

Maternal Incarceration and Family Life

Maternal Incarceration and the Transformation of Urban Family Life

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Incarceration intensely alters the family lives of incarcerated men and the women and children connected to them. Yet women increasingly spend time behind bars and, accordingly, they absorb direct consequences of incarceration in addition to the more commonly considered spillover consequences of men's incarceration on families. In this article, we draw on the stress process perspective to examine the consequences of maternal incarceration for three broad aspects of family life: romantic relationships, parenting, and economic wellbeing. Data from the Fragile Families and Child Wellbeing Study ($N = 3,045$), an urban sample that includes a relatively large number of mothers who spent time in jail or prison, and methodological strategies to account for spurious associations between maternal incarceration and family life, yield two important conclusions. First, maternal incarceration is a stressor that proliferates to engender chronic strains in family life. Second, many of these chronic strains are especially acute when maternal incarceration is accompanied by paternal incarceration. Taken together, these findings suggest that the stressor of maternal incarceration has reverberating consequences for family life.

Men's incarceration has increased fivefold since the 1970s and, today, men comprise about 90 percent of the 2.2 million individuals incarcerated and the 6.9 million individuals under some form of correctional supervision (Kaeble et al. 2015). Incarceration, a common and consequential event among the urban poor (e.g., Pettit and Western 2004), has profoundly changed the lives of American men by altering their labor market prospects (e.g., Pager 2003), health (e.g., Massoglia and Pridemore 2015), and civic participation (e.g., Lerman and Weaver 2014). The consequences of incarceration, in conjunction with the concentration of incarceration among disadvantaged groups, have profound

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implications for inequality among men in the United States (Wakefield and Uggen 2010).

Men's incarceration is also a stressor in the lives of the women connected to them (Braman 2004; Comfort 2008). Women are connected to these marginal men—prior to their confinement, during their time behind bars, and after their release—as romantic partners and co-parents, and exposure to incarceration places considerable strain on their family lives. Men's incarceration is a stressor that disrupts romantic relationships, leading to union dissolution and reduced relationship quality among couples that stay together (Massoglia, Remster, and King 2011; Turney 2015a, 2015b). Men's incarceration also impairs parenting, by diminishing the quality of co-parental relationships and by increasing women's harsh parenting behaviors (Turney 2014a; Turney and Wildeman 2013), and impedes women's economic wellbeing via increased material hardship (Schwartz-Soicher, Geller, and Garfinkel 2011) and decreased housing security (Geller and Franklin 2014).

Yet American women often spend time behind bars themselves. Therefore, it is likely that women have not only absorbed the spillover consequences of mass incarceration but have also experienced direct consequences of their own incarceration. It is likely that their confinement and subsequent reintegration is a stressor that places considerable strain on their family lives. Indeed, although female imprisonment is less common than male imprisonment, relative increases in imprisonment have been far greater for women than men (Kruttschnitt 2010). Most incarcerated women are mothers, and there has been a correspondingly dramatic increase in the number of families and children exposed to maternal incarceration (Glaze and Maruschak 2008). Demographic estimates suggest that more than 3 percent of Black children experience maternal prison incarceration at some point during childhood (Wildeman 2009). And other research, which considers both jail and prison incarceration, finds that 9 percent of urban children experience confinement of their mothers by age nine (Wildeman and Turney 2014), suggesting that maternal incarceration is not an uncommon stressor for urban families in the United States.

Despite the considerable number of urban women who are physically removed from their families via incarceration, and the resultant strains in family life that undoubtedly occur during this period of confinement and eventual reintegration, relatively little is known about how maternal incarceration may transform family life beyond its implications for children's wellbeing (for a review, see Foster and Hagan [2015]). This is an unfortunate oversight for three reasons. First, given the role of women as kinkeepers, children's caregivers, and—in an era of sharply declining employment opportunities for poorly educated men—providers of critical sources of income, it is reasonable to assume that maternal incarceration could be a critical stressor for families (Cherlin 2014; Edin and Kefalas 2005; Rosenthal 1985). Second, existing qualitative research provides competing and countervailing perspectives on how maternal incarceration alters the fabric of family life. Some research documents largely harmful consequences of maternal incarceration for families (e.g., Arditti and Few 2006; Enos 2001), while other research shows that maternal incarceration offers relief from serious

mental health problems and addiction (Siegel 2011; Turanovic, Rodriguez, and Pratt 2012). Third, in an era of increased attention to the correlates and consequences of severe deprivation (e.g., Desmond 2015), maternal incarceration has remained relatively ignored despite occurring at least as frequently as other hardships that have received far greater attention from researchers and policymakers. For instance, urban children are almost twice as likely to experience maternal incarceration than maternal eviction by age five (Desmond and Kimbro 2015; Wildeman and Turney 2014), yet the academic community has remained largely silent on the consequences of maternal incarceration for romantic relationships, parenting, and economic wellbeing while simultaneously—and quite rightly—documenting the devastating consequences of eviction for families (e.g., Desmond 2012, 2016; Desmond and Kimbro 2015).

In this manuscript, we draw on the stress process perspective, a framework suggesting that the concentration of stressors among disadvantaged groups can facilitate impairments in wellbeing across the life course (Pearlin 1989; Pearlin, Aneshensel, and LeBlanc 1997). We conceptualize maternal incarceration, a disruptive life event, as a primary stressor that proliferates to engender three types of secondary stressors related to family life: romantic relationships, parenting, and economic wellbeing. We examine these processes of stress proliferation using data from the Fragile Families and Child Wellbeing Study, a cohort of urban parents first interviewed around the turn of the century and followed for nine years. Our analysis proceeds in two key phases. First we investigate the consequences of maternal incarceration for family life and, in doing so, also consider how maternal incarceration may have spillover consequences for fathers and examine heterogeneous patterns that are motivated by the rigorous qualitative literature on this topic. Next we investigate the individual and joint consequences of maternal and paternal incarceration. The latter places the consequences of maternal incarceration in context, by comparing the consequences of maternal incarceration to the more commonly examined paternal incarceration and by examining how families exposed to both maternal and paternal incarceration may be especially vulnerable. This manuscript contributes theoretically to the stress process perspective, through its consideration of maternal incarceration as a stressor, and more broadly to research on punishment, family life, and poverty in the United States.

Background

The Demography of Maternal Incarceration

Historically, female imprisonment in the United States was so rare that it had at most minimal societal consequences. Between 1925 and 1977, the female imprisonment rate in the United States ranged between 5 per 100,000 and 10 per 100,000, meaning that a maximum of 0.01 percent of American women were imprisoned on any given day (Gilliard and Beck 1998). However, beginning in the late 1970s, the female imprisonment rate began to increase rapidly (and more quickly than the male imprisonment rate). By 2014, the female imprisonment rate

in the United States was 65 per 100,000 (Carson 2015), which corresponds with the *total* imprisonment rate in other Western countries, including Denmark, Finland, the Netherlands, Norway, Sweden, and Switzerland (Walmsley 2015). The dramatic increase in the American female imprisonment rate—and the corresponding removal (and eventual reintegration) of women from households and communities—suggests that female incarceration is now an important social issue in the United States and that incarcerated women cannot be considered a fringe group of unusually criminally active women, as one could have reasonably concluded four decades ago.

This increase in the female imprisonment rate is also important because the majority of imprisoned women are parents to minor children (e.g., Glaze and Maruschak 2008; Mumola 2000). For instance, the most recent report from the Bureau of Justice Statistics (BJS) shows that more than 60 percent of female prisoners were mothers to minor children and that about 150,000 American children currently have mothers in prison (Glaze and Maruschak 2008, pp. 3–4). Moreover, as data limitations preclude an estimation of the cumulative prevalence of exposure to both jail and prison incarceration, the former of which is more common than the latter, existing demographic estimates of the cumulative risk of maternal imprisonment exposure are underestimates of maternal jail and prison incarceration. For example, research suggests that 9 percent of urban children have experienced maternal jail or prison incarceration by age nine (Wildeman and Turney 2014), indicating that a focus on only imprisonment dramatically underestimates the salience of female incarceration in American families, as there is good reason to expect that even relatively short jail incarcerations disrupt the family lives of the urban poor (Arditti, Lambert-Shute, and Joest 2003; Comfort 2016).

Maternal Incarceration in the Stress Process Perspective

The stress process perspective provides a useful theoretical framework for understanding the relationship between maternal incarceration and family life. Two aspects of the stress process perspective are especially useful for understanding this relationship: (1) stressors are concentrated among socially and economically disadvantaged groups; and (2) stressors, via a process called stress proliferation, have implications for wellbeing. Below, we document these two aspects of the stress process perspective. We then outline reasons why the stressor of maternal incarceration may proliferate to engender chronic strains in family life.

Stress process perspective

To begin with, the stress process perspective suggests that stressors, such as maternal incarceration, are concentrated among socially and economically disadvantaged groups (Pearlin 1989). Indeed, the risk of exposure to maternal incarceration is dramatically unequally distributed across the population, disproportionately touching the lives of racial/ethnic minority and economically disadvantaged children and families. For example, demographic estimates show that 3.3 percent of Black children (and 5.0 percent of Black children of mothers

without a high school diploma) born in 1990 were exposed to maternal imprisonment by age 14; this risk is about six times as high as the risk for White children born in the same year (Wildeman 2009, p. 271). Therefore, socially and economically disadvantaged women are more likely than their counterparts to experience the stressor of incarceration.

Additionally, the stress process perspective suggests that stressors can have deleterious implications for wellbeing. Stressors can take the form of life events, which are generally discrete events that are compromising because they involve role entry or exit, or chronic strains, which are more enduring problems that become burdensome (Pearlin 1989; Wheaton 1990). Both life events and chronic strains can operate together in a process called stress proliferation, by which multiple stressors operate simultaneously to impair wellbeing. More specifically, stress proliferation suggests that exposure to a primary stressor, such as maternal incarceration, can give rise to a range of secondary stressors in the form of chronic strains.

Maternal incarceration as a stressor

We conceptualize maternal incarceration, a disruptive life event, as a primary stressor and suggest that this primary stressor may proliferate to create chronic strains in the domain of family life (Pearlin and Bierman 2013). Though little research conceptualizes maternal incarceration as a stressor, a growing literature conceptualizes paternal incarceration as a stressor that has reverberating and complex implications for family life (e.g., Turney 2014c). Indeed, consistent with research that incorporates the family into the stress process perspective (Milkie 2010), paternal incarceration is a life event that can fundamentally reshape aspects of family life, including romantic relationships (e.g., Comfort 2008), parenting (e.g., Turney and Wildeman 2013), and economic wellbeing (e.g., Schwartz-Soicher, Geller, and Garfinkel 2011). Although the few holistic accounts—those that simultaneously consider maternal and paternal incarceration in the family stress process—suggest that maternal and paternal incarceration impose similarly harmful strains on family life (e.g., Arditti 2012), research on maternal incarceration has mostly developed in isolation from research on paternal incarceration (Foster and Hagan 2015). Further, though existing research increasingly considers the relationship between maternal incarceration and children's wellbeing (for a review, see Foster and Hagan [2015, pp. 139–41]), the family-level strains resulting from maternal incarceration have not been explored in large-scale quantitative research.

Theoretically, it is possible that the stressor of maternal incarceration, and the corresponding removal of a mother from the household, has similarly deleterious consequences as paternal incarceration for chronic strains related to family life (e.g., Arditti 2012; Foster and Hagan 2013; Hagan and Dinovitzer 1999). The incapacitation associated with incarceration, whereby the incarcerated parent cannot contribute to daily household routines or generate income (all the while accumulating fines and fees), could be felt universally regardless of the incarcerated parent's gender (Harris 2016; Western 2006), especially given

the salience of maternal earnings for the poorest American households. It is also possible that returning home from a jail or prison spell, and the trials and tribulations associated with re-entry (e.g., [Arditti and Few 2006](#)), similarly engenders chronic strains in family life—as measured by romantic relationships, parenting, and economic wellbeing—for mothers and fathers. It may even be more costly and time-consuming to stay in contact with an incarcerated mother than an incarcerated father, given that women’s facilities are fewer in number and more sparsely located (e.g., [Hagan and Coleman 2001](#)).

Though maternal and paternal incarceration may similarly transform family life, it is also possible that the stressor of maternal incarceration has more severe consequences than paternal incarceration for chronic strains in family life. On the most basic level, mothers often play a more active and central role to families than do fathers (e.g., [Bianchi 2000](#)). Women are often described as kinkeepers, playing an integral part in keeping family members in touch with one another ([Rosenthal 1985](#)). Women are also more likely than men to be primary caregivers to children. Therefore, the key economic and emotional role that women play in families may mean that the removal of mothers from households may be especially deleterious for chronic strains in family life, creating rifts in romantic relationships, making co-parenting especially difficult, and severely increasing material hardship in families ([Siegel 2011](#); [Turanovic, Rodriguez, and Pratt 2012](#)). Indeed, some research finds that maternal incarceration, compared to paternal incarceration, disproportionately leads to severe child stressors such as foster care placement (e.g., [Roberts 2012](#); [Swann and Sylvester 2006](#)), suggesting that maternal incarceration is particularly destabilizing for families.

Alternatively, there are at least two compelling reasons to expect that the stressor of maternal incarceration is less consequential for family life than the stressor of paternal incarceration. First, mothers who experience incarceration are dramatically more disadvantaged than fathers who experience incarceration (e.g., [Mumola 2000](#); [Wildeman 2009](#)), making differential selection a strong reason to expect that maternal incarceration is less consequential than paternal incarceration. That is, maternal incarceration may not engender chronic strains in family life beyond the factors that led to incarceration, such as mental health problems, substance abuse, housing instability, and prior incarceration. It is even possible that maternal incarceration, via the removal of women from households, is beneficial for family life, stabilizing situations made tenuous when they are present ([Turanovic, Rodriguez, and Pratt 2012](#)).

Second, research on maternal incarceration and children’s wellbeing suggests that maternal incarceration may be less consequential for family life than paternal incarceration. This existing research produces inconsistent findings, with some studies finding large average negative effects of maternal incarceration on children (e.g., [Hagan and Foster 2012](#); [Huebner and Gustafson 2007](#)), other studies finding null average effects (e.g., [Cho 2009](#); [Wildeman and Turney 2014](#)), and still other studies finding evidence of strongly heterogeneous effects (e.g., [Foster and Hagan 2013](#); [Turney and Wildeman 2015](#)). This inconsistency is in stark contrast to the findings regarding the consequences of paternal incarceration for children’s wellbeing, much of which documents negative effects

(for a recent review, see [Foster and Hagan \[2015\]](#); for a consideration of heterogeneous effects, see [Turney \[2017\]](#); [Wakefield and Wildeman \[2013\]](#)). Though the reasons for the inconsistent relationship between maternal incarceration and children's wellbeing are unknown, they may exist in part because maternal incarceration is not consequential for family life (above and beyond the factors associated with selection into maternal incarceration).

Our Contribution

We contribute to research on punishment, family life, and poverty in two ways. First, drawing on the stress process perspective, we provide the first quantitative examination of how the stressor of maternal incarceration can engender chronic strains related to three aspects of family life: romantic relationships, parenting, and economic wellbeing. This contributes to the stress process perspective by jointly considering the relationship between life events, as measured by maternal incarceration, and chronic strains in a stress proliferation framework. This also contributes to the stress process perspective by measuring family life at two points in time, enabling us to test whether chronic strains are actually enduring ([Pearlin 1989](#)). Second, we consider how the consequences of maternal incarceration for family life compare to the more commonly established consequences of paternal incarceration for family life. In the era of mass incarceration, where 1 in 11 urban children experience a maternal jail or prison spell in early or middle childhood ([Wildeman and Turney 2014](#)), understanding how the stressor of maternal incarceration engenders chronic strains in family life—and correspondingly contributes to inequalities in family life—is critical for scholars of punishment, family life, and poverty.

Data, Measures, and Analytic Strategy

Data

To estimate the relationship between maternal incarceration and family life, we use data from the Fragile Families and Child Wellbeing Study, a longitudinal survey of 4,898 mostly unmarried parents sampled from 20 U.S. cities between 1998 and 2000. Mothers and fathers were interviewed in person immediately after their child's birth and have been followed via telephone interviews an additional four times (when their children were approximately 1, 3, 5, and 9 years old; see [Reichman et al. \[2001\]](#) for more details of the sampling frame). The Fragile Families data, which have been used extensively to examine the relationship between *paternal* incarceration and family life (e.g., [Geller and Franklin 2014](#); [Schwartz-Soicher, Geller, and Garfinkel 2011](#); [Turney and Wildeman 2013](#); [Turney 2014a, 2014b, 2015a, 2015b](#)) and child wellbeing (e.g., [Geller et al. 2009, 2012](#); [Haskins 2015](#); [Wildeman 2010, 2014](#)) and less extensively to examine the relationship between maternal incarceration and child wellbeing ([Geller et al. 2009](#); [Turney and Wildeman 2015](#); [Wildeman and Turney 2014](#)),

provide a unique opportunity to estimate the relationship between maternal incarceration and family life.

The Fragile Families data have three key features related to our research questions. First, because the Fragile Families sample over-represents unmarried (and, therefore, economically disadvantaged) parents, it includes a substantial number of mothers who experienced jail or prison incarceration. This is especially the case relative to other large-scale surveys, such as the National Longitudinal Survey of Youth 1979 (NLSY79) or the National Longitudinal Study of Adolescent Health (Add Health). The Fragile Families sample also includes a large number of fathers who experienced jail or prison incarceration, allowing us to compare the familial consequences of maternal incarceration alone to the consequences of paternal incarceration alone and the consequences of joint parental incarceration. Second, the Fragile Families data, unlike other large-scale surveys or administrative data, include nuanced longitudinal indicators of family life reported by both mothers and fathers. The prospective measures allow us to establish proper time-ordering between our outcome, explanatory, and control variables; account for indicators of family life prior to maternal incarceration; and consider the consequences of maternal incarceration at two points in time. Third, the Fragile Families data include measures of parents' demographic, socioeconomic, and behavioral characteristics, allowing us to compare mothers who experience incarceration to otherwise similar mothers who do not experience incarceration. This final point is especially important given that those incarcerated are quite different from those not incarcerated (e.g., [Johnson and Easterling 2012](#); [Sampson 2011](#)).

Analytic sample

The primary analytic sample includes 3,045 observations. We first exclude the 1,606 observations in which the mother did not participate in the five- or nine-year surveys, as our outcome variables are measured during these waves (with 223 not in the five-year survey, 847 not in the nine-year survey, and 536 not in both the five- and nine-year surveys). We then deleted an additional 247 observations missing data on any of the outcome variables. The analytic sample is substantially smaller than the full Fragile Families sample, and analyses suggest that attrition is significantly more common among Hispanic mothers, foreign-born mothers, mothers with less than a high school education, mothers not working, and mothers who reported smoking during their pregnancy with the focal child. Importantly, there are no statistically significant differences between the full and analytic samples in measures of family life at the one-year survey or in measures of prior maternal or paternal incarceration.

In supplemental analyses, which estimate fathers' outcomes to interrogate the robustness of our findings, we use a different analytic sample ($N = 1,737$), which excludes the 2,642 observations in which the father did not participate in the five- or nine-year surveys and the additional 519 observations missing data on any of the outcome variables.¹ In both the primary and supplemental analytic samples, we use multiple imputation, producing 20 data sets, to preserve observations missing values on our covariates that are due to item nonresponse rather than sample attrition.

Measures

Outcome variables

We examine eight commonly considered indicators of family life reported by mothers. We focus on these indicators at two different time points, at the five-year survey and at the nine-year survey, to provide a broad assessment of the consequences of maternal incarceration for family life. These indicators are as follows: (1) a binary indicator that the parent has separated from the child's other parent; (2) a binary indicator that the parent has repartnered with someone besides the child's other parent; (3) relationship quality with the child's other parent (1 = *poor* to 5 = *excellent*); (4) parenting stress (an average of four questions [e.g., "being a parent is harder than I thought it would be"], ranging from 1 = *strongly disagree* to 4 = *strongly agree*); (5) engagement (an average of 10 questions [e.g., "read books with child or talk with him/her about books child reads"], ranging from 0 = *0 days per week* to 7 = *7 days per week*); (6) shared responsibility in parenting (an average of four questions [e.g., "how often the father looks after the child when you need to do things"], ranging from 1 = *never* to 4 = *often*); (7) cooperation in parenting (an average of six questions [e.g., "you can trust father to take good care of child"], 1 = *never* to 4 = *always*); and (8) material hardship (a sum of 13 questions [e.g., "received free food or meals"], ranging from 0 to 9).² See appendix table A for individual items that comprise these outcome variables. In supplemental analyses, we examine comparable measures of fathers' reports of family life, especially important because chronic strains are often measured subjectively and having an additional report assuages some concerns about bias. For ease of interpretation, in the multivariate analyses, we standardize all non-binary outcomes to have a mean of 0 and a standard deviation of 1.

Explanatory variables

The primary explanatory variable is maternal incarceration, a binary variable indicating the mother was incarcerated at some point after the one-year survey and up to and including the five-year survey. This measure of maternal incarceration combines both direct and indirect indicators of maternal incarceration reported by both mothers and fathers. Direct indicators include reports that, at the three- or five-year surveys, the mother was currently incarcerated or had experienced incarceration since the last survey wave. Direct indicators also include any other mention of mothers' incarceration during the three- and five-year surveys (e.g., the mother reports that a relationship ended because of her incarceration). Indirect reports are captured when mothers report no incarceration at the one-year survey and report being ever incarcerated at a subsequent survey. This approach is in line with recent recommendations to use the most comprehensive approach when measuring incarceration (Geller, Jaeger, and Pace 2016).

Additionally, in some analyses, we consider joint maternal and paternal incarceration between the one- and five-year surveys, measured as a series of mutually exclusive variables: only maternal incarceration, only paternal incarceration,

both maternal and paternal incarceration, and neither maternal incarceration nor paternal incarceration (reference group).³

Additional covariates

To minimize the possibility of a spurious relationship between maternal incarceration and family life, we match mothers who do and do not experience incarceration on a variety of observed characteristics, all measured prior to maternal incarceration. These variables include demographic (e.g., race/ethnicity, family structure in adolescence), socioeconomic (e.g., employment, household poverty), and behavioral (e.g., substance abuse, impulsive behaviors, prior incarceration) characteristics that are especially associated with selection into incarceration. Importantly, these variables also include a number of indicators of family life measured prior to maternal incarceration, which means that the propensity score models, as described below, estimate the relationship between maternal incarceration and family life *net* of family life prior to incarceration.

See table 1 for descriptive statistics of all variables.

Analytic Strategy

The analytic strategy proceeds in two stages. The first analytic stage considers the familial consequences of maternal incarceration (compared to no maternal incarceration). After first considering descriptive differences in outcome variables across families who do and do not experience maternal incarceration, we use propensity score matching to estimate the relationship between maternal incarceration and family life. Grounded in the counterfactual framework, propensity score models facilitate a comparison between a treatment group and a control group (Morgan and Winship 2007; Rosenbaum and Rubin 1983). This nonparametric approach allows us to consider differences in family life between mothers who experience incarceration (the treatment group) and otherwise comparable mothers who do not experience incarceration (the control group). Importantly, the propensity score matching models proceed under ignorability, the assumption that all relevant determinants of incarceration and family life are included in the models (Shadish 2013). We return to a discussion of this assumption below.

We first use logistic regression to estimate the propensity score, the probability that a mother experiences incarceration between the one- and five-year surveys, as a function of all covariates described above. We then use kernel matching (epanechnikov, bandwidth = 0.06) to match observations in the treatment group, those who experienced maternal incarceration, to otherwise comparable observations in the control group (who did not experience maternal incarceration), restricting the analysis to regions of common support and ensuring balance across covariates (see appendix table B). Finally, we use OLS regression models to estimate our outcomes as a function of the treatment, first without further adjusting for all covariates and then with further adjusting for all of covariates in case small differences between the treatment and control groups persist after matching (Schafer and Kang 2008).⁴ We average these results across each of the 20 imputed data sets. We estimate the consequences of

Table 1. Descriptive Statistics of Variables Included in Analysis

	Mean or %	S.D.
<i>Key explanatory variables</i>		
Maternal incarceration	6.5%	
Maternal and paternal incarceration		
Only mother incarcerated	3.7%	
Only father incarcerated	22.1%	
Both mother and father incarcerated	2.8%	
Neither mother nor father incarcerated	71.4%	
<i>Covariates</i>		
Race/ethnicity		
Non-Hispanic White	22.2%	
Non-Hispanic Black	49.6%	
Hispanic	24.7%	
Non-Hispanic other race	3.5%	
Foreign-born	13.5%	
Age	25.227	(6.027)
Lived with both parents at age 15	42.5%	
Educational attainment		
Less than high school	30.5%	
High school diploma or GED	31.8%	
More than high school	37.7%	
Educational attainment (father)		
Less than high school	30.7%	
High school diploma or GED	37.0%	
More than high school	32.3%	
Poverty	39.5%	
Poverty (father)	27.6%	
Material hardship	1.127	(1.579)
Material hardship (father)	0.413	(1.078)
Employment	56.0%	
Employment (father)	78.3%	
Grandmother in household	19.2%	
Number of children	2.291	(1.294)
Relationship status with father		
Married	31.1%	
Cohabiting	26.9%	

(Continued)

Table 1. continued

	Mean or %	S.D.
Visiting	10.4%	
Separated	31.5%	
Repartnered	10.6%	
Repartnered (father)	11.5%	
Relationship quality	3.301	(1.418)
Relationship quality (father)	3.567	(1.268)
Parenting stress	2.185	(0.673)
Parenting stress (father)	2.057	(0.666)
Engagement	5.227	(1.131)
Engagement (father)	3.032	(2.089)
Shared responsibility	2.889	(1.099)
Cooperation	3.401	(0.895)
Cooperation (father)	3.464	(0.860)
Smoked during pregnancy	17.6%	
Used drugs or alcohol during pregnancy	12.3%	
Impulsivity	2.005	(0.666)
Impulsivity (father)	1.503	(0.472)
Experienced domestic violence	6.8%	
Prior incarceration (since baseline)	0.4%	
Prior incarceration (father)	31.0%	
Child born low birth weight	9.3%	
Child temperament	0.570	(0.126)
Child gender	52.4%	
<i>N</i>		3,045

Note: Parental incarceration measured as any incarceration after the one-year survey and up to and including the five-year survey. Covariates measured at the baseline or one-year surveys. All variables reported by the mother unless otherwise noted.

maternal incarceration at the five-year survey and the nine-year survey (and it is important to keep in mind that, within each set of outcome variables, there is variation in the recency of the incarceration for which we cannot account), thereby examining how the stressor of maternal incarceration proliferates to engender strains at two points in time.

As part of the first analytic stage, we further interrogate the robustness of the relationship between maternal incarceration and family functioning in three ways. First, we substitute mothers' reports of family functioning for fathers' reports of family functioning, which allows us to consider if fathers' perceptions square with mothers' perceptions. Second, we consider heterogeneity in the

association between maternal incarceration and family functioning by three characteristics: (1) pre-incarceration residential status with the focal father, (2) pre-incarceration depression, and (3) pre-incarceration substance use. We consider these heterogeneous associations to strengthen causal inference. We expect that maternal incarceration is most consequential for family life when mothers are residing with the focal father prior to incarceration (compared to when mothers are not residing with the focal father, in which case maternal incarceration may matter little). We also expect that maternal incarceration is most consequential for families who experience less distress prior to incarceration (so, when mothers are not depressed prior to incarceration and when mothers did not use substances in pregnancy). Third, as propensity score matching is limited by its inability to consider unobserved characteristics that might render the relationship between maternal incarceration and family life spurious (Shadish 2013), we estimate placebo regression models that estimate the outcomes prior to the treatment.

The second analytic stage examines the consequences of maternal incarceration alone compared to paternal incarceration alone, joint maternal and paternal incarceration, and neither maternal nor paternal incarceration. This analytic stage proceeds in a similar fashion to the analyses in the first analytic stage. We use propensity score matching to estimate family life as a function of maternal incarceration, matching three sets of treatment groups (families that only experienced maternal incarceration, families that only experienced paternal incarceration, and families that experienced both maternal and paternal incarceration) to families that experienced neither maternal nor paternal incarceration.⁵

Results

Descriptive Differences in Family Life by Maternal Incarceration

Table 2 presents mothers' reports of family life at the five- and nine-year surveys, by maternal incarceration (measured between the one- and five-year surveys). Across nearly all outcomes, mothers who have been incarcerated report less favorable family life than those who have not been incarcerated. At the five-year survey, previously incarcerated mothers are more likely to report a separation from the focal child's father and a repartnership. These mothers also report lower relationship quality, higher parenting stress, lower shared responsibility in parenting, lower cooperation in parenting, and higher material hardship. Furthermore, these descriptive differences persist at the nine-year survey.

Estimating Family Life as a Function of Maternal Incarceration

Main analyses

Table 3 presents results from propensity score matching that considers the consequences of maternal incarceration for family life. These analyses provide insight into whether maternal incarceration—or, alternatively, observed characteristics associated with selection into maternal incarceration—is driving the descriptive differences in family life. In this and subsequent tables, all non-binary

Table 2. Measures of Family Life, by Maternal Incarceration

	Maternal incarceration	No maternal incarceration
Panel A. Outcomes at five-year survey		
Separated from father	71.2%	49.1%***
Repartnered	39.9%	24.7%***
Relationship quality	2.439	3.051***
Parenting stress	2.266	2.166*
Engagement	4.512	4.607
Shared responsibility	2.106	2.545***
Cooperation	2.869	3.147***
Material hardship	3.192	2.011***
Panel B. Outcomes at nine-year survey		
Separated from father	80.3%	55.4%***
Repartnered	48.5%	32.2%***
Relationship quality	2.384	2.867***
Parenting stress	2.133	2.023*
Engagement	3.711	3.724
Shared responsibility	1.823	2.345***
Cooperation	2.591	2.936***
Material hardship	1.864	1.137***
N	198	2,847

Note: Asterisks compare statistically significant differences between families exposed to maternal incarceration and families not exposed to maternal incarceration.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

outcomes—relationship quality, parenting stress, engagement, shared responsibility, cooperation, and material hardship—are standardized to facilitate comparing across outcomes (mean = 0, standard deviation = 1).

Panel A presents results estimating family life at the five-year survey. We first consider the unmatched estimates between the treatment (mothers incarcerated between the one- and five-year surveys) and control groups (mothers not incarcerated between the one- and five-year surveys). The unmatched estimates document that previously incarcerated mothers, compared to their counterparts, are more likely to report separation ($b = 0.221$, $p < 0.001$) and repartnering ($b = 0.152$, $p < 0.001$). Previously incarcerated mothers also report lower relationship quality ($b = -0.423$, $p < 0.001$), higher parenting stress ($b = 0.143$, $p < 0.01$), lower shared responsibility ($b = -0.366$, $p < 0.001$), lower cooperation ($b = -0.264$, $p < 0.001$), and higher material hardship ($b = 0.528$, $p < 0.001$). Mothers with and without incarceration histories report similar levels of engagement ($b = -0.078$, n.s.).

Table 3. Estimating Mothers' Reports of Family Life as a Function of Maternal Incarceration

	Unmatched	Propensity score matching	Propensity score matching (doubly robust)
Panel A. Outcomes at five-year survey			
Separated from father	0.221 (0.037)***	0.120 (0.037)**	0.109 (0.030)***
Repartnered	0.152 (0.032)***	0.101 (0.039)*	0.099 (0.036)**
Relationship quality	-0.423 (0.073)***	-0.208 (0.074)**	-0.182 (0.066)**
Parenting stress	0.148 (0.073)*	0.008 (0.084)	-0.012 (0.072)
Engagement	-0.078 (0.074)	-0.029 (0.100)	-0.020 (0.084)
Shared responsibility	-0.366 (0.073)***	-0.193 (0.075)*	-0.175 (0.064)**
Cooperation	-0.264 (0.073)***	-0.112 (0.085)	-0.102 (0.074)
Material hardship	0.528 (0.072)***	0.343 (0.095)***	0.311 (0.073)***
Panel B. Outcomes at nine-year survey			
Separated from father	0.249 (0.036)***	0.135 (0.033)***	0.121 (0.028)***
Repartnered	0.163 (0.035)***	0.109 (0.040)**	0.103 (0.037)**
Relationship quality	-0.331 (0.073)***	-0.104 (0.074)	-0.091 (0.066)
Parenting stress	0.160 (0.073)*	0.016 (0.083)	0.008 (0.075)
Engagement	-0.022 (0.074)	-0.097 (0.089)	-0.114 (0.082)
Shared responsibility	-0.436 (0.073)***	-0.255 (0.067)***	-0.239 (0.059)***
Cooperation	-0.296 (0.073)***	-0.127 (0.082)	-0.116 (0.071)
Material hardship	0.473 (0.073)***	0.266 (0.094)**	0.241 (0.086)**
<i>N</i>	3,045	3,036—3,042	3,036—3,042

Note: Each row represents a separate dependent variable. All covariates from table 1 are used in the propensity score matching models. The treatment group *N* varies (from 189 to 195) across multiply imputed data sets. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

We next consider the matched estimates, which account for pre-incarceration characteristics between mothers with and without an incarceration history. Matching reduces the magnitude of the coefficients, generally by between one-third and two-thirds (and by 94 percent and to statistical non-significance for parenting stress), and documents that maternal incarceration is significantly associated with five of the eight indicators of family life. These associations remain in the doubly robust matching estimates, which further adjust for all covariates, consistent with expectations given the statistically non-significant differences in covariates across the treatment and control groups. Maternal incarceration is positively associated with separation ($b = 0.109$, $p < 0.001$) and repartnering ($b = 0.099$, $p < 0.01$). Maternal incarceration is also associated with one-fifth of a standard deviation lower relationship quality ($b = -0.182$, $p < 0.01$), one-fifth of a standard deviation lower shared responsibility ($b = -0.175$, $p < 0.01$), and one-third of a standard deviation higher material hardship ($b = 0.311$, $p < 0.001$).

Panel B presents results estimating family life at the nine-year survey. By and large, the magnitude and statistical significance of these results are quite consistent with those estimating family life at the five-year survey. There are striking unmatched differences between mothers with and without an incarceration history. And, though matching reduces the magnitude of these differences, maternal incarceration is consequential for four of the eight mother-reported indicators considered. In the most conservative models, the doubly robust matching models, maternal incarceration is associated with more separation ($b = 0.121, p < 0.001$), more repartnering ($b = 0.103, p < 0.01$), lower shared responsibility ($b = -0.239, p < 0.001$), and higher material hardship ($b = 0.241, p < 0.01$). The association between maternal incarceration and relationship quality falls from statistical significance after matching.⁶

Robustness checks

Father-reported outcomes We interrogate the robustness of the relationship between maternal incarceration and family life by substituting mothers' reports of family life with fathers' reports of family life, presented in appendix table C. These analyses allow us to corroborate mothers' reports. In panel A, which presents results estimating family life at the five-year survey, the unmatched estimates show an association between maternal incarceration and fathers' reports of family life. Maternal incarceration is positively associated with separation ($b = 0.376, p < 0.05$) and repartnering ($b = 0.227, p < 0.001$). Maternal incarceration is also associated with lower relationship quality ($b = -0.851, p < 0.001$), higher parenting stress ($b = 0.268, p < 0.01$), lower cooperation ($b = -1.174, p < 0.001$), and higher material hardship ($b = 0.358, p < 0.001$). The matched estimates, reduced in magnitude compared to the unmatched estimates, show that there remains a relationship between maternal incarceration and four of the eight outcome variables. The doubly robust models produce coefficients that are nearly similar in magnitude and statistical significance. In these most conservative models, maternal incarceration is associated with separation ($b = 0.253, p < 0.001$), repartnering ($b = 0.142, p < 0.01$), relationship quality ($b = -0.517, p < 0.001$), and cooperation ($b = -0.967, p < 0.001$).

Panel B presents results estimating outcomes measured at the nine-year survey. The most conservative models, the doubly robust matching models, show that maternal incarceration continues to be associated with separation ($b = 0.174, p < 0.001$), repartnering ($b = 0.092, p < 0.05$), relationship quality ($b = -0.285, p < 0.01$), and cooperation ($b = 0.749, p < 0.001$). Maternal incarceration is also associated with shared responsibility ($b = -0.363, p < 0.001$), a measure not asked of fathers at the five-year survey. The coefficients for nine-year outcomes, compared to the coefficients for five-year outcomes, are reduced in magnitude by between one-fifth (cooperation in parenting) and nearly one-half (relationship quality). Taken together, these estimates of father-reported outcomes are similar to estimates of mother-reported outcomes, both corroborating our earlier findings and suggesting that the consequences of maternal incarceration extend to fathers' perceptions of family life.

Subgroup analyses We also interrogate the robustness of our findings by considering heterogeneity in the association between maternal incarceration and family life. In appendix table D, we consider this relationship separately for residential and non-residential mothers (measured at the one-year survey), separately for depressed and non-depressed mothers (measured at the one-year survey), and separately for mothers who did and did not report substance use during pregnancy (measured at baseline). As a reminder, we expect maternal incarceration is most consequential for family life when mothers are residing with the focal father prior to incarceration (compared to when mothers are not residing with the focal father), when mothers are not depressed prior to incarceration (compared to mothers who are depressed), and when mothers did not use substances during pregnancy (compared to mothers who did use substances during pregnancy). We present results estimating family life at the five-year survey, as the shorter time period between the measurement of maternal incarceration and the outcomes provides a stronger test than a longer time period, but results were consistent when instead estimating family life at the nine-year survey.

Panel A presents estimates of family life by co-residence prior to incarceration. As expected, the results suggest that the deleterious consequences of maternal incarceration are concentrated among mothers living with fathers prior to their incarceration. Among residential parents, maternal incarceration is associated with more separation ($b = 0.214, p < 0.01$), more repartnering ($b = 0.196, p < 0.001$), lower relationship quality ($b = -0.415, p < 0.001$), lower shared responsibility ($b = -0.464, p < 0.001$), lower cooperation ($b = -0.343, p < 0.01$), and more material hardship ($b = 0.447, p < 0.01$). Among non-residential parents, maternal incarceration is not significantly associated with any of the outcome variables (and the magnitude of the coefficients is smaller than the magnitude for residential parents). Tests for differences in coefficients (Paternoster et al. 1998) between residential and non-residential parents show statistically significant differences for five of the outcomes ($z = 2.26$ for separated from father, $z = 2.28$ for repartnered, $z = -2.71$ for relationship quality, $z = -3.49$ for shared responsibility, $z = -2.69$ for cooperation).

Panel B presents estimates of family life by depression. As expected, the results suggest that the deleterious consequences of maternal incarceration are concentrated among mothers who were not depressed prior to their incarceration. Among mothers not depressed prior to incarceration, incarceration is associated with more separation ($b = 0.146, p < 0.01$), more repartnering ($b = 0.100, p < 0.05$), lower relationship quality ($b = -0.182, p < 0.05$), lower shared responsibility ($b = -0.199, p < 0.05$), and more material hardship ($b = 0.268, p < 0.01$). Among mothers depressed prior to incarceration, there are no statistically significant associations between maternal incarceration and family life. The differences between these two subgroups are not statistically significant, perhaps not surprising given the relatively small number of depressed mothers.

Finally, panel C present estimates of family life by substance use during pregnancy. As expected, the results suggest that the deleterious consequences of maternal incarceration are concentrated among mothers who did not use substances during their pregnancy. Among these mothers, maternal incarceration is associated with more separation ($b = 0.158, p < 0.001$), more repartnering

($b = 0.088$, $p < 0.05$), lower relationship quality ($b = -0.209$, $p < 0.01$), lower shared responsibility ($b = -0.235$, $p < 0.01$), and more material hardship ($b = 0.339$, $p < 0.01$). Again, perhaps because of the relatively small number of mothers who used substances during pregnancy, the differences between these subgroups are not statistically significant.

Taken together, these results strengthen causal inference and suggest that the associations between maternal incarceration and family life are not driven by stable yet unobserved characteristics (as we would conclude if the associations were concentrated among families most distressed prior to incarceration).

Reverse causality Finally, we interrogate the robustness of our findings by using placebo regression models that estimate the outcome before the treatment, presented in appendix table E. This allows us to investigate reverse causality as a threat to causal inference. We estimate the outcome variables at the one-year survey as a function of future maternal incarceration (incarceration between the one- and five-year surveys). Maternal incarceration is only associated of one of the eight outcomes—material hardship—suggesting that reverse causality is unlikely.

Considering Both Maternal and Paternal Incarceration

To this point, we have compared families that experienced maternal incarceration to all other families, including those families that experienced paternal incarceration. In the following analyses, we consider both the independent and joint consequences of maternal and paternal incarceration, comparing families exposed to neither maternal nor paternal incarceration (71.4 percent of the sample) to (1) families exposed to maternal incarceration alone (3.7 percent); (2) families exposed to paternal incarceration alone (22.1 percent); and (3) families exposed to both maternal and paternal incarceration (2.8 percent). We again estimate outcomes at the five-year survey to provide a stronger causal test (but the estimates of outcomes at the nine-year survey are consistent).

Panel A of table 4 presents doubly robust matched estimates of mother-reported outcomes. We find that maternal incarceration alone, compared to neither maternal nor paternal incarceration, has deleterious consequences for three of the eight outcomes. Maternal incarceration is positively associated with separation ($b = 0.081$, $p < 0.05$), repartnering ($b = 0.110$, $p < 0.05$), and material hardship ($b = 0.401$, $p < 0.001$). We also find that, consistent with previous research (Schwartz-Soicher, Geller, and Garfinkel 2011; Turney 2015a, 2015b; Turney and Wildeman 2013), paternal incarceration has deleterious consequences for six of the eight outcomes, including separation ($b = 0.184$, $p < 0.001$), repartnering ($b = 0.066$, $p < 0.01$), relationship quality ($b = -0.288$, $p < 0.001$), shared responsibility ($b = -0.353$, $p < 0.001$), cooperation ($b = -0.297$, $p < 0.001$), and material hardship ($b = 0.194$, $p < 0.001$).

Importantly, joint parental incarceration, compared to no parental incarceration, is associated with impairments in family life that are largest in magnitude (separation: $b = 0.274$, $p < 0.001$; repartnering: $b = 0.128$, $p < 0.05$; relationship quality: $b = -0.497$, $p < 0.001$; shared responsibility: $b = -0.536$, $p < 0.001$; cooperation: $b = -0.542$, $p < 0.001$; material hardship: $b = 0.252$, $p < 0.05$).

Table 4. Estimating Mother's Reports of Family Life as a Function of Parental Incarceration

	Only mother incarcerated	Only father incarcerated	Both mother and father incarcerated
Separated from father	0.081 (0.038)*	0.184 (0.021)***	0.274 (0.047)***
Repartnered	0.110 (0.043)*	0.066 (0.025)**	0.128 (0.053)*
Relationship quality	-0.055 (0.084)	-0.288 (0.046)***	-0.497 (0.100)***
Parenting stress	-0.010 (0.091)	0.051 (0.048)	-0.054 (0.111)
Engagement	0.034 (0.106)	0.022 (0.048)	-0.046 (0.137)
Shared responsibility	-0.047 (0.075)	-0.353 (0.044)***	-0.536 (0.100)***
Cooperation	0.101 (0.080)	-0.297 (0.052)***	-0.542 (0.123)***
Material hardship	0.401 (0.088)***	0.194 (0.052)***	0.252 (0.118)*
N	2,282—2,289	2,838—2,846	2,254—2,258

Note: Each row represents a separate dependent variable, all measured at the five-year survey. All covariates from table 1 are used in the doubly robust propensity score matching models. The treatment group *N* varies across multiply imputed data sets.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Comparing coefficients of maternal incarceration to coefficients of both maternal and paternal incarceration suggests that joint parental incarceration is significantly more deleterious for separation ($z = 1.75$), relationship quality ($z = -1.90$), shared responsibility ($z = -1.83$), and cooperation ($z = -1.83$).

Discussion

The rise of incarceration as a form of punishment, in conjunction with the fact that women's incarceration has increased twice as rapidly as men's incarceration in recent decades (e.g., Foster and Hagan 2015; Kruttschnitt 2010), means that for the first time in American history, a nontrivial number of families are exposed to the stressor of maternal incarceration. In this article, we use data from the Fragile Families and Child Wellbeing Study, a longitudinal sample of urban parents, and a series of propensity score matching models to provide a rigorous quantitative inquiry into how the stressor of maternal incarceration proliferates within families to engender chronic strains in three domains of family life: romantic relationships, parenting, and economic wellbeing. The results, which complement and extend the nuanced qualitative research on this topic (Arditti 2012; Siegel 2011; Turanovic, Rodriguez, and Pratt 2012), suggest that maternal incarceration, through a process of stress proliferation, can redefine the lives of urban families.

Comparing Families Experiencing and Not Experiencing Maternal Incarceration

We first considered how families exposed to the primary stressor of maternal incarceration, a disruptive life event that involves role changes, compare to

families not exposed to maternal incarceration. This main investigation yielded two primary findings. First, we find that families exposed to the stressor of maternal incarceration, compared to families not exposed to this stressor, experience chronic strain across three domains that combined form a broad range of indicators of family functioning: relationships, parenting, and economic wellbeing. We find that maternal incarceration impairs romantic relationships, by facilitating relationship dissolution and impairing overall relationship quality among parents. Maternal incarceration also impedes material hardship. We also find that maternal incarceration impedes the co-parental relationship but does not alter mothers' self-reported parenting behaviors (measured as parenting stress and engagement), a contradiction that merits greater attention in future research. Taken together, these results provide evidence that maternal incarceration, just like the more frequently considered paternal incarceration, is a stressor that engenders chronic strains in the family system (e.g., [Arditti 2012](#); [Turanovic, Rodriguez, and Pratt 2012](#)).

Second, and relatedly, we find that the implications of maternal incarceration are enduring. The relationships between the primary stressor of maternal incarceration and the secondary stressors related to family life persist across time—in this case, between four and eight years after the incarceration occurred. Maternal incarceration is not a stressor in which families are easily able to recover. Instead, maternal incarceration introduces cleavages into family life from which families have difficulty recovering, suggesting that maternal incarceration imposes a chronic strain on family life. This is in contrast to the consequences of another—more commonly examined—family stressor, divorce, where the most rigorous evidence suggests that divorce has only temporary consequences for family life (see, especially, [Amato \[2000\]](#) for a discussion). These cleavages are especially important because they suggest that the average short-term null effects of maternal incarceration on children (e.g., [Wildeman and Turney 2014](#)) may actually shift to negative long-term consequences for them, as the substantial and long-lasting consequences of maternal incarceration for families seem almost certain to exert some long-term intergenerational harms. Further, for the subset of children already experiencing significant short-term harms as a result of maternal incarceration ([Turney and Wildeman 2015](#)), these negative consequences for family functioning may initiate a highly precarious transition to adulthood, as the deleterious consequences of maternal incarceration may compound in ways that leave these children especially vulnerable to harm as they age.

The investigation into the differences between families who do and do not experience maternal incarceration, and specifically the supplemental analyses designed to interrogate the robustness of this association, yielded support for two additional conclusions. First, maternal incarceration has deleterious consequences for how *fathers* perceive their romantic and co-parental relationships with mothers, suggesting that the consequences of maternal incarceration reverberate throughout the family system and are not limited to mothers' reports of family life. Although considering these spillover effects was not a primary goal of this article—indeed, father-reported outcomes were included as a robustness check to corroborate the mother-reported outcomes—this finding is consistent

with a much larger literature documenting the spillover consequences of paternal incarceration for mothers (e.g., [Turney and Wildeman 2013](#)).

These spillover consequences of maternal incarceration on fathers are especially intriguing given that some recent research suggests maternal incarceration is not, on average, causally linked to some indicators of children's wellbeing (e.g., [Cho 2009](#); [Wildeman and Turney 2014](#)). The combination of the spillover consequences documented here, in conjunction with the fact that these spillover consequences do not translate to differences in children's wellbeing, suggests that some outside force—the state or other kin—may be critical sources of support for children suffering from maternal incarceration. It is possible that the deleterious consequences for family life and the null consequences for children are both driven by state investment in children with incarcerated mothers. It is also possible that kin networks, in the face of maternal incarceration, buffer children but not parents from the stressor of maternal incarceration. Future research—particularly ethnographic research or in-depth interview studies that include perspectives of mothers, fathers, and children—could shed light on these potentially countervailing processes.

Second, via the supplemental analyses, we find heterogeneity in the processes of stress proliferation. Associations between maternal incarceration and family life are largest among mothers living with their child's father prior to their incarceration, mothers not depressed prior to their incarceration, and mothers who did not use drugs during pregnancy. These findings are important because they suggest, consistent with other research on the consequences of maternal incarceration (e.g., [Siegel 2011](#); [Turanovic, Rodriguez, and Pratt 2012](#)), substantial heterogeneity in how families adapt to the stressor of maternal incarceration. They are also important because they do *not* suggest strong associations in implausible places, thereby lending support to the statistically significant associations we do find.

Estimates of Joint Parental Incarceration

Another key goal of this paper was to consider the individual and joint consequences of maternal and paternal incarceration. First, we corroborate prior research by finding that paternal incarceration destabilizes romantic relationships, impairs parenting, and increases maternal hardship ([Schwartz-Soicher, Geller, and Garfinkel 2011](#); [Turney 2015a, 2015b](#); [Turney and Wildeman 2013](#)). Second, we find that though maternal incarceration alone does lead to chronic strains in family life, particularly with respect to romantic relationships and material hardship, joint parental incarceration—which occurs in about 3 percent of families—is most consequential. This is an intriguing finding and one that also deserves greater attention in future research, especially via quantitative research that could consider within-family changes in parental incarceration to isolate causal effects or via qualitative research that could document processes underlying these associations.

Limitations

We used the best available survey data to examine processes of stress proliferation related to maternal incarceration. Nonetheless, our study has limitations.

First, the data are a sample of parents, necessitating a consideration of the family consequences of maternal incarceration (and not women's incarceration more generally). We view this as a small limitation given that the majority of incarcerated women are mothers and that many of the outcomes we consider are most appropriate for parents with children (Mumola 2000). Second, the measures of joint parental incarceration are crude, as we cannot distinguish between parents who were concurrently incarcerated and parents who were merely both incarcerated during the four-year period that we measure incarceration. Future research should consider these differences, as there are reasons to expect that these two scenarios could differentially alter family dynamics (e.g., Comfort 2007). Future research should also consider heterogeneity in the incarceration experience—such as facility type (jail vs. prison), distance to family members, and length of incarceration—and variation across places in the consequence of incarceration (Foster and Hagan 2015). Third, our analytic approach, propensity score matching, does not take into account unobservable characteristics of individuals, leaving open the possibility that the association between maternal incarceration and family life is spurious. That said, we took a number of steps to strengthen causal inference (including matching on a large number of control variables, including lagged indicators of family life, and conducting supplemental analyses that examined heterogeneity and considered falsification tests).

Finally, by attempting to isolate the relationship between maternal incarceration and family life, and therefore strengthen causal inference, we are unable to consider additional processes related to the stress process perspective. For example, the stress process perspective, which highlights the multiplicity of stressors, suggests that the accumulation of stressors may condition one's responses to stressors (Pearlin and Bierman 2013). The consequences of maternal incarceration for family life may be stronger among families experiencing a variety of additional stressors, as these families likely lack economic and social resources that buffer the consequences of maternal incarceration. Alternatively, the consequences of maternal incarceration for family life may be stronger among families experiencing fewer additional stressors, as maternal incarceration is likely less anticipated for these families. Future research should consider these competing possibilities.

Conclusions

Taken together, these results suggest that both mothers and fathers experience maternal incarceration as a stressor to family life and the consequences of this stressor are enduring. These findings are especially important in an era in which the changing nature of severe disadvantage among American families is receiving substantially greater attention (e.g., Desmond 2012, 2015, 2016; Roberts 2012; Wildeman and Waldfogel 2014). As female incarceration has become an increasingly common experience for poor American families, these findings have consequential implications for family functioning among poor families but also for *inequality* in family functioning between poor and non-poor families. As such, although researchers interested in the effects of the criminal justice

system on American families should continue to examine the effects of paternal incarceration for the structure and function of family life (e.g., Lopoo and Western 2005; Massoglia, Remster, and King 2011; Turney 2014a, 2014b, 2015a, 2015b; Turney and Wildeman 2013), as well as effects on children's wellbeing (e.g., Geller et al. 2012; Wakefield and Wildeman 2013; Wildeman 2010), they should also more rigorously assess how the astonishingly high rates of incarceration that urban American mothers experience affects the families they leave behind, as failing to do so provides only a partial portrait of how mass incarceration has reshaped the lives of the poorest American families in the past 40 years.

Notes

1. In supplemental analyses, we estimated mothers' outcomes with the smaller sample used for estimates of fathers' outcomes. This specification yielded consistent, but larger in magnitude, substantive findings.
2. Mothers and fathers individually report on each of the eight outcome variables. Since many mothers and fathers are not living together, the values for some of the outcomes differ markedly. The correlation between mothers' and fathers' reports at the nine-year survey are as follows: separation: $r = 0.91$; repartnering: $r = 0.21$; relationship quality: $r = 0.60$; parenting stress: $r = 0.12$; engagement: $r = 0.02$; shared responsibility in parenting: $r = 0.79$; cooperation in parenting: $r = 0.57$; material hardship: $r = 0.17$.
3. Paternal incarceration is measured by using mothers' and fathers' reports that the father was incarcerated between the one- and five-year surveys (Geller et al. 2012). Importantly, it is only possible to capture first-time paternal incarceration between the one- and three-year surveys, which means that paternal incarceration is under-estimated.
4. We use linear probability models to estimate our two binary outcomes.
5. Because propensity score matching is limited to dichotomous treatments, it is necessary to separately match our three treatment groups to our control group. Inverse probability of treatment weighting, which allows for categorical treatments, produces results of a similar magnitude and statistical significance. But we present results from propensity score matching throughout, as the inverse probability of treatment weighting models do not converge for some of our supplemental analyses (estimates of father-reported outcomes and estimates of subgroups).
6. In supplemental analyses (not shown), we estimated outcomes at the nine-year survey net of outcomes at the five-year survey. This strategy reduces the magnitude, but not the statistical significance, of the treatment coefficients, suggesting that chronic strains unfold after maternal incarceration and persist.

Supplementary Material

Supplementary material is available at *Social Forces* online.

About the Authors

Kristin Turney is an associate professor of sociology at the University of California, Irvine. Her research investigates the complex and dynamic role of families in creating and exacerbating social inequalities. Existing research

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