkel, Schwartz-Soicher, & Mincy, 2012; Western & Wildeman, 2009). One key dimension of these relationships is the extent of children's access to their fathers, and the amount of contact that they have, as father-child contact enables nearly all other aspects of father involvement. Inmate surveys indicate that most fathers in prison were living apart from their children before incarceration (Johnson & Waldfogel, 2002; Mumola, 2006), suggesting that many prisoners may have played a limited role in their families before their criminal justice contact, and that the disruption driven by incarceration itself might be minimal (Sampson, 2011).

In this paper I examine paternal incarceration in contemporary urban families, to assess the exposure of children to paternal incarceration and the extent that incarceration might undermine father involvement through reductions in father-child contact. I leave a complete examination of father involvement for future research, focusing here on the quantity of contact. Using repeated measures of household structure and father-child visitation, I observe changes in father-child contact over time, and estimate the extent to which incarceration may incapacitate fathers from their families or hasten the dissolution of family relationships.

I find that although incarceration is concentrated among nonresident fathers, between 33% and 44% of children experiencing paternal incarceration had lived with their father before his time in prison or jail. I also find that more than 10% of resident fathers have incarceration histories, suggesting the socioeconomic disadvantage associated with re-entry may extend to their children. Finally, I find that the observed concentration of incarceration among nonresident fathers may be driven not only by fathers' incapacitation from parenting while in prison or jail, but also by the dissolution of parental relationships upon release. These findings underscore challenges faced by criminal justice and social service agencies that work with children of incarcerated parents (The New York City Council, 2011).

Background

Father involvement has been conceptualized in varying ways across disciplines and over time: in the 1960s and 70s, focus shifted from qualitative dimensions of fatherhood to more quantifiable dimensions, such as time spent with their children (Lamb, 2006). In developmental psychology, father involvement is a multi-faceted

construct based on fathers' accessibility to, engagement with, and responsibility for their children (Lamb et al, 1987; Ryan et al, 2008). Accessibility, the focus of this analysis, reflects a father's contact with his child, regardless of the quality of interactions (Ryan et al., 2008). Researchers have also measured father involvement with indicators of indirect care, financial support, co-residence, and visitation (Kotila and Kamp Dush, 2012; Slade, forthcoming; Guzzo, 2009; Cabrera et al, 2008). Other research has focused on fathers' impacts on child outcomes, as well as whether or not co-residence is necessary for those impacts (King, 1994; Carlson, 2006).

Although a substantial ethnographic literature (Comfort, 2008; Braman, 2004; Arditti et al., 2003) and growing quantitative literature (Johnson & Easterling, 2012; Murray, et al., 2009; Wildeman, et al., 2013) have examined the implications of paternal incarceration for child health, behavior and overall wellbeing, this literature has not used a population-based sample to assess children's access to their incarcerated fathers, either before or after incarceration. Accessibility is a critical component of father involvement, as it enables the interactions that may enhance or undermine family relationships and child wellbeing. This paper therefore examines father-child contact, measured both by co-residence and visitation.

Resident Fathers

The incarceration of a resident father, and his removal from the household, may limit both the quantity and quality of his interactions with his children. Travel to prisons can be logistically difficult and emotionally stressful, and many mothers shield their children from the experience (Arditti, 2005; Arditti et al., 2003; Comfort, 2008). Incarceration also often compromises parental relationships (Edin, 2000; Anderson,

1999), leading some mothers to limit contact between children and their fathers (Arditti, et al., 2005; Edin, Nelson and Paranal, 2004; Roy and Dyson, 2005).

Formerly incarcerated fathers also face barriers to contact with their children. The labor market and housing challenges facing returning prisoners may strain their romantic relationships, leading coresident couples to separate. Mothers may also form new relationships while fathers are incarcerated (Braman, 2004; Roy, 2005). Father-child visitation and parents' romantic involvement are often seen as a "package deal" (Furstenberg & Cherlin, 1991; Tach, Mincy, & Edin, 2010), in which visitation is contingent on parents' romantic relationships, suggesting that in compromising parental relationships, incarceration will also undermine fathers' access to their children (though see (Cheadle, Amato, & King, 2010; Mincy, Pouncy, & Zilanawala, 2011).

Nonresident Fathers

Fathers not living with their children before incarceration may also see their children less following contact with the criminal justice system. Nonresident fathers frequently maintain a role in their children's upbringing (Argys et al., 2006; Tach et al., 2010), and see them on a regular basis, though estimates of father-child contact vary widely (See Argys et al., 2006). Incarceration incapacitates fathers from such contact, particularly if children rely on their mothers to initiate prison visits. Nonresident fathers also face challenges to reunification with their children upon release. In many states, fathers accrue child support obligations while incarcerated (Yoder, 2011), and leave prison with unmanageable arrears. Payment challenges may undermine visitation (Nepomnyaschy, 2007). In addition, mothers frequently assume a "gatekeeping" role (Nurse, 2002; Roy, 2005), limiting the time that fathers spend with their children.

Potentially Confounding Factors

Although incarceration threatens the relationships between fathers and their partners and children, father-child contact may also be compromised among incarcerated fathers for reasons other than the prison or jail experience itself. Family stability has been associated with reduced offending (King, Massoglia, & MacMillan, 2007), suggesting that fathers lacking these ties (through marriage, coresidence, or father involvement in their families of origin) or facing other family instability such as multipartner fertility, may be at elevated risk of both incarceration and weak ties to their children. In addition, the incarcerated population is overwhelmingly young and minority (Western, 2006), with low levels of education, cognitive ability and impulse control, and unstable work histories (Geller et al., 2012) that often precede their 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, confounding estimates of the relationship between incarceration and father-child contact (Waller and Swisher, 2006).

Empirical Evidence

Although it is well known that most fathers in prison were not living with their children before their arrest, less is known about the effects of incarceration on fathers who had previously been resident, or the extent of visitation among nonresident incarcerated fathers. Analyses of inmate surveys (Johnson & Waldfogel, 2002; Mumola, 2006) rely on retrospective reports of preincarceration residence with their families, and tend not to follow inmates after release to observe how these relationships might change. Furthermore, inmate surveys are prison-based, not population-based, and therefore unable to ascertain the prevalence of incarceration and its effects on families. Given high rates of

multipartner fertility among incarcerated men (Geller et al., 2011), the effects of incarceration likely extend beyond the households in which fathers most recently lived.

Western, Lopoo, and McLanahan (2004) use the Fragile Families and Child Wellbeing Study (FFCWS) 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 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. Swisher and Waller (2008) use the same data and find that fathers' incarceration presents barriers to contact with their children and to financial support agreements with mothers. The current analysis builds upon the work of Western et al. (2004) and Swisher and Waller (2008), using the longitudinal data now available in the FFCWS to observe changing family circumstances, and new experiences of paternal incarceration in years following the earlier analyses. I also quantify the extent to which incarceration might limit fathers' contact with their children, decomposing contact into two components – coresidence and visitation – and assessing changes in each over time.

Method

Data

Data come from the Fragile Families and Child Wellbeing Study (FFCWS), a population-based longitudinal survey of nearly 5,000 couples ($N=4,898$) with children. The study systematically oversamples unmarried parents, but when weighted is nationally representative of families with children born in cities of 200,000 or more. Baseline data were collected between 1998 and 2000, in hospitals in 20 large U.S. cities; Reichman et

al. (2001) provide a complete description of the study design. The study was initially designed to examine nonmarital childbearing, the role of fathers, and welfare reform—and has since expanded to examine other aspects of social disadvantage. I focus on incarceration and father-child contact over the study's first five years.

Key Constructs

Father-child contact is measured using mothers' reports of fathers' coresidence with their child, and in families where the focal couple has separated, mothers' reports of father-child visitation. I 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 fathers who are likely to have less contact with their children. Fathers are considered resident if the mother reports that they are married or cohabiting and living with the focal child (at least half the time) if the parents live apart and she reports that the father is the child's primary caretaker. Visitation is measured in two ways. First, I examine a binary indicator of whether fathers visited in the past 30 days, reflecting the relationship between past-month contact and child support payment (Nempomnyaschy 2007). I next examine, for fathers reported to have visited in the past month, the number of days in that month that he has seen the focal child.

Fathers' incarceration history is measured using a combination of self-reports and proxy reports, including maternal reports and "indirect" indicators of incarceration. Beginning at the first follow-up survey, both fathers and mothers are asked about the fathers' incarceration history, including (at year 1) whether the father has ever been incarcerated, and (at years 3 and 5) whether the father has been incarcerated in the past two years. Indirect reports of incarceration include suggestions of incarceration in other

questions, 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 when the survey team notes that respondents cannot be reached for interview because they are in jail or prison. Given the tendency of survey respondents to underreport antisocial behavior (Groves, 2004) and incarceration (Farrington, 1998; Golub, Johnson, Taylor, & Liberty, 2002; Gottfredson & Hirschi, 1990), I identify fathers as incarcerated in a given wave if either they or their partners report incarceration, directly or indirectly, or if the survey team suggests incarceration (See Geller et al., 2012, for more detail on the measure). In the first, third, and fifth-year waves, fathers are identified as “ever incarcerated”, and in the third and fifth-year waves, fathers reported as incarcerated in the past two years are identified as “recently incarcerated”. To the extent that incarcerated fathers, and the women with whom they have children, are more likely to be lost to attrition, these estimates represent a lower bound on incarceration’s prevalence in the population. If parents are missing from a given survey, refuse to report on the father’s incarceration, or report that they “don’t know”, I note the father’s incarceration history as “unknown”. As described below, I examine the robustness of findings to a variety of strategies for accounting for unknown incarceration histories and other missing data.

Because families experiencing a father’s incarceration are likely to also face a variety of other challenges that may undermine father-child contact, I consider co-residence, visitation, and incarceration in the context of a rich set of socioeconomic factors likely to be correlated with both criminal justice system involvement and family stability. I divide these potential confounders into two groups: “early life” and “contemporaneous” characteristics. Early life covariates include fathers’ race, nativity,

family history (i.e., whether he grew up living with his biological father or a “social father” figure), impulsivity (using the Dickman (1990) scale of dysfunctional impulsivity), and cognitive ability (using the Weschsler (1981) Adult Intelligence Scale). Each of these characteristics is fixed at birth or in childhood, or considered stable over time (Moeller et al., 2001; Deary et al., 2004), and unlikely to be confounded by incarceration experiences preceding fathers’ entry into the survey. Contemporaneous covariates, on the other hand, are measured at baseline or Year 1 of the FFCWS, and include fathers’ age (at the birth of the focal child), educational attainment, self-reported drug use and problem drinking, employment in the formal and informal sectors, earnings, mental health symptoms, and multipartner fertility. Each of these factors may have been influenced by jail or prison spells that predated the survey (e.g., if incarceration prevented fathers from completing their education, or delayed their fathering a child). They are therefore used in examining recent, but not lifetime, incarceration.

Analysis Samples

The descriptive analysis, in each wave, contains all families in which the mother is interviewed and the father is not reported to be deceased. 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 4,194 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 1,840 living apart at Year 3), and mothers report how many times the father has seen the child in the previous month. These analysis samples were selected to maintain as much information as possible from a sample that changes over time (due to nonresponse in one or more

waves), and in which measurement of father-child contact depends on parents' relationship status. (e.g, While I examine coresidence all observed families, visitation is only a relevant construct for nonresident fathers.)

Descriptive Analyses

I begin the 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 follow-up wave (Year 1, Year 3, and Year 5), I compute the percent of children whose fathers have incarceration histories, with attention to the percent of children whose fathers were recently incarcerated. At each wave, I weight observations to be nationally representative of urban families with children, correcting for the systematic oversample of unmarried families described by Reichman et al. (2001). I examine rates differentially by parental coresidence status, to identify children whose wellbeing was most likely to have been affected by their fathers' incarceration. I also compute, in Years 3 and 5, the percent of recently incarcerated fathers living with their focal partners and children in the wave before their contact with the criminal justice system, to identify families in which paternal incarceration is likely to be most disruptive.

Regression Analyses

To identify the extent to which incarceration might compromise father-child contact, I next estimate a series of regression models, which predict fathers' residence status as a function of their incarceration history, and control for the covariates described above. All regression models use unweighted data; sensitivity to weighting is discussed below. I first estimate a linear probability model predicting fathers' Year 5 coresidence by his lifetime incarceration experience, controlling only for the "early life", time-

invariant demographic and behavioral characteristics listed above. In this model (“Model 1”) the “Any incarceration” coefficient represents the adjusted difference in fathers’ probability of coresidence at Year 5; however, this difference may reflect a wide range of factors correlated with both incarceration and coresidence.

I therefore narrow the range of potential confounders, 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 either coresidence or visitation. Model 2 focuses specifically on incarceration between the first and fifth-year surveys, Model 3 subdivides this period to separately examine incarceration between years 3 and 5, and years 1 and 3, and Model 4 predicts coresidence at year 3 with incarceration in the two years prior, as well as more distal incarceration. In Models 2, 3, and 4, I focus interpretation on the most recent indicators of incarceration, which allow the richest controls and rule out more threats to causal inference.

I next test the extent to which reduced coresidence among recently incarcerated fathers is likely to reflect relationship dissolution that follows their release, and the extent to which it is likely to reflect incapacitation while serving their sentences. I re-estimate Models 2-4 (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 resident at Year 1 and were not incarcerated at the

mother's Year 5 interview (or in the case of Model 4, the Year 3 interview). Focusing on fathers not incarcerated when relationships are measured eliminates incapacitation as a potential driver of nonresidence. I hypothesize that differences between these two sets of results reflect the role of incapacitation in limiting father-child contact.

Finally, I examine the extent to which incarceration might compromise children's contact with nonresident fathers by estimating variations of Models 1-4 that predict whether fathers have seen the focal child in the past 30 days, and among visiting fathers, on how many days. As in my analysis of coresidence, I stratify the sample to compare the potential roles of incapacitation and reduced visitation by fathers no longer incarcerated.

Missing Data

As noted above, I use maternal reports of fathers' residence status and visitation patterns to avoid censoring bias driven by nonresponse among fathers who see their children less. Despite this precaution, the analyses may be vulnerable to selection bias if the distribution of father-child contact and incarceration patterns differs among families not consistently observed across survey waves, particularly since women with incarcerated partners are more likely to be lost to attrition. I use several strategies to assess the sensitivity of my findings to missing data. The main regression results use a dummy variable adjustment (Cohen & Cohen, 1985) that permits the retention of all families in which Year 5 residence status (and, where relevant, visitation) is observed. However, because these models involve a risk of bias (Allison, 2002), I assess the robustness of results to two additional approaches. The first, complete case analysis, drops families from a regression model if they are missing data on any variables in the model. Although this method 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. I therefore also use Multiple Imputation through Chained Equations (Royston, 2004; Van Buuren, Boshuizen, & Knook, 1999) to estimate missing values of incarceration and father-child contact indicators, as well as potential confounders. Estimates from these analyses are available upon request.

Results

Estimated Rates of Incarceration and Father-Child Contact

Descriptive results, presented in Table 1, underscore the potential for family disruption when fathers are incarcerated. Nearly 28% of urban children were estimated at age five to have had fathers with incarceration histories, and an additional 13% had fathers with unknown incarceration histories. The distribution of incarceration rates across families was heavily skewed, with more than half of nonresident fathers known to have been incarcerated. Notably, however, resident fathers also had incarceration histories – approximately 12-15% of urban children lived with formerly incarcerated fathers. Although many of these men were incarcerated and released before their children were born (only 3% of children lived with a recently-incarcerated father at ages three or five), their coresident children may be exposed to any re-entry challenges they face.

It is also notable that while most incarcerated fathers lived apart from their children prior to prison or jail, many paternal incarcerations involved recently resident fathers. More than 40% of children experiencing a father’s incarceration between ages 1 and 3 had lived with their father at age 1. Of children with fathers incarcerated between

years 3 and 5, approximately one third were co-resident at age 3. The coresidence rates of incarcerated fathers were approximately half those of urban fathers more broadly.

In addition to examining coresidence among formerly and subsequently incarcerated fathers, Table 1 also suggests a non-negligible level of contact between nonresident formerly incarcerated fathers and their children. Although formerly incarcerated fathers were significantly less likely to see their children than are other nonresident fathers, more than 40% of mothers reported at Year 5 that their children's nonresident, formerly incarcerated, fathers had visited with the child in the past month, seeing their children an average of 2-3 times per week.

[Table 1 about here]

These findings suggest that although most incarcerated fathers did not live with their children, most had contact with their children through either coresidence or visitation. Incarceration has the potential to compromise this contact.

Coresidence by Paternal Incarceration History

Table 2 presents findings from linear probability models predicting father-child coresidence, and suggests coresidence was significantly compromised following fathers' time in prison or jail. Model 1 found that when comparing two similarly situated fathers with five-year-old children, one with an incarceration history and one without, the formerly (or currently) incarcerated father was 24 percentage points less likely to reside with the focal child. As base rates of Year 5 coresidence were just over 60%, a 24 percentage-point drop represented approximately a 40% lower rate of residence among ever-incarcerated fathers. Models 2-4, which controlled for Year 1 parental relationships

as well as a richer set of covariates, suggested a significant decline in fathers' probability of coresidence (between 18 and 21 percentage points) following time in prison or jail.

[Table 2 about here]

Although the declines observed following fathers' incarceration are consistent across models, it remains possible that unobserved family changes caused both the observed incarcerations and reductions in coresidence. It is therefore inappropriate to fully attribute these differences to a causal incarceration effect. In subsequent analyses, I thus attempted to identify mechanisms that might have governed the observed declines.

Table 3 presents key coefficients from models that attempted to isolate two potential mechanisms: union dissolution and incapacitation. Focusing on fathers who were resident at Year 1, incarceration in subsequent years predicted nonresidence even more strongly than in the broader sample of fathers. Coefficients on recent incarceration increased in magnitude by between 28% (in Model 4) and 61% (in Model 3). Incarceration also predicted reduced coresidence among fathers nonresident at Year 1; however, the magnitude of the incarceration coefficients was reduced. Although these results may have been driven partly by unmeasured differences between families where the parents were resident and nonresident at Year 1, they also suggest that incarceration may operate more as a driver of relationship dissolution among resident fathers than as a unique barrier to coresidence for nonresident fathers.

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 estimates of the extent to which estimated incarceration effects may have been driven by fathers' incapacitation at the time of the mothers' survey. In this subsample, with the exclusion of

incapacitation as a potential mechanism, the magnitude of estimated incarceration effects was diminished by between 13% (in Model 2) and 52% (in Model 4), yet the estimated effect of incarceration on subsequent coresidence remained highly statistically significant, and at Year 5 (i.e., in Models 2 and 3), retained nearly its entire magnitude. These results suggest that while incarceration precluded father coresidence in part by incapacitating fathers from living with their children, other factors, including union dissolution, likely remained a significant component of diminished coresidence.

[Table 3 about here]

Incarceration and Visitation

Finally, Tables 4 and 5 show the potential role of incarceration as a determinant of visitation between nonresident fathers and their children. As in the analysis of coresidence, visitation was also significantly lower among fathers who recently spent time in prison or jail. As shown in panel A of Table 4, fathers' probability of seeing their child declined by 15 to 17 percentage points in the month leading up to the Year 5 interview (Models 2 and 3), and by 26 percentage points (Model 4) in the month before the Year 3 interview, when fathers had spent time in prison or jail. Given that only approximately half of nonresident fathers were 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 saw their children also declined following incarceration, as shown in panel B of Table 4 – by between two and four days out of the past 30.

Table 5 further adjudicates between the potential role of incapacitation and diminished visitation among the released, and shows incapacitation to have likely played

a larger role in predicting visitation than it did in predicting coresidence. Specifically, eliminating still-incarcerated fathers from the analysis accounted 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 was substantially diminished when focusing on fathers no longer incapacitated from visiting. Examining the role of recent incarceration in predicting Year 3 visitation, virtually the entire association was accounted for; when limiting the analysis to men available for visitation, the incarceration coefficient was reduced in magnitude, and no significant differences remained.

[Tables 4 and 5 about here]

Sensitivity to Missing Data Treatment

The prevalence estimates and associations in Tables 1-5 were based on analyses that account for missing data using dummy variable adjustment, in which missing responses to survey items were noted with a series of dummy variables, and imputed with zeros or the mean of observed values. While this adjustment permitted the retention of partial respondents in the analysis, the resulting estimates were at risk of bias (Allison, 2002). I therefore replicated the regression analyses using two alternative approaches to missing data: complete case analysis and multiple imputation (estimates are available upon request). As expected, the analysis sample for the complete case analysis was reduced (by up to 50%) when item-missing observations are dropped. However, substantive findings were robust: the probability of coresidence was reduced among recently incarcerated fathers; particularly among fathers living with their children at Year 1. Likewise, as in the dummy variable adjustment models, the estimated incapacitation

role was stronger in Year 3 than in Year 5. When analyzing father-child visitation, it was notable that the complete case analysis introduced both a sampling change (i.e., dropping item-missing respondents), and a substantive one: fathers coresident at Year 1 (with undefined visitation histories), were assumed to see their child in all 30 days. However, the associations between incarceration and visitation remained statistically significant, though their magnitudes were smaller in the complete case sample.

Using multiple imputation to adjust for missing data, substantive results were much the same: a significant decline in coresidence among fathers recently incarcerated, particularly among incarcerated fathers who were previously coresident, and that still-incarcerated fathers explained only a small portion of the observed associations. While the estimates were reduced in magnitude, results were qualitatively similar. Results were also robust for father-child visitation: Incarceration predicted diminished visitation in the multiple imputation analysis, the magnitude of the reduction was stable across models, and incapacitation appeared to play a larger role in the reduction at Year 3 than at Year 5.

Notably, not all predictors of father-child contact were robust across missing data approaches. In particular, the dummy variable adjustment estimates showed Year 1 coresidence to be positively correlated with subsequent visitation, while the complete case and multiple imputation analyses showed a negative relationship. This discrepancy may be due in part to an assumption made in 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.

Sensitivity to Weighting

As noted earlier, the descriptive results in Table 1 were based on data weighted to be nationally representative of urban families with children. However, the weighted

sample contained more than 25% fewer families than the unweighted sample. To avoid losing information from these more than 1,000 respondents, the analyses in Tables 2-5 were based on unweighted data. Sensitivity analyses re-estimating Tables 2-5 using nationally weighted data (available upon request) found that the associations between incarceration and both coresidence and the likelihood of nonresident fathers to visit, were robust to use of the weighted sample: the magnitude of estimates varied only slightly, and the associations between recent incarceration and father-child contact remained statistically significant in nearly all cases. However, Panel B of both Tables 4 and 5 was notably different in the weighted sample – recent incarceration did not significantly predict the number of days that nonresident fathers visited with their children. While this was likely driven in part by the smaller weighted sample, the magnitude of estimated associations was also reduced substantially, suggesting that the reduction in days that nonresident fathers visit their children should be interpreted with particular caution.

Discussion

Although years of inmate surveys note low rates of father-child coresidence among men in prison, the extremely high levels of incarceration in the United States, coupled with visitation patterns among nonresident fathers, suggest that paternal incarceration touches the lives of a substantial portion of American children. Examining the contemporary urban families in the FFCWS, I found that even among the relatively advantaged fathers who lived with their children, more than 10 percent had been to prison or jail, with approximately three percent incarcerated in each two-year wave. Incarceration rates among nonresident fathers were higher still, with more than 15% reporting recent incarceration at each wave, and nearly half known to have been

incarcerated at some point. More than 40% of nonresident and formerly incarcerated fathers were reported to have visited their child at least once in the past month. More generally, these findings identified considerable heterogeneity in the extent of contact between incarcerated fathers and their children, and suggest that incarcerated fathers have widely varying levels of involvement with, and play a wide range of roles in, their families. Policy and social services must therefore be targeted to families' particular needs (a challenge I return to below).

The analyses suggest that contact between fathers and their children is undermined when fathers are incarcerated, through reductions in father-child coresidence and in visitation among nonresident fathers. Although dummy variable adjustment yielded associations of slightly larger magnitudes than complete case analysis or multiple imputation, the considerable reduction in father access was statistically significant and robust across missing data strategies, and, largely, across weighting strategies.

Limitations

I emphasize again that this analysis was not intended to address the question of whether the involvement of incarcerated fathers is something to encourage in urban families; I deal strictly with the quantity of father-child contact, rather than the involvement that such contact enables. Additional work is needed to examine the details of father-child interactions, couple relationships among parents, and other factors that might mediate the effects of incarceration on child wellbeing. Several other limitations of the study must also be noted. First, the use of survey data to assess the potential effects of incarceration introduces several complications. Because incarceration is not randomly assigned, observed disparities in coresidence and visitation may be driven by an

unobserved correlate of paternal incarceration. The study also faces a risk of mismeasurement of key constructs, particularly because mothers report both on fathers' coresidence and visitation, and on a portion of paternal incarceration history. If, for example, mothers with a stronger relationship with the father of their children report greater levels of father-child contact, and are less likely to report his incarceration, observed associations could be driven by shared method variance, rather than the effect of incarceration. Finally, it is important to note that the use of sample stratification to isolate potential causal mechanisms risks conflating the effects of a particular mechanism (e.g., union dissolution or incapacitation) with the effects of changes to the composition of the analysis sample for each model. The estimates in Tables 3 and 5, testing the potential role of incapacitation, are largely intended to identify areas for future research.

Policy Implications

Despite these caveats, this paper advances understanding of the role of incarcerated fathers in families, with implications for social and criminal justice policy. Table 1 underscores the presence of nonresident fathers in the lives of their children, regardless of incarceration history. Much of the policy discussion of incarcerated parents focuses on the incarceration of a primary caregiver and children's resulting risk of foster care placement (Schirmer, Nellis, & Mauer, 2009; The New York City Council, 2011). Paternal incarceration rarely results in a foster care placement; most children of incarcerated fathers had been living with their mothers and continue to do so (Parke & Clarke-Stewart, 2002). However, my findings suggest that most incarcerated fathers had at least been visiting their children, who may be adversely affected by their fathers' absence. I identify a significant decline in father-child contact following a father's

incarceration, in terms of both coresidence and visitation of nonresident fathers.

More generally, I identify heterogeneity in father-child relationships that underscores the challenges faced by policymakers and social service providers seeking effective ways to provide assistance to families. Families with highly involved fathers are likely to suffer in their 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 for families receiving public assistance. On the other hand, many incarcerated fathers had little contact with their families before incarceration (more than half of nonresident formerly incarcerated fathers had no recent indication of visitation), and such services would likely have limited utility.

Identifying the strength of family ties among arrested men remains a challenge, particularly among noncustodial fathers who may be reluctant to identify their children to authorities, for fear that their visitation rights might be adversely affected. More effort is needed to distinguish the nuanced needs of families with incarcerated fathers. One way 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 to reduce the accrual of arrears while fathers are incarcerated, has the potential to enable payment 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 can benefit most.

Finally, although a full examination of father involvement and its implications is beyond the scope of this paper, I suggest that families wishing to maintain contact while fathers are incarcerated should have opportunities to do so. Enabling father-child contact

has several components, from eliminating barriers to visitation (e.g., low-cost transportation between facilities and high-incarceration neighborhoods) and phone contact (e.g., reducing the cost of collect calls from prisons), as well as developing new modes of communication. The New York City Department of Correction is exploring the feasibility of video calls between incarcerated parents and their children (The New York City Council, 2011); the costs and benefits of this and other possibilities should be systematically evaluated.

Table 1:
Paternal Incarceration Prevalence Among Urban Families

	Year 1	Year 3	Year 5
Unweighted Number of Cases	4,340	4,194	4,071
Number of Cases Weighted	3,107	3,009	2,959
<i>Percent of fathers co-resident</i>	<i>76.12</i>	<i>69.02</i>	<i>60.51</i>
<i>Percent of fathers nonresident</i>	<i>23.01</i>	<i>29.83</i>	<i>37.52</i>
<i>Percent residence unknown</i>	<i>0.87</i>	<i>1.16</i>	<i>1.97</i>
<i>Percent of fathers ever incarcerated</i>	<i>19.29</i>	<i>26.12</i>	<i>27.77</i>
<i>Percent with unknown incarceration history</i>	<i>13.54</i>	<i>7.40</i>	<i>13.19</i>
<i>Percent of fathers recently incarcerated</i>	<i>Unknown</i>	<i>7.03</i>	<i>11.17</i>
<i>Percent with recent incarceration history unknown</i>		<i>8.82</i>	<i>7.37</i>
Among Co-Resident Fathers			
<i>Percent ever incarcerated</i>	<i>12.72</i>	<i>15.09</i>	<i>12.87</i>
<i>Percent with unknown incarceration history</i>	<i>9.94</i>	<i>5.03</i>	<i>9.52</i>
<i>Percent recently incarcerated</i>	<i>Unknown</i>	<i>3.08</i>	<i>2.95</i>
<i>Percent with recent incarceration history unknown</i>		<i>0.66</i>	<i>0.00</i>
Among Nonresident Fathers			
<i>Percent ever incarcerated</i>	<i>41.67</i>	<i>52.20</i>	<i>52.06</i>
<i>Percent with unknown incarceration history</i>	<i>24.58</i>	<i>9.78</i>	<i>15.76</i>
<i>Percent recently incarcerated</i>	<i>Unknown</i>	<i>16.33</i>	<i>25.01</i>
<i>Percent with recent incarceration history unknown</i>		<i>24.29</i>	<i>14.59</i>
Average days visiting (of past 30)	7.97	6.05	6.51
<i>Percent of fathers visiting 1+ days</i>	<i>53.90</i>	<i>48.82</i>	<i>48.19</i>
<i>Percent with visitation unknown</i>	<i>10.94</i>	<i>9.84</i>	<i>4.92</i>
Average days among visitors	13.16	11.17	12.85
<i>Percent visiting – Ever incarcerated</i>	<i>47.20</i>	<i>40.34</i>	<i>40.41</i>
<i>Percent visitation unknown – Ever incarcerated</i>	<i>7.03</i>	<i>11.08</i>	<i>5.85</i>
Average Days Among Visitors – Ever incarcerated	10.41	9.32	12.52
<i>Percent visiting – Never incarcerated</i>	<i>65.20</i>	<i>67.63</i>	<i>72.41</i>
<i>Percent visitation unknown – Never incarcerated</i>	<i>17.76</i>	<i>6.94</i>	<i>2.19</i>
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>	<i>Unknown</i>	<i>43.69</i>	<i>33.24</i>
<i>Percent nonresident in the wave before incarceration</i>		<i>44.94</i>	<i>58.41</i>
<i>Percent prior residence unknown</i>		<i>11.37</i>	<i>8.35</i>

Note: Results weighted to represent families with children born in large cities, 1998-2000. “Unweighted Number of Cases” refers to the number of families in which the father is not reported as deceased, and coresidence status is known.

Table 2:
Predicting Father-Child Coresidence with Incarceration History (Linear Probability Models)

	Model 1		Model 2		Model 3		Model 4	
	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]	-0.17***	[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 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	[0.09]	-0.01	[0.06]	0.00	[0.06]	-0.02	[0.05]
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	[0.00]	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]
Baesline Age Squared			-0.00***	[0.00]	-0.00***	[0.00]	-0.00**	[0.00]
< HS			0.02	[0.02]	-0.02	[0.02]	0.03	[0.02]
Some College			0.01	[0.02]	0.01	[0.02]	0.02	[0.02]
College Graduate			0.05*	[0.02]	0.06*	[0.02]	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	[0.08]	-0.16	[0.08]	0.01	[0.08]
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	[0.01]
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***	[0.02]	-0.06***	[0.02]	-0.03*	[0.01]
N	4,071		4,071		4,071		4,194	

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

Note: Reference categories for race and education are, respectively, whites and high school graduates. Item-missing data is accounted for using a series of dummy indicators.

Table 3:

Predicting Father-Child Coresidence with Incarceration History (LPMs), Key Coefficients from Models Examining Incapacitation and Union Dissolution

	Model 2				Model 3				Model 4			
	Resident at Y1		Released Y5		Resident at Y1		Released Y3		Resident at Y1		Released by Y3	
	b	se										
Incarceration Y1-Y5	-0.32*** [0.03]		-0.28*** [0.03]									
Incarceration Y3-Y5					-0.34*** [0.03]		-0.29*** [0.04]					
Incarceration Y1-Y3					-0.05 [0.04]		-0.04 [0.05]		-0.23*** [0.04]		-0.11*** [0.03]	
Incarceration Pre-Y1	0.05* [0.02]		0.06* [0.03]		0.04 [0.03]		0.04 [0.03]		0.01 [0.02]		0.01 [0.02]	
N	2,190		2,133		2,190		2,133		2,283		2,237	

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

Note: Models control for the complete set of covariates presented in Table 2. Item-missing data are accounted for using a series of dummy indicators.

Table 4:

Predicting Father-Child Contact with Incarceration History, Nonresident Fathers

A: Linear Probability Models Predicting Visitation (Any), Past 30 Days								
	Model 1		Model 2		Model 3		Model 4	
	b	se	B	se	b	se	B	se
Any Incarc	-0.19***	[0.02]						
Incarc Y1-Y5			-0.17***	[0.03]				
Incarc Y3-Y5					-0.15***	[0.03]		
Incarc Y1-Y3					-0.05	[0.03]	-0.26***	[0.03]
Incarc Pre-Y1			-0.02	[0.03]	-0.02	[0.03]	-0.03	[0.03]
N	2,112		2,112		2,112		1,840	
B: OLS Models Predicting Days Visiting out of Past 30, fathers visiting at least 1 day								
	Model 1		Model 2		Model 3		Model 4	
Any Incarc	-2.85***	[0.66]						
Incarc Y1-Y5			-3.30***	[0.73]				
Incarc Y3-Y5					-3.83***	[0.76]		
Incarc Y1-Y3					-0.42	[0.90]	-2.73**	[0.97]
Incarc Pre-Y1			-0.13	[0.75]	-0.08	[0.75]	0.58	[0.78]
N	1,130		1,130		1,130		1,064	

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

Note: Models control for the complete set of covariates presented in Table 2. Item-missing data are accounted for using a series of dummy indicators.

Table 5:

Predicting Visitation with Incarceration History, Released Fathers Only

A: Linear Probability Models Predicting Visitation (Any), Past 30 Days

	Model 2		Model 3		Model 4	
	b	se	b	se	b	Se
Any Incarc						
Incarc Y1-Y5	-0.08**	[0.03]				
Incarc Y3-Y5			-0.07**	[0.03]		
Incarc Y1-Y3			0.01	[0.03]	-0.03	[0.04]
Incarc Pre-Y1	0.00	[0.03]	-0.01	[0.03]	-0.00	[0.03]
N	1,886		1,886		1,635	

B: OLS Models Predicting Days Visiting out of Past 30, fathers visiting at least 1 day

	Model 2		Model 3		Model 4	
	b	se	b	se	b	Se
Any Incarc						
Incarc Y1-Y5	-2.83***	[0.76]				
Incarc Y3-Y5			-3.24***	[0.78]		
Incarc Y1-Y3			-0.49	[0.96]	-0.84	[1.05]
Incarc Pre-Y1	0.03	[0.76]	-0.01	[0.77]	0.42	[0.80]
N	1,089		1,089		1,019	

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

Note: Models control for the complete set of covariates presented in Table 2. Item-missing data are accounted for using a series of dummy indicators.

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