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Paternal Incarceration and Support for Children in Fragile Families

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Abstract High U.S. incarceration rates have motivated recent research on the negative effects of imprisonment on later employment, earnings, and family relationships. Because most men in jail and prison are fathers, a large number of children may be placed at considerable risk by policies of incarceration. This article examines one dimension of the economic risk faced by children of incarcerated fathers: the reduction in the financial support that they receive. We use a population-based sample of urban children to examine the effects of incarceration on this support. Both cross-sectional and longitudinal regressions indicate that formerly incarcerated men are less likely to contribute to their families, and those who do contribute provide significantly less. The negative effects of incarceration on fathers' financial support are due not only to the low earnings of formerly incarcerated men but also to their increased likelihood to live apart from their children. Men contribute far less through child support (formal or informal) than they do when they share their earnings within their household, suggesting that the destabilizing effects of incarceration on family relationships place children at significant economic disadvantage.

Keywords Incarceration · Fatherhood · Child support

Introduction

Recent research on the collateral consequences of incarceration has examined the economic and family life of those released from prison and jail. Economic research

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has estimated the negative effects of incarceration on earnings and employment (Kling 2006; Pager 2003; Western 2002). Family studies report that incarceration is an acute source of marital stress and social stigma, placing couples at high risk of divorce and separation (Braman 2004; Lopoo and Western 2006). The extent to which these effects have consequences for children is of pressing interest, given both the current size of the penal population and the large share of fathers in prison and jail. In 2002, more than 1.1 million parents in the United States (mostly fathers), who have more than 2.4 million minor children, were incarcerated in state and federal prison or local jails (Mumola 2006).

The high level of incarceration may fuel inequality across American families because incarceration rates are highest among the most disadvantaged. Parental imprisonment has become a common event among the poor, affecting more than one-half of African American children with low-education parents (Wildeman 2009). The incarcerated population is overwhelmingly young, minority, and poorly educated (Petersilia 2003; Western 2006), and the children of incarcerated parents are even more disadvantaged, relative to their peers (Wildeman 2009). Moreover, incarcerated men also tend to come from spatially concentrated areas of inner cities, leading urban and minority neighborhoods to suffer an increased risk of poverty, delinquency, and other hardships. Parental incarceration has been identified as a significant predictor of social exclusion as children transition to adulthood (Foster and Hagan 2007).

In this article, we draw together the economic and family research to examine the impact of incarceration on economic inequality among children. We use newly available population-based data to examine the effects of incarceration on the financial support that fathers provide to their partners and children. We find that the children of formerly incarcerated fathers receive less economic support than similar children whose fathers have not been in prison or jail. Reduced financial support for children results partly from the very low earnings of formerly incarcerated men, and partly from the absence of formerly incarcerated men from their children's households. These findings suggest how the American prison boom is contributing to the transmission of economic disadvantage from one generation to the next.

Background

That incarceration has the potential to adversely affect family economic well-being is well established. Fathers' financial support is largely dependent on their residential and custody status and is associated with the extent of father-child contact among nonresident fathers (Nepomnyaschy 2007). Incarceration has been shown to undermine couple relationships and risks reducing father-child contact, even after the father's full sentence is served (Lopoo and Western 2006). Research also shows that incarceration places men at a severe disadvantage in the labor market, suggesting that at any level of family functioning and contact, men with incarceration histories will simply have fewer resources available to share with, or contribute to, their children (see Holzer 2007 for a review). However, the extent to which incarceration is a unique cause of this disadvantage has yet to be demonstrated empirically (Western and Wildeman 2009).

In the subsections that follow, we detail several mechanisms by which incarceration may undermine family functioning as well as men's performance in the labor market, and in turn negatively affect children's economic well-being. We then describe shortcomings of the current empirical literature, the contributions made by our data and analysis, and our hypothesized effects of incarceration on the financial support children receive from their fathers.

Incarceration and Families

While incarcerated men are obviously separated from their partners and children, the experience limits family contact in other ways as well. Facilities are generally located far from the communities where prisoners' families live, visiting hours may be incompatible with work schedules, and the visitation experience is frequently degrading and far from family-friendly (Comfort 2008). Less than one-third of fathers in prison see at least one of their children on a regular basis (Hairston 1998). Phone and mail contact also present challenges because collect calls can be expensive for prisoners' families, and mail communication from a correctional institution carries a stigma and social cost (Hairston 1998).

In addition to limiting physical contact and communication, incarceration also limits men's parenting capacity by straining family relationships. Prison pay is meager, and correctional fees for doctors' visits, health services, and other expenses frequently force incarcerated men to rely on their families financially, undermining their traditional role as a provider (Hairston 1998). Romantic and family relationships are also undermined by the social stigma that incarceration carries (Braman 2004). Ethnographic research by Edin (2000) and Anderson (1999) has shown that poor women weigh heavily the respectability of prospective husbands. Women suspect that formerly incarcerated men are unable to lift their families out of the ghetto, or provide them with "respectable" middle-class lifestyles (Anderson 1999). A man's incarceration history suggests a lack of honesty, threatens family reputation, and raises concerns that his drug involvement, violence, or other illegal activities might follow him into the home, destabilizing his family and placing them at risk (Edin 2000). Accordingly, mothers may engage in gatekeeping behaviors and limit contact between fathers and children, both during and after the period of incarceration (Arditti et al. 2005; Edin et al. 2004; Roy and Dyson 2005). Mothers may also form new relationships while their child's father is incarcerated, further complicating the family relationship upon his release (Braman 2004). These qualitative findings reinforce quantitative studies showing that men who are married upon entering prison are more likely than their never-incarcerated counterparts to separate; and particularly among blacks, those who are single have few marriage prospects upon their release (Western 2006). In short, incarceration may weaken the bonds between fathers and their families not only while time is served but also after release.

Incarceration and the Labor Market

Regardless of their parents' relationship status, children whose fathers become incarcerated are likely to suffer from his diminished earnings capacity. As noted earlier,

pay for work done in prison is meager, and families where the father was resident before his incarceration are likely to suffer from his loss of earnings. Children whose fathers were nonresident prior to incarceration are also likely to suffer income loss as a result of diminished child support payments. Some research shows that that labor market effects of incarceration persist well past the period of the jail or prison sentence. Returning offenders are often unable to find work or are relegated to low-paying jobs or the informal economy. (See Western et al. 2001 for a review.)

Holzer et al. (2003) identified both supply-side and demand-side effects of incarceration: workers may be made less productive by serving time in prison, or employers may be more reluctant to hire job applicants with criminal records. On the supply side, time incarcerated and away from the labor force prevents the acquisition of work experience and job skills. Data from the National Corrections Reporting Program (2003) suggested that men in state prison serve an average sentence of 30 months before their first release, with a median of approximately 17 months. Incarceration may also exacerbate substance abuse and other health problems. Behavioral adaptations to the conditions of penal confinement may leave an inmate withdrawn, uncommunicative, and unable to accept authority. These health and behavioral effects would clearly reduce an ex-offender's productivity. Prison may also provide a "school for criminals," increasing an inmate's criminal human capital, raising their potential illegal wages, and enhancing their preference for crime (Myers 1980, 1983). The effects of incarceration are not unambiguously negative, however. Inmates may participate in education and work programs. There is also evidence that spending time behind bars can be a turning point, giving inmates time to reflect and resolve to improve their lives (Edin et al. 2004).

On the demand side of the labor market, incarceration carries a stigma that repels prospective employers. Job applicants are routinely asked about their criminal histories, and ex-offenders risk termination if they disclose their records. A prison record may signal that a job applicant is dishonest, dangerous, or unreliable. Criminal stigma also carries a legal significance because individuals with criminal records are often prohibited from employment in certain skilled and licensed occupations. Employers, too, may bear legal liability where negligent hiring laws leave them liable for damage caused by employees with criminal records (Bushway 2004; Holzer et al. 2003; Pager 2003).

Selection Into Incarceration

Despite the numerous pathways relating paternal incarceration to diminished family support, the extent of incarceration's causal effect is difficult to determine and depends on the connection that an incarcerated father had with his family before going to jail or prison (Western and Wildeman 2009). The family instability and low employment and wages among the formerly incarcerated partly results from selection rather than the incarceration experience itself (Hagan and Dinovitzer 1999). Many men who go to prison typically have limited fathering and labor market skills, even prior to their first incarceration.

Only one-half of fathers sent to state and federal prisons were living with their children at the time of their incarceration (Parke and Clarke-Stewart 2002), suggesting that for a large fraction of children, factors other than incarceration

precluded a full sharing of their father's earnings. Furthermore, most fathers in prison have children by multiple partners, suggesting that even in the absence of incarceration, their family circumstances are quite complex, with challenges in income sharing and coparenting relationships (Johnston 2006). Men who become incarcerated are also generally poorly educated and, even prior to their incarceration, score lower on standardized tests than other men with low education (Western 2006). In fact, many men turn to crime or "double up" between legal and illegal work precisely because they lack skills and opportunities in the formal labor market (Fagan and Freeman 1999; Freeman 1996; Reuter et al. 1990).

Although a growing literature documents the challenges for families facing a father's incarceration, the vast majority of empirical studies in the area are limited by small convenience samples and cross-sectional or short-term design. They therefore describe a small sample of children whose fathers have been incarcerated and suggest that their families experience substantial hardship (see Parke and Clarke-Stewart 2002 for a review; Wilbur et al. 2007). Because such studies are not population based and often do not study families before incarceration, they cannot distinguish the challenges faced by children of incarcerated parents from the challenges faced by disadvantaged children more broadly.

A handful of studies have examined the children of incarcerated parents in the context of their local population, finding them to be at serious risk. Phillips et al. (2006) examined a representative sample of school-aged children in rural North Carolina and found that parental incarceration is significantly associated with economic strain. Likewise, Geller et al. (2009) examined a population-based sample of 3-year-old children in large cities and found that children whose fathers have been incarcerated face significantly more economic, family, and residential instability than their counterparts. However, although each of these studies identifies significant risks facing children of incarcerated parents, unobserved characteristics that distinguish families with incarceration histories were uncontrolled and remain a threat to causal inference.

Contributions and Hypotheses

This study improves our understanding of children's economic risk following a father's incarceration. Although earlier research shows the negative effects of incarceration on men's labor market performance and family stability, we hypothesize that paternal incarceration is also a unique financial challenge for families, significantly reducing the financial contributions of fathers to their partners and children. We anticipate that the reduction not only is driven by the father's removal from the household but persists after the period of incarceration by limiting both his earning potential and his capacity to share what he earns.

Our analysis strengthens the existing literature by examining a population-based sample of urban children and computing fathers' financial contributions from a variety of sources (shared earnings from the formal and informal labor markets, as well as formal and informal child support). Further, because the data are longitudinal, with observations before and after incarceration, we are able to

eliminate several threats to causal inference related to the unobserved heterogeneity of incarcerated men.

Data and Methods

We study the relationship between incarceration and fathers' financial support using the Fragile Families and Child Wellbeing Study ("Fragile Families"). Fragile Families is a national study that follows a cohort of unmarried parents (along with a comparison group of married parents) and their young children in 20 U.S. cities. Baseline data were collected between 1998 and 2000; 4,898 mothers were interviewed in the hospital within 24 hours of their child's birth (1,186 marital births and 3,712 nonmarital births). Fathers were also interviewed in the hospital when possible, and contacted in other locations if they were not present at the birth. Parents were reinterviewed one, three, and five years after the child's birth, and our analysis sample consists of those 3,469 families for which fathers' financial contributions can be computed at the fifth-year follow-up. Multiple imputation analysis, available upon request, suggests that the families retained for five years of the survey are systematically different from those lost to attrition, and that those retained are far better off on measures of both relationship and financial stability. It is therefore quite likely that the children whose families are lost to attrition are at even greater risk than those we observe.

The Fragile Families survey has several features that make it particularly valuable for assessing the relationship between incarceration and support for mothers and children. Its huge oversampling of unmarried parents who live in large cities provides a sample of highly socioeconomically disadvantaged families and a substantial number of fathers who have experienced incarceration. Three percent of the fathers were in prison or jail at the time their child was born, and by the fifth year follow-up, almost 50% of fathers were reported to have been incarcerated at some point in their lives. However, the oversample of nonmarital births is systematic; the data, when weighted or regression adjusted, represent all births in large cities between 1998 and 2000 (see Reichman et al. 2001 for details).

The longitudinal structure of the data is particularly valuable; 364 fathers are incarcerated for the first time between the first and fifth year follow-up surveys, enabling a comparison of their experiences both before and after their time in prison or jail. In addition, both mothers and fathers are interviewed, and both parents are asked about the fathers' incarceration history, providing a more complete record of his criminal record. Criminal history is frequently underreported (Golub et al. 2002), and supplementing fathers' self-reports with those of their partners helps to improve the accuracy of our analysis. Furthermore, the data contain a rich array of descriptors, many of which—such as indicators of men's cognitive ability and impulsivity—are unobserved in other surveys. Including these covariates helps to isolate the causal effect of incarceration from the effects of unobserved heterogeneity that selects men into criminal involvement.

Fragile Families is also an ideal data set for this study because it allows the construction of a complete measure of fathers' contributions to their children, which reflects both their earnings and their propensity to share these earnings with their

children. We establish the propensity of men to share their earnings based on their residence status, noting that married and other coresident fathers are likely to share a larger portion of their earnings than are nonresident fathers, whose contributions are likely to come primarily through child support. Fragile Families' focus on family structure and father residence allows us to establish which fathers are most likely to share their income, and to combine men's self-reports of their past-year earnings with their partners' reports of the amounts they receive in child support, in order to construct a detailed measure of financial support.

Variables of Interest

Financial Contributions

Our dependent variable, the amount of money fathers contribute to their children, counts a share of earnings for fathers living with their children and counts child support contributions for nonresident fathers. Betson (2006) estimated that families with one child, on average, devote approximately 25% of their spending to the child. We therefore assume that fathers living with their partners and children contribute 25% of their earnings, from both the regular and informal labor markets, to childrearing. Later analyses test the sensitivity of our findings to the extent of income sharing among resident fathers. The financial contribution of nonresident fathers is measured by the amount of cash that the child's mother reports receiving in the past year, in both formal and informal child support. If the mother reports receiving the entire amount of obligated formal support, the amount of formal support equals the reported child support order amount. If the mother reports receiving only a fraction of the agreed-upon amount, the amount she receives is noted. Informal support is measured as the amount of money she receives in addition to that which is formally ordered. Our support measure does not include in-kind support (such as buying food or clothing for the child) or time spent with the child (such as a generally nonresident father having the child live with him for periods of time).

Incarceration

Our key independent variable, the measure of incarceration, is based on a number of questions in each wave, beginning at the child's first birthday: fathers' self-reports of their criminal history, mothers' direct reports that their partner had been incarcerated, and indirect reports from either parent that suggest that the father had been to jail or prison.[1] If either parent reports that the father had been

[1] Such "indirect reports" include either parent reporting that their relationship had ended as a result of the father's incarceration, that the father had been sent to jail for child support nonpayment, and several other indicators that he had spent time in jail or prison. Although a jail sentence for child support nonpayment may be applied for reasons endogenous to later financial contributions, the proportion of men incarcerated for this reason is quite small (79 of approximately 2,000 men with incarceration histories). Moreover, several of these men were also incarcerated at other times for reasons unrelated to child support. We therefore retain all men in our sample who have been incarcerated, concluding that any estimated effects of incarceration are not driven by endogeneity associated with jail sentences for child support nonpayment.

to prison or jail, or if any of the indirect reports indicate incarceration, we consider the father to have been incarcerated.[2]

Socioeconomic Covariates

Fathers with incarceration histories also face other economic and social disadvantages that may lead them to contribute less to their children. To avoid overestimating the effects of incarceration due to omitted variables, we control for a number of covariates, which we classify into three broad groups.

Our first group of covariates includes those established early in fathers' lives, which are likely to affect both their risk of incarceration and later contributions to their children. These covariates include demographic characteristics, such as race and family history, and behavioral traits, such as cognitive ability and impulsivity, which are linked by control theorists to criminal activity (Farrington 1998; Gottfredson and Hirschi 1990) and also have the potential to diminish labor force participation or family functioning (Dickman 1990). We define family history as whether his own father was present and involved in his upbringing, or whether another man served as his "social father." Cognitive ability is measured by using a word association test, and although the measure is not recorded until the third year follow-up, it was designed as a general intelligence measure and is therefore considered a stable construct that is unlikely to be affected by early incarceration spells. Likewise, impulsivity was measured at the one-year follow-up survey using an abbreviated version of the Dickman (1990) scale of dysfunctional impulsivity, but it measures what we expect to be a stable characteristic. If, however, impulsivity and cognitive ability are not stable over time and are negatively affected by the incarceration experience, including them in the analysis will reduce the size of the incarceration coefficient and understate the incarceration effect.

Our second set of covariates includes fathers' age and educational attainment at baseline. Both age and education are included in typical labor market analyses, but in our sample may be endogenous to incarceration. Men enter our sample upon the birth of a child, but among those men who have been to jail or prison, the median reported age of first incarceration is 20. The majority were therefore incarcerated long before they became fathers, and many were incarcerated before they might otherwise have completed their education. To whatever extent incarceration precludes men from later fatherhood or education, models including these covariates may underestimate the true effect of having been to jail or prison.

Our third set of covariates is a rich set of employment, behavioral, and family characteristics measured at the baseline and Year 1 surveys. These variables are valuable given that few surveys of incarceration include such a wide array of descriptors. However, as with the second set of covariates, these are also potentially endogenous and may reflect effects of incarceration rather than risk factors. A complete list of the variables in each of our three covariate sets is provided in Table 1.

[2] Some fathers either are not surveyed or refuse to answer questions on criminal history. While mothers' reports of incarceration (or non-incarceration) will supersede her partner's lack of an answer, if neither parent provides a yes-or-no answer for a time period, the fathers' incarceration status will be analyzed as unknown.

Table 1 Covariates used in analyses of incarceration and fathers' contributions

Model 1: Early-Life (or time-invariant) Characteristics	Model 2: Additional Regressors for Wage Equation	Model 3: Other (potentially endogenous) Regressors
Race/Ethnicity	Baseline Age	Baseline Relationship Status
Black	Baseline Age (squared)	Married
White	Baseline Education	Cohabiting
Hispanic	Less than high school	Nonresident
Other	High school graduate	Year 1 Marijuana Use
Impulsivity	Some college	Year 1 Hard Drug Use
Cognitive Ability	College graduate	Year 1 Alcohol (5+ drinks)
Father Involvement		Year 1 Mental Health
Biological father		Major depression diagnosis
Social father		Year 1 Employment
		Year 1 Wage
		Year 1 Off-Books Work
		Multiple-Partner Fertility by Year 1

Modeling Strategy

Cross-Sectional Analysis

A detailed description of those men with and without incarceration histories, and those with incarceration status unknown, is provided in Tables 2 and 3. Of the 3,469 observations in our sample, 46% of the fathers are formerly incarcerated, and the incarceration status of another 7% is unknown. The men in the sample who have been incarcerated are predominantly minorities, and the majority of men with incarceration histories were first incarcerated before their child's first birthday. Nearly one in eight Fragile Families fathers were incarcerated at some point between their child's first and fifth birthdays (Table 2).

Further information about the sampled men, by incarceration status, is provided in Table 3. Underlining the low economic status of the Fragile Families fathers, the never incarcerated contributed only about $8,000 to their children in the year prior the Year 5 interview. Formerly incarcerated fathers contributed significantly less—just over $2,600. This lower contribution level reflects that fathers with incarceration histories are both less likely to financially contribute to their families at all (only 60% contribute, compared with 86% of fathers who have never been incarcerated), and that those who do contribute give less (a bit more than $4,200 by men with incarceration histories, compared with more than $9,200 by men who have never been incarcerated). Men whose incarceration histories are unknown fall somewhere between the two: they are nearly as unlikely to contribute to their families as the men with known incarceration histories, but among contributors, the amount given falls between that given by formerly incarcerated and never incarcerated fathers.

The small economic contribution of ex-inmates may be due to their relative social and economic disadvantage. Formerly incarcerated men have very low employment

Table 2 Breakdowns of incarceration histories, and timing, by fathers' race

Incarceration Timing	White	Black	Hispanic	Other	Unknown	Total
Never Incarcerated (%)	73	42	53	60	27	47
First Incarcerated Before Year 1 (%)	18	40	30	23	41	34
First Incarcerated Year 1–Year 5 (%)	6	14	11	11	14	12
Incarceration Unknown (%)	3	4	7	6	18	7
Total *N* (by race)	580	1387	761	109	632	3,469
Number Incarcerated	138	754	307	37	347	1,583

Total $N = 3{,}469$ of analysis sample. "First Incarcerated Year 1–Year 5" includes those with unknown incarceration status at Year 1, as well as those reported to have not been incarcerated

and wage rates. They are significantly less likely to be married when their child is born and also more likely to be nonresident. In addition, the formerly incarcerated are more likely, by the time the child is 1 year old, to have children with more than one partner, suggesting that their limited income is stretched thinner and across multiple families. On the other hand, although men with unknown incarceration histories have employment rates and wages almost as high as those of never-incarcerated men, their low rate of contribution suggests a lack of involvement in the lives of their partners and children, further evidenced by the fact that their partners cannot assess whether they have been incarcerated.

To assess the extent to which fathers' contributions might be lower as a result of their nonresident status, and the extent to which their contributions might be lower due to low earnings, Table 4 examines the Fragile Families fathers by both their relationship status and incarceration history at Year 5. The diminished financial contribution of fathers with incarceration histories is likely due to a combination of lower earnings and single-parenthood among mothers. For example, approximately three-quarters of the fathers in our ever-incarcerated sample are nonresident, compared with 34% of the never-incarcerated sample. Child support payments tend to be far lower than 25% of men's earnings, and more than one-half of nonresident fathers do not pay any child support in the year before their child's fifth birthday. High rates of nonresidence among incarcerated fathers suggest that their financial contributions to their children will be relatively small. In addition, however, for each residence status group, the financial contributions of men with incarceration histories are significantly lower. Notably, the contributions of married but formerly incarcerated men are only slightly more than one-half those of married men with no incarceration histories, suggesting that the earnings of men with incarceration histories are also lower than those of other men.

To further assess the relationship between fathers' incarceration histories and the amount they contribute to their families, we estimate a series of cross-sectional regression models. These models are presented in four stages. We begin by modeling the unadjusted relationship between incarceration and contributions. If Y_i represents the amount that father i contributes to his family, our bivariate model is given by

$$Y_i = \beta_0 + \beta_1 incarc_i + \varepsilon_i. \quad (1)$$

Table 3 Baseline and Year 1 differences between fathers, by incarceration history

Characteristic	Ever-Incarcerated	Never-Incarcerated	Incarceration Unknown
Past-year financial contributions (Year 5, $)***	2,600	8,006	3,138
(outcome variable)	(5,462)	(9,293)	(6,271)
Proportion of men contributing (Year 5)***	0.60	0.86	0.55
Average nonzero contribution level	4,336	9,269	5,705
(Year 5, $)***	(6,500)	(9,396)	(7,548)
Married	0.05	0.38	0.16
Cohabiting	0.42	0.35	0.27
Nonresident	0.53	0.27	0.56
White***	0.10	0.26	0.07
Black***	0.47	0.35	0.23
Hispanic	0.20	0.24	0.21
Other race	0.02	0.04	0.03
Unknown race	0.24	0.10	0.46
High school dropout***	0.42	0.23	0.38
High school graduate***	0.37	0.29	0.38
Some college***	0.19	0.28	0.16
College graduate***	0.01	0.20	0.16
Age at baseline***	26.2	29.1	28.2
Employed (Year 1)***	0.68	0.90	0.79
Wage (Year 1, 2000$)***	8.71	14.70	11.17
	(6.62)	(12.03)	(9.7)
Working off-books (Year 1)***	0.42	0.29	0.28
Multiple-partner fertility (Year 1)***	0.49	0.26	0.48
Used hard drugs in past month (Year 1)	0.01	0.00	0.00
Used marijuana in past month (Year 1)***	0.12	0.05	0.04
Had 5+ drinks in past month (Year 1)	0.28	0.24	0.24
Major depression (Year 1)***	0.13	0.08	0.09
Grew up with biological father	0.32	0.46	0.48
Grew up with social father***	0.38	0.26	0.30
Impulsivity (0 = low, 6 = high)***	2.0	1.2	1.0
	(1.93)	(1.57)	(1.43)
Cognitive score (1 = low, 15 = high)***	6.4	6.8	5.9
	(2.6)	(2.8)	(2.7)
Observations	1,334	1,637	249

All cell entries are proportions unless otherwise indicated. Numbers in parentheses are standard deviations. Statistical significance refers to differences between ever- and never-incarcerated groups. The table excludes 308 men who were incarcerated at the time of their five-year follow-up survey

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

Table 4 Average contribution of fathers to children and percent distribution of relationship status at Year 5 for ever-incarcerated and never-incarcerated fathers

	Ever-Incarcerated		Never-Incarcerated	
Relationship Status	Contribution ($)	Relationship Status (%)	Contribution ($)	Relationship Status (%)
Married at Year 5	6,542	15	12,280	52
Cohabiting at Year 5	4,912	14	5,805	14
Nonresident at Year 5	1,210	71	2,440	34
Sample Size (*N*)	1,334		1,637	

N = 2,971 fathers for whom relationship, incarceration, and contribution status are known at Year 5 and are not incarcerated at the time of their survey. Fathers whose incarceration status, residence status, or contribution level is unknown are omitted, as are fathers who were incarcerated at the time of their survey

Our multivariate models (Models 1–3) add controls for demographic and socioeconomic characteristics that might be correlated both with men's likelihood of incarceration and with the amount they contribute to their families. Multivariate Model 1 includes the early-life covariates displayed in the first column of Table 1, and Models 2 and 3 add progressively more covariates, displayed in the second and third columns.

Model 3, in fact, may provide a conservative estimate of the effect of incarceration on fathers' contributions. If, for example, incarceration reduces the likelihood of employment at Year 1, that reduction is likely to have implications for later contributions. However, if Multivariate Model 3 estimates a significant "effect" of incarceration, even controlling for Year 1 employment, this suggests a strong relationship between incarceration and Year 5 contributions, consisting of both the relationship mediated by Year 1 employment and the direct effect of incarceration.

Longitudinal Analysis

Although our cross-sectional regressions estimate the relationship between incarceration and fathers' contributions, with controls for a rich set of observed family characteristics, uncertainty about the timing of men's incarceration makes it difficult to determine whether our models are detecting a mediated effect of incarceration or are simply controlling for baseline characteristics that influence both the likelihood of incarceration and later contributions.

We therefore calculate panel estimates just for the 1,930 men who had not been incarcerated by the Year 1 survey. For these men, all covariates observed at the baseline and Year 1 surveys were observed prior to incarceration, and incarceration status is now a time-varying variable that scores 0 in waves prior to incarceration and 1 for waves after the respondent enters prison or jail in the course of the panel survey. The panel estimates do not control for any post-incarceration variables, thereby reducing the downward bias that results from "overcontrolling."

The longitudinal analysis also includes a fourth multivariate model that controls for the full set of baseline and Year 1 covariates, as well as a measure of fathers' contributions at Year 1, when we know that they have not yet been to jail or prison.

In this longitudinal model, the incarceration coefficient represents the change in contributions associated with having been incarcerated. The longitudinal model also helps us to assess the causal nature of the relationship between incarceration and fathers' financial contributions. Although the possibility of unobserved heterogeneity between the ever- and never-incarcerated groups presents an important challenge to causal inference, controlling for Year 1 contribution levels helps to overcome this challenge. For our estimate in this model to be driven by such heterogeneity, the unobserved differences would need to be correlated with an individual's likelihood of incarceration and his Year 5 contributions, net of the effects of Year 1 contributions. We assume this correlation is plausibly small.

Finally, to further isolate the effects of incarceration, we estimate a sixth model, examining the same 1,930 men at multiple points in time and controlling for individual fixed effects to isolate the effects of incarceration from the effects of unobservable differences that might be correlated with both incarceration and contributions. This model is the most conservative because it considers only within-person changes in both incarceration status and contribution levels and thus avoids confounding the causal effect of incarceration with stable differences between individuals in their criminal tendencies or their tendency to contribute.

Results

Sample Description

As seen in Tables 3 and 4, men with incarceration histories appear worse off than do their never-incarcerated counterparts, both on characteristics predating and those likely to follow their first incarceration spell. As expected, they contribute far less to their children at the Year 5 survey. Men whose incarceration status is reported as unknown tend to fall between the known-incarcerated and known-not-incarcerated groups, although on labor market characteristics, they far more closely resemble the never-incarcerated group.

Cross-Sectional Regression Results

The cross-sectional linear regression results, presented in Table 5, describe the financial contributions provided by fathers with and without histories of incarceration. As expected, the more covariates are controlled for, the weaker the relationship between incarceration and fathers' contributions to their families. Nonetheless, even in Multivariate Model 3, which is most strictly controlled and even controls for characteristics that might mediate the effects of early incarceration (such as baseline marital status or Year 1 employment), a statistically and substantively significant relationship remains. Comparing the magnitudes of the regression coefficients in Table 5 provides some perspective on the importance of incarceration in predicting men's contributions to their families. In Multivariate Model 3, our most conservative model, men with incarceration histories contribute nearly $1,300 less to their children than never-incarcerated men. Given that average

Table 5 Coefficients from regression models predicting fathers' contributions as a function of incarceration and other characteristics

Model	Bivariate	Multivariate 1	Multivariate 2	Multivariate 3
Ever-incarcerated	−5,769.27*** (262.89)	−3,752.00*** (259.73)	−2,497.16*** (252.27)	−1,293.83*** (255.89)
Incarceration unknown	−4,867.63*** (507.28)	−2,420.05*** (498.37)	−1,759.10*** (471.66)	−941.57 (478.26)
Black		−6,781.59*** (359.04)	−4,476.73*** (354.18)	−2,784.87*** (356.71)
Hispanic		−6,135.35*** (399.09)	−3,555.94*** (395.59)	−2,743.09*** (384.53)
Other race		−2,556.30*** (717.76)	−2,489.18*** (674.14)	−2,029.51** (649.10)
Impulsivity		−400.12*** (81.66)	−176.67* (77.73)	−87.81 (76.43)
Cognitive score		257.01*** (51.33)	66.24 (49.51)	48.00 (47.69)
Grew up with biological father		639.58* (297.83)	170.84 (280.81)	23.94 (269.51)
Grew up with social father		−677.24* (271.04)	−354.44 (255.27)	−234.79 (245.18)
Age at baseline			487.36*** (94.70)	271.50** (93.79)
Baseline age, squared			−6.54*** (1.48)	−3.68* (1.45)
Less than high school			−374.12 (308.38)	−165.87 (297.18)
Some college			1,672.59*** (335.79)	1,111.70*** (323.70)
College graduate			−8,722.31*** (483.34)	6,629.17*** (484.32)
Married at baseline				4,997.76*** (375.96)
Cohabiting at baseline				1,596.12*** (259.57)
Employed at Year 1				−115.22 (350.52)
Log wage at Year 1				1,330.22*** (185.17)
Worked off-books at Year 1				−79.25 (258.38)
Multiple-partner fertility (Year 1)				−967.96*** (255.73)
Used hard drugs in past month (Year 1)				497.85 (1,617.73)
Used marijuana in past month (Year 1)				1,199.56** (457.34)
Had 5+ drinks in the past month (Year 1)				−705.48* (284.55)
Major depression at Year 1				−747.47 (405.65)
Constant	8,006.47*** (184.32)	11,232.53*** (606.70)	570.60 (1,584.36)	−1,385.64 (1,585.54)
Observations	3,469	3,469	3,469	3,469

Numbers in parentheses are standard errors. Dummy variables are included in these models to account for missing data although their coefficients are not included in the table
*$p < .05$; **$p < .01$; ***$p < .001$

past-year contribution levels are approximately $5,000, this difference represents approximately 25% of the contribution for families where the father has been incarcerated.

Limiting our sample to those men who were not incarcerated at the one-year survey, with results displayed in Table 6, we find that the replications of the four models displayed in Table 5 estimate slightly larger effects among the limited sample than they did among the full sample. As in the full sample analysis, however, the estimated incarceration effect is its largest in the bivariate model and declines as more covariates are added.

Of particular interest in Table 6 are the two rightmost columns. Including controls for Year 1 contributions (both whether the father contributed anything and the amount provided), newly incarcerated fathers contribute nearly $1,700 less than their counterparts. Most important, including individual fixed effects, which control for all time-invariant heterogeneity between individuals, the decline in contributions is approximately $1,300, or approximately 25% of the average contribution level. As discussed, for this change to be driven by a factor other than incarceration, this factor would need to be orthogonal to earlier contribution levels but correlated with both the incarceration history and later contributions.

Mechanisms Reducing Fathers' Support

Each of our analyses thus far suggests a suppressant effect of fathers' incarceration on the financial contributions that they make to their children. In this section, we test several mechanisms by which this reduction may take place, focusing on the two theoretical constructs that tie incarceration to family contributions: labor market performance and relationship instability.

Table 7 examines changes in the incarceration coefficient as a series of potential mediators are considered. The first column replicates the individual fixed effects model from Table 6, which examines within-family changes in contribution levels following an incarceration. The second and third columns examine two measures of fathers' available income: his earnings in the regular and underground labor markets, respectively. The fourth column controls for the parents' relationship status, whether the couple is married, cohabiting, or living apart at the time of the fifth-year survey. The fifth column controls for both earnings (in the regular labor market) and Year 5 relationship status, and the sixth column includes a control for whether the mother is married to or living with somebody new. Because these models control for individual fixed effects, any effects of these potential mediators are driven by changes between Years 1 and 5.

As shown in columns 2 and 4, both labor market performance and relationship status play a large role in accounting for the relationship between incarceration and fathers' family contributions, but relationship stability is the primary driver of the relationship. Looking more closely at both labor market performance and relationship stability, two facts are noteworthy. First, as shown in column 2 of Table 7, labor market performance and the availability of income from earnings are important components of men's contributions. However, column 3 suggests that money that fathers earn in the informal labor market is far less likely to reach their children. The reasons for this are twofold: Fragile Families fathers report far less income from the informal labor market than from the formal labor market. Their

Table 6 Estimated incarceration coefficients predicting fathers' contributions, limited sample

Coefficient	Bivariate Model	Multivariate Model 1	Multivariate Model 2	Multivariate Model 3	Including Year1 Contribtion	Individual Fixed Effects
Incarceration	−6,254.53*** (493.73)	−4,122.39*** (454.12)	−2,713.58 (433.19)	−1,692.26*** (414.33)	−1,699.44*** (387.29)	−1,300.10*** (401.14)
Contributions (L1)					0.37*** (0.02)	
Total Observations	1,930	1,930	1,930	1,930	1,930	3,860

$N = 1{,}930$, not incarcerated by Year 1. Numbers in parentheses are standard errors. Dummy variables are included in these models to account for missing data, although their coefficients are not included in the table

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

Table 7 Testing mediators of the relationship between incarceration and contributions

Model	(1) Table 5, Individual FE Model	(2) Mediated by Year 5 Earnings	(3) Mediated by Year 5 Earnings and Off-Books Earnings	(4) Mediated by Year 5 Relationship	(5) Mediated by Earnings and Relationship	(6) Mediated by Earnings, Relationship, and Mother's Repartnering
Incarceration Coefficient	−1,300.1*** (401.14)	−1,075.9*** (308.3)	−919.5** (330.8)	−283.7*** (403.7)	−301.9 (309.8)	−215.1 (320.0)
Marriage				4,562.9*** (555.4)	3,481.2*** (435.4)	3,412.9*** (439.9)
Cohabiting				3,913.0*** (406.3)	3,202.8*** (324.8)	3,131.0*** (330.1)
Earnings (thousands)		217.9*** (6.0)	196.5*** (5.3)		214.9*** (5.9)	215.2*** (5.9)
Mother Repartnered						−395.6 (392.6)
Off-Books Earnings (thousands)			0.20*** (0.01)			
Total Observations	3,860	3,860	3,860	3,860	3,860	3,860

Data are from fixed effects (FE) models, including 1,930 men who were not incarcerated by Year 1, observed at Year 1 and Year 5. Numbers in parentheses are standard errors
*$p < .05$; **$p < .01$; ***$p < .001$

underground earnings are thus less substantial and less likely to go toward childrearing. In addition, money earned "off the books" is far less likely to be factored into child-support decisions; fathers living apart are thus less likely to share that income with their nonresident children.

Also noteworthy are columns 4, 5, and 6 of Table 7. As shown in column 4, fathers who are nonresident contribute far less to their children, a fact that explains the vast majority of the incarceration effect noted in column 1. This relationship is consistent with that seen in previous literature, which suggests a close link between father-child contact and child support (Nepomnyaschy 2007). However, despite concerns that a mother's repartnering while the father is incarcerated might threaten the relationship between father and child, this effect, at least in terms of financial contributions, appears to be minimal. Column 6 suggests that fathers do indeed contribute less to their children when their child's mother is married or living with someone new. However, the bulk of incarceration's effects on family contributions are related to the dissolution of the parents' relationship. After parents are living apart, a mother's repartnering does little to further reduce his financial contributions.

Sensitivity Analysis

Fathers' Incapacitation

Our findings suggest that children whose fathers have been incarcerated receive less in financial support than their counterparts whose fathers have no history of incarceration. By examining within-individual changes over time, we increase our confidence that our estimates are causal rather than the result of unobserved heterogeneity. Moreover, our results suggest that one of the primary mechanisms governing the reduction in contributions by formerly incarcerated men is their increased likelihood to be living away from their families and the reliance of their partners and children on child support rather than a sharing of earnings within the household.

However, these findings may be driven by fathers' incapacitation while in prison rather than by any destabilizing effects of incarceration on men's relationships or labor market performance. Incarcerated men are nonresident by definition, and computing contributions based on child support, if they were resident and sharing their income prior to their incarceration, may underestimate their contributions over the previous year. We test the robustness of our findings by reestimating the models in Table 6 but excluding from the sample men who were incarcerated at the time of their five-year survey (and therefore incapacitated from living with their families and sharing their earnings). Results remain highly statistically significant and substantively unchanged.[3]

Income Sharing

Given the importance of residence status in determining fathers' financial contributions to his children, we also examine the sensitivity of our findings to our definition of fathers' contributions. Thus far, we have followed the Betson (2006)

[3] Results are available upon request.

estimates that 25% of family spending is allocated to children and assumed that the contributions of resident fathers are equal to 25% of their total earnings (in the formal and informal labor markets). In this section, we vary the proportion of resident fathers' earnings that we allocate to family contributions, with results displayed in Table 8. The baseline results, which replicate the fixed effects model from Tables 6 and 7, are noted in the center column of results, with the rates of shared income increasing to the left and decreasing to the right.

Moving across the columns of Table 8, it is clear that the magnitude of the incarceration effect is quite dependent on the portion of earnings that we assume resident fathers share with their children. Given that fathers with incarceration histories are far less likely to live with their children, their contributions are most frequently limited to child support payments. The sharing of earnings, on the other hand, is most frequently the mechanism by which fathers without incarceration histories contribute to their families. As a result, as resident fathers share a smaller portion of their earnings, the effect of incarceration on fathers' contributions is diminished. This again suggests that the diminished family contributions from men with incarceration histories stems largely from their increased likelihood to live away from their children. Nonetheless, the likelihood that incarcerated fathers contribute to their children remains significantly lower in all of the scenarios we test.

Conclusions and Directions for Policy and Research

Summary of Findings

As shown throughout this article, the incarceration of a father has substantial economic consequences for child well-being. Men with incarceration histories contribute approximately $1,300 less to their families than do men who have never been incarcerated. This disparity is both highly statistically significant and substantial, representing approximately one-quarter of the average amount that families in our sample receive over the course of a year.

Cross-sectional analyses that control for a rich set of observable personal characteristics—some of which are undoubtedly endogenous to incarceration—longitudinal analyses, and individual fixed effects models all suggest that the

Table 8 Sensitivity of estimated incarceration effect to the definition of resident fathers' contributions

	Baseline				
Percentage of Earnings Contributed by Resident Fathers	35%	30%	25%	20%	15%
Incarceration Regression Coefficient	−1,857.7*** (533.4)	−1,578.9*** (466.1)	−1,300.1*** (401.1)	−1,021.3** (339.7)	−742.5** (284.1)

N=3,860. All models control for individual fixed effects. All models assume that nonresident fathers' contribution is based on formal and informal child support

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

decreased contributions by incarcerated men are not simply due to their being "bad" fathers. Rather, incarceration's destabilizing effects on their labor market performance and relationship quality lead fathers to earn less and to live away from their children, each of which diminishes the financial support their children receive.

These findings are consistent with expectations set by the previous literature; the implications of incarceration for labor market performance and the obstacles to family functioning that it creates have been well-established. However, it is worth noting again that family structure plays a particularly strong role in mediating the effects of incarceration on the financial support that fathers provide. The portion of earnings that resident fathers share tends to be substantially larger than contributions made through the child support system, even when formal support is supplemented with informal support. The logistical and emotional challenges families face when a father is incarcerated have the further consequence of compromising children's economic security.

Policy Implications

Our analysis indicates that formerly incarcerated fathers make only small financial contributions to their children because of their diminished participation in the labor market and the instability of their family and romantic relationships. A variety of programs and proposals attempt to address both sources of economic support for children.

Many different kinds of programs, offered while incarcerated and after release, try to raise the earnings of people entering the labor market after prison. Most prisons provide at least some education, training, and work programs. Some of the largest and most enduring program effects have been found for training and work programs in federal prison industries (Saylor and Gaes 1997). Evaluation of post-prison programs have examined transitional jobs and training programs, unemployment insurance, job placement services, and job readiness preparation. Evaluation results are mixed, although a recent round of studies show that transitional jobs programs, immediately after prison release, are associated with higher earnings and reduced recidivism several years after program enrolment (Bloom 2006; Jacobs and Western 2007). Besides measures that focus on building skills and habits of regular work among the formerly incarcerated, policy advocates have also suggested limiting disqualifications on licensed employment for ex-felons and promoting incentives to hire ex-felons with tax incentives to employers. Other proposals suggest that employment-based programs can be more effective if coupled to additional services for housing and drug treatment. Although the range of proposals is wide indeed, the number of well-designed evaluations remains relatively small.

Our understanding of policies that try to support families more directly is even more limited. Several researchers have observed that the economic and psychological costs of family visits and other contacts with prisoners are very high and stifle family relationships (Comfort 2008; Travis 2005). Policy advocates have proposed family-friendly visitation rules and reductions in the costs of mail and phone contact. Parenting programs, sometimes combined with relationship counseling, drug treatment, and other services, have also been designed to strengthen family bonds after incarceration (e.g., Lindquist and Bir 2008). To enable more consistent economic support for children, the Council of State Governments (2009) recommended coordinating child support enforcement with post-prison work

programs, perhaps providing a grace period for fathers to find steady jobs to better support their children in the long run. To establish consistent support, current payments could receive priority over past arrears, and payments that directly benefit the child could receive priority over repayments to the state for financial assistance, such as Temporary Assistance for Needy Families (TANF) to the family.

Our outcome of interest in this analysis has been strictly a financial measure, and economic stability is only one aspect of child well-being. Although the policies reviewed here aim to reduce the barriers to family unification and improve families' finances, we do not consider whether the removal of, and ultimate separation from, a criminally involved father stabilizes the household in other ways. Where formerly incarcerated parents are incorrigibly violent or otherwise antisocial, children may be better off with less parental involvement rather than more. We suspect that policies that build family bonds and economic opportunities will usually be associated with improved parenting and reduced risk to children. From this perspective, policies that draw fathers with prison records back into their families thus contribute to, rather than threaten, public safety. Public safety thus joins economic well-being and social mobility as one of the three main possible effects of social policy for families and children of the formerly incarcerated.

Directions for Future Research

Although this analysis strongly suggests a negative effect of incarceration on the economic well-being of prisoners' families, it also presents several opportunities for future research. The current analysis is limited by its treatment of incarceration as a binary treatment: fathers either had experienced incarceration in the period of interest or they had not. Providing more detail on the terms of incarceration, such as time served and family visitation, would provide valuable insight into additional mechanisms governing incarceration's effects.

In addition, although we are confident that the financial contributions of fathers with incarceration histories are substantially reduced from those of their counterparts, our analysis is limited by the fact that we do not examine the effects of incarceration on fathers' in-kind contributions to their families. In-kind support is the most common form of support provided by economically challenged fathers (Nepomnyaschy and Garfinkel 2009), and additional work is needed to determine how this support is affected by incarceration. Likewise, the current analysis is focused on fathers' financial contributions to their families and has not yet determined the effects of this incarceration on the child's total household income or the level of hardship the children experience. We plan to examine these outcomes in future work.

Our analysis also leaves unexamined the effects of incarceration on other dimensions of fathers' involvement with their children and on other, non-economic measures of child well-being. Given that approximately one-half of fathers in prison were not living with their children at the time of their incarceration, our analysis of father involvement must examine whether their incarceration spells came before or after the birth of their child; and, where possible, it should also examine whether the incarcerated fathers were living with their children before going to jail or prison, and how any effects of incarceration are moderated by their pre-prison parenting experiences. Turning to child well-being, we also plan to

examine a number of behavioral measures when the children are 5 years old, and whether observed behavior problems among children of incarcerated fathers are tied to the fathers' incarceration itself or to the fathers' parenting behavior before going to jail or prison.

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