

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

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Christopher Wildeman¹
Yale University

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¹ Direct mail to: Christopher Wildeman, Yale University, Department of Sociology, PO Box 208265, New Haven, CT 06520. Direct email to: christopher.wildeman@yale.edu. Funding for this project was provided by the Robert Wood Johnson Foundation Health & Society Scholars Program and a Presidential Authority Award from the Russell Sage Foundation. Chris Muller, Andy Papachristos, Sarah Burgard, Barry Lee, Bruce Western, Jason Beckfield, Ray Swisher, John Eason, Jeff Morenoff, Amanda Geller, Aliya Saperstein, Anette Fasang, Florencia Torche, Richard Breen, Olav Sorenson, Vida Maralani, Sara Wakefield, and Glen Elder gave helpful comments on earlier drafts of this manuscript, as did seminar participants at the Duke University Population Research Institute, the Center for Research on Inequalities and the Life Course at Yale University, and the Fragile Families and Child Wellbeing Working Group. All errors are mine, and the views expressed herein may not be those of funders. For agencies funding the Fragile Families and Child Wellbeing Study, see <http://www.fragilefamilies.princeton.edu/funders.asp>.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

ABSTRACT

The share of the homeless population composed of African Americans and children has increased since the early 1980s, but the causes of these changes remain poorly understood. This article considers the effects of paternal and maternal incarceration on child homelessness using data from the Fragile Families and Child Wellbeing Study, the sole dataset that (1) represents the urban children most at risk of homelessness, (2) establishes appropriate time-order between parental incarceration and child homelessness, and (3) includes information about prior housing. The results yield two primary conclusions. First, recent paternal (but not maternal) incarceration substantially increases the risk of child homelessness, roughly doubling it in my most instances. Second, these effects are concentrated among black children. Taken together, the findings indicate that the prison boom was likely a key driver of the dramatic increases in homelessness among black children. Thus, while economic downturns bring to mind the effects of foreclosure and eviction on homelessness, mass imprisonment may have played a role in the growth of the population of homeless black children even during the economic boom of the late 1990s.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Reliable estimates of the homeless population are notoriously difficult to generate. Nonetheless, the most reliable sources suggest that on any given day, about 664,000 Americans are homeless (U.S. HUD 2009). Although the homeless population has increased since the early 1980s, for the average American, the risk of being homeless on any given day remains small (Dennis, Locke, and Khadduri 2007; Lee, Tyler, and Wright 2010; Shlay and Rossi 1992). But since daily risks of homelessness accumulate over the life-course, the risk of ever being homeless is much larger. Fully 6.5 percent of the adult population has ever been homeless (Link et al. 1995:352).

Compositional shifts in the homeless population since 1980 are even more striking. Classic accounts of the homeless focused on the single, white men who once made up the majority of this population (Bahr and Caplow 1974). Yet starting in the early 1980s, the share of the homeless composed of African Americans and children began to grow rapidly (Dennis et al. 2007; Hopper 2003; Lee et al. 2010:505). These shifts represent risks of child homelessness that would have been unthinkable in the not-so-distant past: About two percent of American children are homeless each year (National Center on Family Homelessness 2009), with rates much higher in urban centers (Culhane and Metraux 1999:227-228). Furthermore, racial disparities in the risk of child homelessness are strikingly large. According to one analysis, black children ages 0-4 in New York City were between 29 and 35 times more likely to have stayed in a shelter in the last year than were white children of the same age (Culhane and Metraux 1999:227-228).

Like homeless adults, homeless children suffer high rates of victimization (Hagan and McCarthy 1997; Lee et al. 2010:506) and exposure to infectious disease (Haddad et al. 2005), have limited access to health care (Kushel, Vittinghoff, and Haas 2001), and are at elevated risk of mortality relative to comparable housed children (Kerker et al. 2011). Furthermore, homeless children struggle to keep up with their schoolwork, run high risks of abuse, and suffer more

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

mental health problems than other children (Buckner 2008; Rafferty, Shinn, and Weitzman 2004; Vostanis, Grattan, and Cumella 1998). If the negative effects of homelessness extend into adulthood, child homelessness could imperil wellbeing throughout the life-course and—because of the unequal racial distribution of child homelessness—exacerbate American inequality. Understanding the causes of shifts in child homelessness therefore may shed light upon the broader social forces shaping the contours of stratification and marginalization in America.

Despite its importance, knowledge about the causes of shifts in the demography of homelessness remains limited. Though research shows that changing economic conditions and social policies, deindustrialization, the increasing share of children growing up with a single parent, and the housing squeeze all played a role in these shifts (Hopper 2003; Jencks 1994; Lee et al. 2010), no research has considered whether the prison boom played a role. This inattention is unfortunate for two reasons. First, dramatic increases in the risk of parental imprisonment for black children (Wildeman 2009) coincide with similar increases in the risk of homelessness for black children. Second, a substantial body of research shows that parental incarceration exacerbates childhood disadvantage (Comfort 2007:275-279; Murray and Farrington 2008; Wakefield and Uggen 2010:397-398; Wildeman and Western 2010).² Unfortunately, only one study tests whether parental incarceration increases the risk of child homelessness (Foster and Hagan 2007),³ and path breaking contribution though it is, it neither elucidates the mechanisms through which parental incarceration increases the risk of child homelessness nor uses data well-

² However, research also suggests that high rates of male incarceration in the African American community have increased women's educational attainment and labor market supply and decreased their risk of having a nonmarital teen birth (Charles and Luoh 2010; Mechoulan 2011), and there is evidence that children of fathers who engage in domestic violence fare better when he is removed from the home (Wildeman 2010), suggesting conditional effects.

³ Nonetheless, Tennessee Governor Alvin Hawkins identified this relationship as early as 1883: "The husband and father...charged with larceny of some article of property of small value, perhaps necessary for his family, is arrested, torn from his family, and placed in prison...His wife and children are the real sufferers. Perhaps houseless and homeless...they are driven forth as outcasts, dependent on the cold charities of the world" (Ayers 1984:204).

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

equipped to decipher whether incarceration causes or merely correlates with child homelessness. Since the micro-foundations upon which claims about the macro-level effects of the prison boom on the homeless population have yet to be elaborated or rigorously tested, it is difficult to know whether the prison boom influenced compositional shifts in the homeless population.

This article fills that gap by considering the consequences of parental incarceration for child homelessness. I argue that the effects of paternal and maternal incarceration differ. On the one hand, I propose that recent paternal incarceration promotes child homelessness through three mechanisms: by diminishing family finances; by limiting access to institutional and informal supports; and by compromising maternal capacities and capabilities. On the other, I posit that foster care intervention diverts children of recently incarcerated mothers (who might otherwise become homeless as a result) into homes, however transitory, thereby dampening the effects of maternal incarceration on the risk of child homelessness. Thus, while increases in female imprisonment increase foster care caseloads, increases in male imprisonment promote child homelessness.⁴ The negative effects of recent paternal incarceration on child homelessness, I predict, will be concentrated among black children because of their greater underlying vulnerability to the risk of homelessness and the longer average incarceration stints among their fathers. Thus, while troubled economic times bring to mind the effects of foreclosure and eviction (Rugh and Massey 2010) on the risk of child homelessness, I argue that mass imprisonment played a less visible role in the creation of the population of homeless African American children even during the widespread economic boom of the late 1990s.

After advancing this argument, I test my hypotheses using data from the Fragile Families and Child Wellbeing Study. Since these data (1) are representative of the contemporary children

⁴ Ideally, I would also test the relationship between maternal incarceration and foster care placement. Unfortunately, the measures of foster care in the Fragile Families data do not facilitate a rigorous test of this hypothesis.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

at highest risk of paternal incarceration, maternal incarceration, and homelessness, (2) establish appropriate time-order necessary to examine the relationship between parental incarceration and child homelessness, and (3) include measures of prior living situations unavailable in other data, they facilitate the most rigorous empirical test of this relationship to date. In so doing, these data present a unique opportunity to examine whether mass imprisonment has contributed to the exceptional increase in the risk of homelessness for black children or is merely correlated with it.

EXPLAINING DEMOGRAPHIC SHIFTS IN THE HOMELESS POPULATION

Research to date suggests that sweeping changes in the structure of American families, the housing squeeze, deindustrialization, and decreasing welfare generosity all played key roles in shifting the demographics of homelessness (Hopper 2003; Jencks 1994; Lee et al. 2010; Shlay and Rossi 1992). Although previous macro-level research has established a solid foundation in our understanding of the antecedents of homelessness, this work is limited in its ability to parse out causal effects because of the difficulty of measuring the size and composition of the homeless population over a sufficiently long period of time. Take the example of shelter utilization rates discussed earlier, for instance (Culhane and Metraux 1999). Although the precise estimates of the yearly rates of shelter utilization for Philadelphia and New York provide important insights into the composition of the homeless population in these two major American cities, because they are composed of very few data points, it is still nearly impossible to use even these excellent data to decipher the causes of macro-level shifts in the homeless population.

Given the limitations of macro-level data, an alternative approach to deciphering what forces contributed to compositional shifts in the homeless population is finding an individual-level factor that both changed over this period and increased the risk of child homelessness. For

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

instance, if the risk of growing up with a single parent grew over this period (which it did) and growing up with a single parent increases the risk of child homelessness (which it does) then changes in the risk of growing up with a single parent may have contributed to increases in child homelessness. Using micro-level data thus provides one solution to the problem of identifying the broad social forces that increased the rate of child homelessness. Unfortunately, because of the dearth of appropriate longitudinal data and the small share of families who are homeless, in previous studies it is difficult to differentiate the causes of child homelessness from its correlates (but see Fertig and Reingold 2008). Thus, despite the importance of understanding the shifting demographic foundations of homelessness, most macro-level and micro-level data are not suitable for establishing what other social forces might have contributed to these shifts.

THE PRISON BOOM AND CHILD HOMELESSNESS

One previously unconsidered contributor to the increasing risk of homelessness among black children is the prison boom. In this section, I note that the increases in parental imprisonment were concentrated among black children, demonstrate various pathways through which paternal but not maternal incarceration might increase the risk of child homelessness, and suggest that paternal incarceration most substantially increases the risk of homelessness for black children.

The Changing Demography of Punishment in America

Mirroring estimates of the risk of imprisonment for men (Pettit and Western 2004), estimates of the risk of parental imprisonment show marked increases in the risk of parental imprisonment for black children. Between the 1978 and 1990 birth cohorts, the risk of parental imprisonment grew from 13.8 percent to 25.1 percent; for white children, the risk grew only from 2.2 percent to 3.6

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

percent (Wildeman 2009:271). As a result, the absolute black-white gap in the risk of parental imprisonment grew from 12.8 to 24.2 percent (Wildeman 2009: 271). These estimates have two implications. First, they suggest that changes in the risk of parental imprisonment are large enough to have altered the composition of the homeless population. Second, assuming uniform effects by race, these estimates imply that mass imprisonment is likely to disproportionately harm black children because of the unequal distribution of parental imprisonment by race.

Previous Research on (Parental) Incarceration and (Child) Homelessness

To date, research on the incarceration-homelessness relationship has focused primarily on adult men (Geller and Curtis 2011; Gowan 2002; Metraux and Culhane 2004; Metraux, Roman, and Cho 2007; Roman and Travis 2006). Although the data used in these studies preclude strong statements about causality (but see Geller and Curtis 2011), each nonetheless provides insight into the mechanisms leading from incarceration to homelessness. One recent review concluded, “former inmates wind up with no place to go because of inadequate prerelease preparation, fragile finances, severed social relationships, and barriers posed by their stigmatized identities when seeking employment and housing” (Lee et al. 2010:510). Because of the clear mechanisms linking incarceration and homelessness, the case that this relationship is causal can be made, but research also indicates that few children endure a bout of homelessness alongside a previously incarcerated father, casting any paternal incarceration-child homelessness relationship in doubt. Indeed, most chronically homeless men become so only long after family ties have been severed (Gowan 2002:508-510), indicating that if paternal incarceration does increase children’s risk of homelessness, it is fairly unlikely to involve them residing with their homeless fathers.

Parental Incarceration, Child Homelessness, and the Invisible Consequences of Mass Imprisonment

Given the preponderance of research on the incarceration-homelessness relationship among men, it is unfortunate that we know so little about the effects of parental incarceration on child homelessness. To date, only one study has considered the relationship between parental incarceration and child homelessness. Using Add Health data, Foster and Hagan (2007) found that having a father with a history of incarceration was positively associated with a child's having been homeless at any point by their late teens or early twenties, after adjusting for possible confounders. Although this article represents a tremendous advance, it has two major limitations. First, it includes little discussion of the mechanisms through paternal incarceration increases the risk of child homelessness—although it does discuss why paternal imprisonment might harm girls most—weakening the case for causal effects (Foster and Hagan 2007:421-422). Second, the data utilized—despite being appropriate for considering the parental incarceration-child homelessness *association*—preclude the authors from providing a strong test of this relationship because they cannot establish appropriate time-order between paternal incarceration and child homelessness while controlling for confounders such as prior homelessness, eviction, and incarceration. More research utilizing appropriate data for considering the paternal incarceration-child homelessness relationship and better elaborating the mechanisms through which paternal incarceration might increase the risk of child homelessness, therefore, is needed.

Paternal Incarceration, Maternal Incarceration, and Child Homelessness

Taken in conjunction with the social isolation of homeless men (Gowan 2002), the imprecision surrounding the mechanisms potentially linking parental incarceration and child homelessness raises concerns that the relationship may not be causal. In this section, I propose a series of *indirect* channels through which having a father incarcerated could increase a child's risk of

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

homelessness even if they are not residing with the father. My basic argument is that paternal incarceration increases the risk of child homelessness indirectly by destabilizing already-fragile familial finances, decreasing childrens' access to institutional and informal supports, and diminishing maternal capacities and capabilities. Although maternal incarceration also likely damages family life in similar ways (Kruttschnitt 2010), I argue that having a mother incarcerated will negligibly increase the risk of child homelessness because state interventions into the lives of the children of incarcerated mothers push children into foster care instead (Swann and Sylvester 2006). Thus, paternal and maternal incarceration lead children into different, but parallel, forms of marginalization. While paternal incarceration increases the risk of child homelessness, maternal incarceration increases the risk of foster care placement.

Perhaps the most obvious way paternal incarceration could promote child homelessness is by destabilizing already-fragile familial finances. Incarceration disproportionately draws in men with poor job prospects (Pettit and Western 2004), preventing them from contributing funds to family members during their incarceration and further diminishing their employability upon their release (Pager 2003; Western 2002, 2006). In addition, incarceration is associated with elevated risks of marital dissolution (Apel et al. 2010; Lopoo and Western 2005; Massoglia, Remster, and King *Forthcoming*) and diminishes the quality of the relationships between parents, regardless of whether they are romantically involved (Edin, Nelson, and Paranal 2004; Nurse 2002, 2004; Swisher and Waller 2008). Since paternal financial contributions are shaped by their earnings and their relationship with the mother, it is unsurprising that incarceration diminishes paternal financial contributions to family life (Geller, Garfinkel, and Western 2011).

Beyond diminished paternal contributions, the accumulation of legal debt as a result of incarceration also disrupts familial finances "by reducing family income; by limiting access to

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

opportunities and resources such as housing, credit, transportation, and employment; and by increasing the likelihood of ongoing criminal justice involvement” (Harris, Evans, and Beckett 2010:1756). Two components of these shifts are especially relevant for the finances of families tied to legal debtors. First, legal debt harms credit scores, which are necessary not only for securing loans, but also for securing housing in many housing markets (Harris et al. 2010:1780-1781). Second, in many states, county clerks can garnish the wages of the formerly incarcerated person’s spouse and seize joint assets, including homes (Harris et al 2010:1788-1789). The accumulation of legal debt therefore represents a key mechanism through which paternal incarceration damages already-fragile familial finances and heightens their risk of homelessness.

Another cost for families with an incarcerated member is keeping in touch with that family member by making phone calls and visits and sending packages (Comfort 2007:284). It is difficult to precisely estimate the average cost of keeping in touch with a family member because most studies are based on families who are visiting a loved one, but the consensus is that the costs for families are steep, contingent upon keeping in touch (Comfort 2008; for estimates, see Braman 2004:133; Grinstead et al. 2001:64). Of course, many mothers will discontinue costly forms of contact before it drives them into homelessness, so the direct effects of these expenses are unlikely to be large. Nonetheless, to the degree that these additional expenses destabilize familial finances (Braman 2004; Comfort 2008; Grinstead et al. 2001), they could make families more vulnerable to becoming homeless as a result of some other shock to family life such as the unexpected loss of a job. Indeed, research shows that incarceration dramatically increases the difficulty that the remaining family members face covering bills such as rent and electricity (Schwartz-Soicher, Geller, and Garfinkel *Forthcoming*), pushing them toward homelessness.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

But the effects of paternal incarceration on child homelessness are not solely attributable to reductions in familial finances. Additional research suggests that the negative effects of incarceration on institutional and informal supports may also play a role in pushing children into homelessness. Recent analyses suggest that for at-risk families, receipt of cash welfare and public housing benefits both substantially diminish the risk of child and family homelessness (Fertig and Reingold 2008).⁵ Current federal policies, however, ban individuals with a drug felony conviction from receiving cash welfare, food stamps, and subsidized (public) housing (see especially Rubinstein and Mukamal 2002 for a discussion). Thus, if the parents want to reside together and one of them has ever been convicted of a felony, the other parent must choose between having the ever-incarcerated parent live in subsidized housing illegally, and run the risk of losing housing, or living elsewhere, which may be neither desirable nor financially feasible. This also applies to having a warrant out for one's arrest for even a small offense (such as technical violations of parole). Goffman's (2009:350) fieldwork on men on the run from the law provides a poignant example, as she witnessed a police officer tell the family of one man on the run from the law that if the house they owned had been "a section 8 building they could have been immediately evicted for endangering their neighbors and harboring a fugitive."

It is unclear how often incarceration results in the loss of institutional supports, but the consequences of losing those resources may be catastrophic. This is especially the case since the families of incarcerated men tend to withdraw from social networks in ways that make them less able to rely on informal supports should they need to borrow money to make rent or somewhere to stay following an eviction. As Braman (2004:171) notes, "perhaps the most significant

⁵ In one study, Sugie (2011) shows that paternal incarceration increases maternal reliance on some forms of welfare. The types of welfare for which there are positive effects differ from those I consider, however, so I do not discuss this study in detail. Nonetheless, it suggests that the costs of incarceration may be much larger than thought.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

consequence of stigma among families of prisoners...is the distortion, diminution, and even severance of social ties.” Since the removal of these vital supports diminishes mothers’ ability to respond to shocks in family life by relying on kith and kin, this may be yet another mechanism through which paternal incarceration would increase the risk of child homelessness.

A final mechanism potentially driving this relationship is diminished maternal capacities and capabilities. Ethnographic research paints a harrowing picture of the mental health and wellbeing of women left behind by incarcerated men (Braman 2004; Comfort 2008). As Braman (2004:197) notes, “nearly without exception, the women I spoke with who were closest to a prisoner had experienced depression and related their depression, at least in part, to the incarceration of their loved one.” Of course, maternal depression need not always lead to homelessness. Nonetheless, ethnographic work shows that in some cases, mothers simply cannot function after their partners are incarcerated. As Megan Comfort (2008:151) notes, one of the women in her study “became homeless due to incapacitating depression after her husband’s trial and at the time of her interview had been living for nearly three months in a tent in a public campground with her children and grandchildren.” Thus, paternal incarceration has the potential to inhibit maternal functioning to the point that she and her children become homeless.

Research points to many channels linking parental incarceration and child homelessness and suggests that maternal incarceration often does great harm to family life (Kruttschnitt 2010). But maternal incarceration should not increase the risk of child homelessness because most children on the brink of homelessness as a result of having their mother incarcerated will be funneled into foster care. Micro-level research testing whether maternal incarceration causes children’s foster care placement is scarce, but macro-level research suggests that increases in female imprisonment rates explain 30 percent of the doubling of foster care caseloads between

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

1985 and 2000 (Swann and Sylvester 2006:324). Many children still experience instability as a result of these placements (Kruttschnitt 2010:35), but placement into a home in conjunction with state monitoring diminishes the risk that children of incarcerated mothers become homeless.

Racial Differences in the Effects of Paternal Incarceration on Child Homelessness

Given disparity in imprisonment and the negative effects of paternal incarceration on child homelessness, changes in the American imprisonment rate may have increased the share of the homeless population composed of black children. In this section, I argue that the consequences of mass imprisonment for racial disparities in child homelessness are even greater than would be predicted based on racial disparities in the risk of parental imprisonment because the effects of paternal incarceration on child homelessness are larger for black children than other children. I argue that this is the case because of the higher propensity to experience homelessness among black children and the greater duration of incarceration for blacks, contingent upon incarceration.

Descriptive differences in the risk of homelessness for black, white, and Hispanic children reveal black children's greater relative propensity to experience homelessness. For instance, Culhane and Metraux (1999:228) show that the yearly risks of shelter use for children under the age of 10 are 0.1 percent for whites, 2.0 percent for Hispanics, and 4.0 percent for blacks.⁶ Further bolstering these claims is the overrepresentation of black children among the homeless, even after adjusting for poverty status (Dennis et al. 2007; Lee et al. 2010:505).⁷ Why is this greater propensity to experience child homelessness relevant for this study? Think of the risk of child homelessness as a latent variable in which all children have an underlying risk of

⁶ I derived this estimate by adding risks for ages 0-4 and 5-9 and dividing by two (Culhane and Metraux 1999:228).

⁷ This greater propensity to experience homelessness is likely driven by a host of factors such as lower familial wealth (Conley 1999), greater discrimination in the housing market (both as a prospective and current tenant), or greater reliance on institutional supports such as cash welfare, public housing, and housing subsidies (Table B1).

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

homelessness, but only children who cross this threshold experience the event.⁸ If this propensity is equally distributed throughout the population and the effects of paternal incarceration on the mechanisms discussed are also equally distributed, then the effects of paternal incarceration on the risk of child homelessness should be equivalent for all groups. Yet if the propensity to experience homelessness is not equally distributed across racial groups, as we know that it is not, then having a father incarcerated will disproportionately lead children with higher underlying vulnerabilities into homelessness. Since we know that black children have a greater underlying vulnerability to homelessness than do white or Hispanic children, we might therefore expect the effects of paternal incarceration on child homelessness to be concentrated among these children.

Beyond differences in underlying vulnerabilities, research suggests that the greater mean length of incarceration for black fathers than other fathers may also contribute to disparities in the effects of paternal incarceration on the risk of child homelessness. There are vigorous debates in criminology about how much the duration of incarceration influences the magnitude of the effects of incarceration (e.g., Massoglia et al. *Forthcoming*), but longer spells of incarceration will likely increase the risk of child homelessness since longer incarceration spells may further diminish familial finances, disrupt institutional and informal supports, and compromise maternal capacities and capabilities. Although there are many obstacles to estimating disparities in the mean duration of imprisonment (Patterson and Preston 2008), racial disparities in incarceration reflect both racial disparities in the probability of incarceration and the length of incarceration.⁹

Thus, racial disparities in the effects of paternal incarceration on child homelessness should be driven both by greater incarceration lengths for fathers of African American children

⁸ For a general discussion of these ideas and their application to other areas, see Long (1997:40-47).

⁹ Estimating disparities in the duration of jail stays is even more difficult because flows in and out of prison are measured more precisely (through the National Corrections Reporting Program) than flows in and out of jails.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

and higher underlying vulnerabilities to the risk of child homelessness among the African American population. Substantial disparities in the risk of child homelessness between black children and all other children are exacerbated not only by disproportionate risks of having a father incarcerated, but also by disproportionate consequences of experiencing that event.

DATA AND METHOD

Data

In order to test my hypotheses, I used data from the Fragile Families and Child Wellbeing Study, a longitudinal birth cohort study following nearly 5,000 children born in urban areas between 1998 and 2000—the majority of whom were born to unmarried parents (Reichman et al. 2001). Initial interviews were conducted with mothers in 20 cities with populations over 200,000 in hospitals shortly after they gave birth. Mothers were then contacted again 12, 30, and 60 months after the birth for interviews. By 60 months, approximately 85 percent of mothers were still in the sample. Fathers were also interviewed, although their response rates were lower. By 60 months, only about 65 percent of fathers were still in the sample. I limited the sample to children who had at least one parent complete both the 30 and 60 month interviews. Doing so yielded a large number of observations ($N=3,774$), but represents only around 75 percent of the children originally identified in the sample. As the analytic sample represents 75 percent of the children originally identified, missing data is a substantial concern. Nonetheless, supplementary analyses in which I created 20 multiply imputed datasets for all cases in which item nonresponse was the cause of the

Parental Incarceration, Child Homelessness, and the Invisible Consequences of Mass Imprisonment

missingness produced substantively similar results. But since the propensity score analyses utilized later in the analysis cannot be conducted with more than one dataset, I retain the analytic sample herein.¹⁰

Despite their limitations, these data are uniquely suited to answering my research questions for a number of reasons. First, and most importantly, they are the only data that are both representative of the contemporary children at highest risk of homelessness and have enough cases of recent paternal incarceration, recent maternal incarceration, and child homelessness to conduct statistical analyses. Second, because they contain repeated measures of parental incarceration and child homelessness, I am able to establish appropriate time-ordering between the dependent and explanatory variables. Third, because of the uniquely extensive battery of questions about family life included in each wave of the survey, I am able to control for more possible confounders than any prior study in this area. Finally, because many of the parents in the sample have been incarcerated—including a large number who have been incarcerated recently—these data allow me more confidently to identify causal relationships than I could with a sample in which a smaller percentage of parents had ever been incarcerated.

Dependent Variable

The dependent variable measured whether children had been homeless in the last year. Children were coded as having been homeless if they fit the following criteria at 60 months: (1) one parent reported either living in temporary housing, a group shelter, or on the street at the time of the interview or reported that they had stayed somewhere not intended for regular housing—such as an abandoned building or car—for at least one night in the last 12 months; and (2) the same

¹⁰ In supplementary analyses, I limited the sample to families living in poverty at 30 months since these are the families likely truly at risk of homelessness. Limiting the sample in this way greatly *strengthened* the results, but limiting the sample thus also resulted in a substantial loss of data ($N = 1,410$), so I do not present those results in the main text. I do, however, show results from a series of models in which the sample was limited in Table B2.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

parent reported that they lived with the child all or most of the time. Coding for this variable has been used in prior analyses (Fertig and Reingold 2008), but it has three limitations. First, it provides no insight into the duration of homelessness. Second, it underestimates cases of child homelessness in the last year because it counts staying in a shelter as being homeless only if the child was living in a shelter at the time of the interview. Although this underestimate is unlikely to substantially bias my results (and to bias them down), it bears mentioning since it elucidates why risks of child homelessness shown here for a vulnerable group of children are only slightly higher than they are for the population of children in two cities (Culhane and Metraux 1999:228, 230). Finally, the measure cannot guarantee that the child was living with the parent at the time that they were homeless. Additional analyses (Table B3) suggest that although the child may not have been living with the parent while they were homeless, it is nonetheless an excellent measure of *family* homelessness because in more than three-quarters of the families in which the child was coded as homeless, the child was living with their mother at the time they were homeless. Thus, though imperfect, this measure yields insight into the degree to which recent episodes of incarceration contribute to greater risks of homelessness among families with small children.

Not surprisingly, few children were homeless in the year before the 60 month interview. Only about 3 percent of children in this sample had been homeless (Table 1). For children of recently incarcerated fathers, the risk of homelessness was .06; for children not experiencing recent paternal incarceration, the risk was only .02. Differences in the risk for those experiencing and not experiencing recent maternal incarceration were comparable. At least descriptively, this suggests that both recent paternal incarceration and recent maternal incarceration are associated with substantial and significantly (at the .01 level) elevated risks of child homelessness.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Explanatory Variables

The explanatory variables measure recent paternal and maternal incarceration. Children are considered to have experienced recent paternal or maternal incarceration if their mother or father was reported to be incarcerated at 60 months or to have been incarcerated since the last interview but was not incarcerated at the 30 month interview. When reports about incarceration conflicted, I assumed that the individual had recently been incarcerated. Alternate coding of recent paternal and maternal incarceration did not substantially change results. As Table 1 shows, experiencing recent bouts of paternal and maternal incarceration was common for the children considered in this analysis. Approximately 17 percent of the sample experienced a recent bout of paternal incarceration, and about 3 percent of the sample experienced a new maternal incarceration.

[Insert Table 1 about here.]

Unfortunately, the time-ordering of the dependent and explanatory variables, while much better than in any previous study of the causes of child homelessness, is still imperfect. In these data, the measure of child homelessness spans the last year (48-60 months) and the measure of recent parental incarceration spans the last 30 months (31-60 months). Thus, child homelessness may have preceded parental incarceration, which would undermine my ability to provide the empirical test I purport to provide. In order to deal with this concern, I conducted a robustness check in which I used recent (but not current) paternal incarceration (31-59 months) to predict current child homelessness (60 months).¹¹ In so doing, I establish appropriate time-ordering of the dependent and explanatory variables. Results from this robustness check, which are available upon request, showed that paternal incarceration between 31 and 59 months is a positive,

¹¹ In order to further investigate possible time-ordering problems, I ran a series of robustness checks in which I coded controls at 12 months, recent incarceration as occurring between 12 and 30 months, and homelessness as occurring between 48 and 60 months. Results from these models were comparable to those presented here.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

significant predictor (at the .01 level) of child homelessness at 60 months after adjusting for basic demographic characteristics.¹² Furthermore, the effects are substantial. The odds of current homelessness for children of recently incarcerated fathers are nearly 11 times ($e^{2.39}$) those of comparable children not experiencing recent paternal incarceration.¹³ Thus, my results do not appear to be driven by reverse causality. Although the results from this robustness check were stronger than the main results herein, I ultimately opted to present the more comprehensive measure of child homelessness because of the small number of cases of current homelessness.

Control Variables

All analyses include a host of control variables. All controls were drawn from the baseline, 12 month, or 30 month surveys in order to preserve the appropriate time-order. Probably the most important controls are measures of a history of paternal and maternal incarceration since a history of incarceration is a robust predictor of future incarceration. Fathers and mothers were considered to have ever been incarcerated by 30 months if they or the other parent reported that they had ever been incarcerated at the baseline, 12 month, or 30 month interviews or they were incarcerated at 30 months. As Table 1 shows, a history of parental incarceration is common for these children. About 41 percent of children had a father who had ever been incarcerated by 30 months; about 6 percent of children had a mother who had ever been incarcerated by then. Perhaps not surprisingly, children experiencing recent parental incarceration were more likely than children not experiencing those events to have a parent with a history of incarceration.

¹² The effects of recent paternal incarceration became stronger in a model including all controls shown in Model 2 of Table 2. Nonetheless, I choose to discuss the model adjusting for only demographic characteristics in the text because of instability in the point estimates for some of the controls included in the more rigorous model.

¹³ Since the risk of current homelessness is low, this odds-ratio does not translate to an unreasonably large effect.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

I also adjusted for factors measured at the birth including maternal and paternal age, whether the mother or father dropped out of high school, the child's race (non-Hispanic black, Hispanic, white, and other), the number of other children the mother had before the focal child, whether the caretaker was an immigrant, and whether the mother smoked during the pregnancy. Maternal smoking was coded 0 if she did not smoke while pregnant, 1 if she smoked less than one pack per day, and 2 if she smoked more than that. As descriptive statistics from Table 1 show, children experiencing new paternal and maternal incarceration were disadvantaged relative to children not experiencing those events on nearly all control variables.

I also adjusted for factors measured at 30 months. Importantly, all of these factors were measured *before* the most recent bout of paternal or maternal incarceration took place. These include caretaker self-rated health, whether either parent had a history of drug or alcohol abuse, whether the mother had ever been abused by the father, whether the parents were living together, the ratio of household income to the poverty line, whether the caregiver had difficulty paying their bills,¹⁴ the caregiver's lack of social support, whether the caregiver lived in public housing, received a housing subsidy, or received cash benefits, whether the mother had experienced a major depressive episode in the last year, and the mother's level of life dissatisfaction and stress.¹⁵ The final individual-level controls were measures of housing instability drawn from the 30 month interview. In addition to controlling for being homeless at 30 months, I also controlled for the total number of times the child moved between the 12 and 30 month interviews and whether the caregiver had been evicted in the last year for their inability to pay their rent or mortgage at 30 months. Including these controls allowed me to look at change in child homelessness as a result of paternal and maternal incarceration and represents an improvement

¹⁴ These measures correspond closely to those utilized in Schwartz-Soicher et al. (*Forthcoming*).

¹⁵ For more description of the coding for each of these control variables, see Appendix A.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

over prior research in this area, which has used cross-sectional data. All models also include city dummy variables. Including these controls improved model fit only slightly, but I retained them because of work showing effects of local conditions on homelessness (Lee et al. 2010:509).

As was the case with a history of paternal or maternal incarceration and most baseline characteristics, there were generally substantial differences between children experiencing new paternal or maternal incarceration and not experiencing new paternal or maternal incarceration on measures drawn from the 30 month interview. Table 1 shows these substantial differences. Especially noteworthy were differences in homelessness in the year before the 30 month survey. Children experiencing new paternal or maternal incarcerations were around three times more likely than other children to have been homeless in the year before the 30 month interview.

Unfortunately, the preferred measures of paternal and maternal self-control, which likely have a strong influence on the risk of experiencing incarceration (Gottfredson and Hirschi 1990), are not available until the 60 month interview.¹⁶ This is unfortunate because it leaves it up for debate whether the analysis should adjust for self-control. On the one hand, criminological theories suggest that self-control is stable from childhood (Gottfredson and Hirschi 1990), even if adult social ties influence how self-control shapes behavior (Sampson and Laub 1990). According to this perspective, including the controls for paternal and maternal self-control would be appropriate—even if they were measured *after* the most recent bouts of paternal or maternal incarceration. On the other hand, recent research suggests not only that self-control is not as stable as it was once thought to be but also that it may change as a result of incarceration. And though some analyses show an increase in self-control during incarceration (e.g., Mitchell and

¹⁶ These measures were based on how parents responded to questions about how often they or the other parent did things without considering the consequences, got into trouble because they didn't think before they acted, did things that may cause trouble with the law, lied or cheated, got into fights, and didn't feel guilty when they misbehaved.

Parental Incarceration, Child Homelessness, and the Invisible Consequences of Mass Imprisonment

MacKenzie 2006), the more common opinion is that incarceration diminishes self-control, as individuals adjust to survive the brutalizing prison environment (e.g., Nurse 2002:54-56). Since incarceration might inhibit self-control but also plays a strong role in influencing the risk of incarceration, I chose to exclude those controls from the main results presented in the paper but include them in a series of robustness checks, all of which can be found in Table B2.¹⁷

For a full presentation of the dependent, explanatory, and control variables, see Table 1.

Mediating Variables

The mediating variables measure spuriousness, family finances, loss of institutional and informal supports, and maternal capacities and capabilities.¹⁸ The ideal mediators would have been measured after parental incarceration but before child homelessness. Unfortunately, establishing such ideal time-order between dependent, explanatory, and mediating variables in survey research is generally difficult, making it much more of an obstacle to decipher how important a role each measure plays in mediating the relationship considered. Measures of spuriousness include whether between 31 and 60 months either parent was reported to have a drug or alcohol problem and the mother reported new abuse from the father. Measures of family finances include whether there was a resident father at 60 months, the household income to poverty ratio at 60 months, the caretaker's inability to pay bills at 60 months, the number of moves between 42 and 60 months, and whether the mother had been evicted between 48 and 60 months. Although I placed emphasis on the role of paternal contributions in mediating the paternal incarceration-

¹⁷ Adjusting for self-control led to somewhat weaker results in logistic regression models but comparable results using propensity score models (Table B2). The results from models that adjusted for paternal and maternal self-control and limited the sample to children living in poverty at 30 months would have been stronger in each model than the results presented here. Thus, while the results may have been somewhat weaker had I adjusted for paternal and maternal self-control in the full sample, the general pattern of the results would have been unchanged.

¹⁸ The results from models considering change in these measures between 30 and 60 months were virtually identical.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

child homelessness relationship in the background, I did not include a measure of paternal contributions because doing so would have resulted in 300 lost observations (Geller et al. 2011) and it is unlikely to mediate the relationship after including other measures of finances. I am also unable to include measures of legal debt and the expenditures associated with keeping in touch with an incarcerated family member, which is unfortunate since I expect both to be mechanisms. Measures of institutional and informal supports include lacking social support and losing public housing, a housing subsidy, and cash welfare. Unfortunately, it is difficult to ascertain whether losing such supports represents unmet need or no longer needing them, likely leading me to underemphasize the importance of these mediators. The final mediator is maternal capacities and capabilities, measured as maternal depression, life dissatisfaction, and stress at 60 months.¹⁹

Method

The analysis proceeds in three stages. In the first, I consider whether parental incarceration increases the risk of child homelessness and whether any effects are concentrated among African Americans using logistic regression models. In the second, I provide further tests of these relationships using propensity score models and yield insight into how powerful unobserved factors shaping both the risk of parental incarceration and child homelessness would have to be to render the relationship nonsignificant. In the third, I consider mechanisms using logistic regression models. I rely on one-sided t-tests throughout since my hypotheses are directional.

In the first stage (Tables 2), I use a series of logistic regression models to consider the effects of recent paternal and maternal incarceration on child homelessness. All models summarized in this table (and Table 6) use clustered standard errors to account for the clustering

¹⁹ Descriptive statistics for all mediators are available upon request from the author.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

of observations on cities. In Table 2, the primary goal is to decipher whether the descriptive relationships between recent paternal and maternal incarceration and child homelessness shown in Table 1 hold up after adjusting for control variables (Models 1 and 2), limiting the sample to children of ever-incarcerated parents (Model 3) and children who had not recently been homeless at 30 months (Model 4).²⁰ By restricting the sample to children of ever-incarcerated parents (who might differ from other parents in many ways), I diminish unobserved heterogeneity, thereby substantially strengthening causal inference (LaLonde 1986; Leamer 1983). By restricting the sample to children who have not recently been homeless, I show that results are not driven by children with a history of unstable housing, who were disproportionately children of incarcerated parents (Table 1). The final models in Table 2 (Models 5 and 6) test the hypothesis that recent paternal incarceration increases the risk of homelessness most for black children.

Covariate adjustment is one way of diminishing concerns about pre-existing differences driving the results. Another method for diminishing these concerns is a propensity score model, which is the method I use in the second stage of the analysis (Table 3). Although propensity score models are not new, they are relatively new to sociology (Morgan and Winship 2007; Rosenbaum and Rubin 1983; see also Massoglia 2008). And since the goal of propensity score analysis is to match individuals as closely as possible on observables, these models may be especially useful when the “treatment” and “control” groups initially look vastly different, as they do here (Table 1). Propensity score models estimate average effects of a treatment (recent paternal incarceration) on an outcome (child homelessness) through a two stage-process. In the first, probabilities of experiencing recent paternal incarceration are generated using a logistic regression model. After this, individuals are matched based on the probability of experiencing

²⁰ Include measures of maternal and paternal incarceration separately did not change results substantially.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

the treatment given their observed characteristics and the coefficients generated using the logistic regression model. Once matching is complete, effects of recent paternal incarceration on child homelessness can be estimated. I conduct this procedure for the total sample (Table 3, column 1), black children (Table 3, column 2) and non-black children (Table 3, column 3).

Models predicting the propensity to experience new paternal incarceration for the total sample included all controls shown in Model 2 of Table 2, a series of interactions between prior paternal incarceration and other paternal characteristics that seem likely to moderate the risk of recent incarceration (including his age, education, and history of domestic violence, as well as whether either parent had ever been coded as having a serious drug or alcohol problem and the child had ever been homeless at 30 months), and all city-level dummy variables (which were also included throughout Table 2), minus the dummy variable for Detroit (which joined the city reference cell along with Oakland) since balance could not be achieved with this dummy in the model. The model for blacks balanced well, although the dummy for Boston (rather than Detroit) had to be moved to the reference cell and interactions between prior paternal incarceration and cash welfare receipt and caretaker physical health had to be added to achieve balance. This is likely because of the very small ($N = 71$) number of observations in Boston. The model for non-blacks balanced once Detroit and Newark were moved into the reference cell with Oakland.²¹

After checking for covariate balance for all three samples, I restricted each sample to the region of common support and used three types of propensity score models to estimate average treatment effects. The first type of matching, nearest neighbor matching, estimates effects by comparing the probability of experiencing homelessness of the closest treated and control observations. I used nearest neighbor matching with replacement and a caliper of .005 since

²¹ More specifics about the first stage of the propensity score models are available upon request from the author.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

neighbor matching may provide the most unbiased estimates in combination with a caliper (Morgan and Winship 2007:113). The second type of matching, radius matching, compares the probabilities of experiencing homelessness of any treated and control observations that have propensity scores within a certain distance of each other. For this analysis, I relied on a caliper of .005. The final type of matching used, kernel matching, uses all controls but weights them according to their distance from treated cases. I used a bandwidth of .006 and an Epanechnikov kernel. All propensity score analyses were conducted using STATA-compatible software designed by Leuven and Sianesi (2003), although results from robustness checks using STATA-compatible software designed by Becker and Ichino (2002) were virtually identical.

I also compared the estimated effects of recent paternal incarceration based on propensity score models to the estimated effects using the logistic regression models. Since the dependent variable is dichotomous, the estimates produced from the propensity score models represent the difference in the risk of being homeless due to recent paternal incarceration. To get changes in the probability (rather than the odds) of child homelessness from the logistic regression models, I generate estimates of the probability of child homelessness for those experiencing and not experiencing paternal incarceration under two scenarios: holding all values (except for recent paternal incarceration) at the total sample mean; and holding all values (except for recent paternal incarceration) at the mean for those experiencing recent paternal incarceration.

Of course, propensity score models only match individuals on observed factors. Thus, results from propensity score models (and the earlier discussed logistic regression models) ultimately cannot help me rule out the alternative hypothesis that it might be some stable trait rather than recent paternal incarceration that is driving the results herein. In order to quantify how large such an unobserved factor would have to be to undermine my results, I also present

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Mantel-Haenszel bounds in Table 4 for each of the propensity score models using STATA-compatible software designed by Becker and Caliendo (2007). Simply put, these bounds allow me to demonstrate how much selection into the treatment group there would have to be to render any statistically significant relationships herein nonsignificant. Thus, although these bounds do not adjust for unobserved heterogeneity, they do provide an opportunity to discuss how substantial the effects of unobserved heterogeneity would have to be to undermine my findings.

In the final stage of the analysis (Table 6), I test for spuriousness and consider what proportion of the effects of recent paternal incarceration on child homelessness are explained by the mechanisms speculated. In testing for spuriousness, I consider how much the relationship between recent paternal incarceration and child homelessness is diminished by including measures of recent drug and alcohol abuse and domestic violence between 30 and 60 months, while including controls shown in Table 2, Model 2.²² In the next five models, I test the hypothesized mechanisms by including the following measures in the models: Familial finances at 60 months (Model 2); social and institutional supports at 60 months (Model 3); maternal capabilities at 60 months (Model 4); all hypothesized mechanisms except domestic violence and drug and alcohol abuse (Model 5); and all measures simultaneously (Model 6).

RESULTS

Results from Logistic Regression Models

Table 1 showed a descriptive relationship between recent paternal and maternal incarceration and children's risk of homelessness. Children of recently incarcerated mothers and fathers were both 4 percent more likely to be recently homeless than other children. In Table 2, I begin a rigorous

²² It should be noted, however, that it may be the case that incarceration led to elevated levels of drug or alcohol abuse or domestic violence (rather than the reverse). As such, these measures may also represent mechanisms.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

investigation of these relationships using logistic regression models. In the first model, I consider the relationships between recent paternal and maternal incarceration and child homelessness adjusting for all controls except prior housing instability. Results show that recent paternal incarceration is associated with a significant (at the .01 level) and substantial increase in the risk of child homelessness. Recent paternal incarceration is associated with a 97 percent ($e^{.68}$) increase in the odds of child homelessness. There is no relationship between prior paternal incarceration and child homelessness, however, as the association between them is small, negative, and statistically nonsignificant. This provides some evidence that recent but not distal parental incarceration promotes child homelessness. The same is not the case for maternal incarceration, however, as the results suggest that recent maternal incarceration is not associated with a significant increase in the risk of child homelessness but distal maternal incarceration is. It is hard to know what to make of the latter of these two findings, but it may be because of what a select group of women ever-incarcerated women are. Regardless, the results provide little to no evidence that recent maternal incarceration increases the risk of child homelessness.²³

Since prior housing insecurity might predict recent paternal and maternal incarceration and child homelessness, Model 2 controls for prior homelessness and housing instability. The

²³ Readers familiar with the literature on child homelessness will note that the protective effect of living with a resident father (e.g., Fertig and Reingold 2008) and negative effect of being black (e.g., Culhane and Metraux 1999) are not supported in these models. In both cases, the relationships were statistically significant before adjusting for many covariates not generally available in research on the causes of child homelessness. In order to be sure that these inconsistencies did not suggest problems with the data, I ran a series of robustness checks in which I compared my findings to similar studies. In considering the racial dynamics of child homelessness, I generated estimates of the risk of child homelessness by race for the children in the Fragile Families data and compared those estimates to the risk of shelter utilization for children ages 0-9 living in New York City in 1995 (Culhane and Metraux 1999:228). Although these samples do not align perfectly, they should be quite similar since both represent the risks of child homelessness for urban children. In models including only the child's race, estimated risks of child homelessness were 4.1 percent for black children, 1.5 percent for white children, and 0.6 percent for Hispanic children. Although the estimate for Hispanics is lower than noted elsewhere (Culhane and Metraux 1999:228), the black-white gap was similar. Furthermore, the descriptive black-white gap was significant at the .001 level in the Fragile Families data. Analyses also suggested that children with resident fathers had a 2.2 percent lower risk of child homelessness in these data than those who did not, a difference that was statistically significant at the .001 level. This suggests that it is likely the more expansive range of controls I include in my models that explains these two odd findings.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

results show that recent paternal incarceration is associated with a significant increase (at the .01 level) in the risk of child homelessness. According to the results from this model, recent paternal incarceration increases the odds of child homelessness by 95 percent ($e^{.67}$). The results also show that the relationship between recent maternal incarceration and child homelessness—though positive—is not significant. Thus, the results from this model indicate, as did Model 1, that paternal but not maternal incarceration is significantly related to child homelessness.

In Models 3 and 4, I present robustness checks of the relationship between recent paternal incarceration and child homelessness. Specifically, I consider whether the relationship holds when the sample is limited to (1) children of previously-incarcerated fathers and (2) children who have not recently been homeless. The results from these robustness checks provide support for the relationship demonstrated earlier. In each model, recent paternal incarceration is associated with a significant (at the .05 level) and substantial increase in the risk of child homelessness. Furthermore, the magnitude of the relationship does not vary substantially. According to the high estimate (Model 3), recent paternal incarceration is associated with an increase in the odds of child homelessness of about 105 percent ($e^{.72}$); according to the low estimate (Model 4), it is associated with an increase in the odds of about 101 percent ($e^{.70}$).

[Insert Table 2 about here.]

Since I expect effects of paternal incarceration on child homelessness to be most pronounced among black children, I also tested for these effects in Models 5 and 6 in Table 2. In order to do so, I included an interaction between recent paternal incarceration and a variable indicating whether the child was black. The results from Model 5, which includes this interaction and all controls except for prior housing instability, indicate that the negative effects of recent paternal incarceration on child homelessness are concentrated among black children. The

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

interaction is only marginally significant, but the magnitude of that coefficient (1.03) and the main effect (-.14) imply not only that recent paternal incarceration increases the risk of homelessness more among black children than other children, but also that it has no effect on the risk for other children. The results from Model 6, which includes all controls, tell a similar story. In this model, all the negative effects of recent paternal incarceration on child homelessness are concentrated among black children. Thus, the results from Models 5 and 6 suggest that recent paternal incarceration may only increase the risk of homelessness for black children.

Results from Propensity Score Models

Although the results to this point have supported my hypotheses, covariate adjustment alone may be an inadequate method for controlling for pre-existing differences between those experiencing and not experiencing recent paternal incarceration. This is especially relevant in my sample since, as noted in Table 1, there are substantial, statistically significant differences in the risk factors for child homelessness between children experiencing and not experiencing recent paternal and maternal incarceration. In Table 4, I present estimates of the effects of recent paternal incarceration on child homelessness using radius, nearest neighbor, and kernel matching for the full, black, and non-black samples. Although propensity score models cannot definitively circumvent omitted variable bias, these models should increase our confidence in the findings presented in Tables 2 if the relationships demonstrated using these models is similar to that generated in the logistic regression models. I also present estimates of the magnitude of the effects of recent paternal incarceration on child homelessness based on point estimates from logistic regression models. I consider only recent paternal incarceration from this point on since the results from Table 2 never showed a significant effect of recent maternal incarceration.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

In the first column in Table 3, I present estimated effects of recent paternal incarceration on the risk of child homelessness for the total sample using three different types of propensity score models. In each case, recent paternal incarceration is associated with a statistically significant (at the .01 level) increase in the probability of experiencing child homelessness. Furthermore, these effects are substantial. Having a father experience incarceration between 31 and 60 months increased the probability of child homelessness between .024 and .027, depending on the model considered. Further down the column, I compare the magnitude and statistical significance from the propensity score models to those obtained from the logistic regression models shown in Table 2. The magnitudes of the effects derived from the propensity score and logistic regression models are generally comparable, as the marginal effects shown in the propensity score models range from .024 to .027, while the marginal effects shown in the logistic regression models range from .008 to .014 at the sample mean and .029 to .041 at the ever-incarcerated mean. Thus, although the results shown in the propensity score models and the logistic regression models are not identical, both consistently support the hypothesis that recent paternal incarceration increases the risk of child homelessness in the total sample.

[Insert Table 3 about here.]

In the final two columns of Table 3, I present estimates of the effects of recent paternal incarceration on the risk of homelessness for black and non-black children. Before discussing these results further, it is worth noting that these models (unlike those presented for the total sample) do not perfectly overlap with the logistic regression models considering race-specific effects because those models used an interaction, while the propensity score models instead estimate race-specific effects using race-specific models. (I do not present race-specific logistic regression models in the interest of keeping all results in Tables 2 and 3 consistent.) Despite

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

these differences, the results from propensity score imply that the negative effects of recent paternal incarceration on child homelessness are concentrated among black children. For black children, having a recently incarcerated father increases the probability of child homelessness by .042, and the relationship is always significant at least at the .01 level. Although these effects are more significant than those shown in logistic regression models, they are comparable to the results from logistic regression models limited to black children.²⁴ For non-black children, the estimates range from -.012 to -.030 and never attain significance. Thus, the effects of recent paternal incarceration on child homelessness seem to be concentrated among black children.

Of course, it might be the case that there is some unobserved factor shaping both the risk of child homelessness and the risk of recent paternal incarceration. Although there is no way to directly address whether selection is driving the results herein without using an entirely different modeling strategy, I can provide indirect information to that effect using Mantel-Haenszel bounds (Becker and Caliendo 2007). Put simply, Mantel-Haenszel bounds show how substantial selection would have to be to render the relationships uncovered herein nonsignificant by showing how levels of significance for the relationship considered change as the unobserved selection factor (Γ) increases. Although these estimates can be used to estimate how levels of statistical significance change if the relationship is overestimated and underestimated, it is common practice to focus only on bias related to overestimation of the treatment effect.

[Insert Table 4 about here.]

In Table 4, I present estimates of how sensitive the propensity score results estimated in Table 3 are to unmeasured selection forces.²⁵ In the first three columns, which present estimates for the propensity score models considering the full sample of children, the results imply that

²⁴ These supplementary analyses are available upon request from the author, as are results for non-black children.

²⁵ I do not discuss the results for the non-black sample because earlier analyses showed no significant effects.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

unobserved selection forces would have to increase the odds of receiving the treatment by between 38 (neighbor) and 138 (kernel) percent to render the relationship nonsignificant. Indeed, based on two of the three models shown here (radius and kernel), any unobserved selection factor would have had to more than double the odds of receiving the treatment in order to render the relationships considered here nonsignificant. Furthermore, the comparison odds ratios are similar for the black sample (despite the much smaller sample size), ranging from 63 (neighbor) to 113 (kernel). To place the magnitude of these odds ratios in perspective, consider that in a model predicting recent paternal incarceration with all the controls included in Model 2 of Table 2 (except recent paternal incarceration), the strongest predictor aside from a history of incarceration was whether either parent had a history of drug or alcohol abuse, which increased the odds of recent paternal incarceration by about 65 percent. Thus, according to the results shown in Table 4, any unobserved selection forces would have had to be at least half as strong as a history of drug or alcohol abuse (based on the neighbor model for the total sample) and up to twice as strong as a history of drug or alcohol abuse (based on the kernel model for the total sample) in order to render the relationship herein insignificant at the conventional .05 level. Thus, although I cannot rule out the possibility that unobserved selection forces could be driving the relationship herein, I can demonstrate that they must be quite large indeed to be doing so.

Results from Logistic Regression Models Considering Mechanisms

Thus far, the results have suggested that recent paternal incarceration increases the risk of child homelessness and that these effects are concentrated among black children. Nonetheless, the analyses to this point have done little to diminish any concerns about spuriousness or test for mechanisms. In Table 5, I present results from models suited to this purpose. All models shown

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

in table 6 take the .67 coefficient for recent paternal incarceration shown in Model 2 of Table 2 as their baseline. In Model 1, I attempt to diminish concerns about spuriousness by including measures of recent drug or alcohol abuse and domestic violence. These measures gauge what share of changes in the risk of child homelessness attributed to recent paternal incarceration may be due to other changes that occurred around the same time as incarceration and homelessness and caused both of them. The results from this model suggest that a non-negligible share of the relationship may be spurious. When these measures are included in the model, the coefficient for recent paternal incarceration decreases from .67 to .49—a decrease of about 27 percent.

[Insert Table 5 about here.]

Although some of the relationship may be spurious, some of the relationship could still be driven by the proposed mechanisms. In the next five models, I consider what share of the relationship is explained by the proposed mechanisms. The results from Model 2, which includes measures of family finances, indicate that about 13 percent of the effects of recent paternal incarceration on the risk of child homelessness are attributable to family finances at 60 months. Measures of social and institutional support at 60 months tell a similar story, explaining about 13 percent of the recent paternal incarceration-child homelessness relationship. Given how difficult it is to measure what proportion of the loss of a housing subsidy or public housing is attributable to recent paternal incarceration, however, it is quite likely that this is a substantial underestimate of how strong a role institutional supports play in mediating the relationships considered here. The results from Model 4, which includes measures of maternal capacities at 60 months, indicate that these measures explain only 3 percent of the relationship considered. Thus, while family finances and supports play an important role in mediating the paternal incarceration-child homelessness relationship, maternal capacities (as measured here) have a negligible effect.

Parental Incarceration, Child Homelessness, and the Invisible Consequences of Mass Imprisonment

In the final two models in Table 5, I consider how much of the relationship is mediated by the full set of mediators without (Model 5) and with an adjustment for spuriousness (Model 6). In Model 5, the coefficient for recent paternal incarceration diminishes from .67 to .56 when all measures are included, suggesting that these measures mediate 17 percent of the relationship between recent paternal incarceration and child homelessness. In the final model, which adds an adjustment for spuriousness, the coefficient for recent paternal incarceration diminishes to .42 and is rendered nonsignificant for the first time. Including all mechanisms and an adjustment for spuriousness simultaneously explains 37 percent of the relationship considered here. Also of interest, the measures of spuriousness and the speculated mechanisms are mostly operating independently of one another, as each reduces the coefficient for recent paternal incarceration a comparable amount in isolation and in conjunction with each other. Thus, the results indicate that the speculated mechanisms explain some but by no means all of the relationship demonstrated.

DISCUSSION

The analyses herein sought to consider the effects of recent paternal and maternal incarceration on child homelessness using Fragile Families and Child Wellbeing data. By using data uniquely suited to considering these research questions, this article yields insight not only into the causes of child homelessness but also into the invisible consequences of mass imprisonment. The results from a series of logistic regression and propensity score models (Tables 2 and 3) consistently indicated that recent paternal incarceration increases the risk of child homelessness. Robustness checks and sensitivity analyses (Tables 2 and B2) provided further indications that the recent paternal incarceration-child homelessness relationship was robust. And though some might argue that the relationship was driven by unobserved factors, the results of a series of Mantel-Haenszel

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

tests (Table 4) indicated that any selection forces would have had to be substantial to render the paternal incarceration-child homelessness relationship nonsignificant. Thus, although I could not control for unobserved traits, the results imply that selection is unlikely to be driving the results.

Furthermore, the magnitude of these effects was substantial. The estimated effects of recent paternal incarceration on the risk of child homelessness ranged from about 2 to 4 percent when an appropriate comparison group was chosen. Since child homelessness is such a rare event even among the disadvantaged children in this sample, it would be fair to call these effects substantial. Although the speculated mediators between recent paternal incarceration and child homelessness did not explain all of this relationship, they did explain about 15 percent of the relationship remaining after adjusting for the possibility that the relationship was spurious.

What's more, after including both mechanisms and possibly spurious factors, I explain nearly 40 percent of the relationship between recent paternal incarceration and child homelessness. This is especially relevant since it is possible that incarceration, by destabilizing the family lives of incarcerated men, would be responsible for the elevated levels of drug and alcohol abuse and domestic violence that mediate the paternal incarceration-child homelessness relationship.

It is difficult to be sure why the speculated mechanisms did not explain more of the relationship, but three factors could be to blame. First, and most importantly, I lacked measures of some of the mechanisms that seem most central to increases in the risk of child homelessness as a result of paternal incarceration, such as the accumulation of substantial legal debt (Harris et al. 2010) and the increased costs as a result of having a family member incarcerated (Braman 2004; Comfort 2008; Grinstead et al. 2001). Second, it is difficult to tell what share of losses of cash welfare, public housing, and housing subsidies occurred as a result of incarceration and

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

signal unmet need in those areas. Finally, most mediators covered only the last year. Had they been measured over a longer period, they might have explained more of the relationship.

Although the results suggested a robust relationship between recent paternal incarceration and child homelessness, they did not suggest that recent maternal incarceration had a significant effect on the risk of child homelessness. The relationship between recent maternal incarceration and child homelessness was always positive, but coefficients were generally around one-third as large as coefficients for recent paternal incarceration and never approached significance. Since I hypothesized that foster care placement would divert children experiencing recent maternal incarceration from child homelessness, this confirmed my hypothesis. There was a significant relationship between having a mother with a history of incarceration and child homelessness, however. Though considering the effects of distal maternal (or paternal) incarceration was not a goal of this analysis, this finding merits attention since it suggests that children of mothers with a history of incarceration may be at elevated risk of homelessness and other forms of severe marginalization beyond what would be expected. Despite this interesting and substantively important caveat, the main results nonetheless suggest that changes in female imprisonment rates did not play a key role in the increasing risk of child homelessness in recent decades.

Perhaps even more important than knowing that recent paternal but not maternal incarceration increases the risk of child homelessness is finding out that these effects were concentrated among black children. The results from logistic regression (Table 2) and propensity score (Table 3) models suggested as much. This indicates that the prison boom may not only have increased the share of the homeless population composed of black children because of their disproportionate likelihood of coming into contact with the penal system, but also because doing so disproportionately increased their risk of homelessness. Although I speculated about why this

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

would be the case, the data utilized are not well-suited for testing such speculations. Future research should further interrogate why black children are especially likely to experience homelessness as a result of recent paternal incarceration. In light of these findings future research should also be more attentive to the disproportionately detrimental effects of parental incarceration on black children—especially as relates to severe forms of social exclusion.

The findings presented throughout this article are provocative, but this study still has limitations. An especially serious limitation is that incarceration is not randomly assigned. Searching for exogeneity is always important, but it may be especially so in this area since selection problems are so acute (Wakefield and Uggen 2010:399-400). Some research in this area utilizes exogenous shocks in imprisonment to isolate causal effects (Levitt 1996), yet random assignment at the micro-level poses problems for outcomes that cannot be studied using an experimental audit design (Wakefield and Uggen 2010:400; but see Green and Winik 2010). Attrition is also a limitation. In light of substantial attrition, the findings presented here may not be representative of the sample. Another limitation is that the sample is not fully representative, calling into question how generalizable the results are to the population of children. Nonetheless, since children living in urban areas are much more likely to be homeless than other children, the sample is highly representative of the population of interest. A final limitation has to do with the paper's inability to consider the duration of homelessness, confirm that the child was living with the parent while they were homeless, or know whether children not currently staying in a shelter had stayed in one recently. These problems with the dependent variables are not so serious that they undermine my findings, but future research should attempt to find an improved measure.

Despite these limitations, this study has a number of implications for how we think about the American systems of mass imprisonment, stratification, and marginalization. Perhaps most

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

important, the results indicate that paternal and maternal incarceration lead to parallel paths of marginalization for American children. While the effects of maternal incarceration on children's risk of foster care placement have been well-documented (Swann and Sylvester 2006), this study is the first to show that recent paternal but not maternal incarceration increases the risk of child homelessness. Second, the substantial effects of recent paternal incarceration on the risk of child homelessness have important implications at the macro-level—especially since these estimates were culled from the strongest empirical test in this area to date. When these negative effects are combined with massive increases and racial disparity in the risk of paternal imprisonment since the early 1980s, they imply that the prison boom may have played a role in the increasing risk of homelessness for American children over this period—and that the effects on the risk of homelessness for black children may have been especially profound since they are more likely to experience parental imprisonment and more likely to become homeless as a result of experiencing that event. Thus, while economic downturns cause widespread concern about children's housing instability (Rugh and Massey 2010), the prison boom may have played a silent but vital role in the increasing risk of homelessness for American children even when the economy was healthy. Finally, the results suggest that researchers of the American stratification system should continue considering the myriad—and not necessarily obvious—ways in which mass imprisonment could have contributed to the existing system of social stratification in America and the risk of experiencing severe forms of marginalization for American children.

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and the Invisible Consequences of Mass Imprisonment

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Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

APPENDIX A: CODING FOR CONTROL VARIABLES

Caretaker self-rated health was based on caretaker reports of whether their health was excellent to poor. If both parents claimed to live with the child all or most of the time, then the mean of their self-rated health scores was used. This method of averaging scores was also used for the rest of the controls unless otherwise noted. The results did not change markedly when other methods for incorporating controls were used. Either parent was considered to have a drug or alcohol problem if they or the other parent agreed that drugs or alcohol interfered with their work or personal relationships or made it difficult for them to manage their life on a daily basis, or they had such a strong desire to drink that they had to have a drink. Mothers were considered to have been abused by the father if they reported having ever been hurt by the father in a fight since the child's birth. The household income to poverty ratio was constructed by dividing household income by the poverty line in a geographic area for a family of the same size. Difficulty paying bills was based on caretaker reports that they couldn't pay all of their rent or mortgage, couldn't pay all of their gas, oil, or electricity, had their gas, oil, or electricity turned off for nonpayment, or had their telephone disconnected because of lack of payment. Lack of social support ranges from 0 to 4 and was based on whether the caregiver thought they could count on someone to loan them \$200, provide them with a place to live, provide emergency childcare, or cosign a loan for \$1000 with them. Maternal life dissatisfaction was based on whether mothers responded that they were very satisfied to very dissatisfied overall with their lives. Maternal stress was based on how mothers responded to questions asking them if being a parent is much harder than they thought it would be, they felt trapped by their responsibilities as a parent, taking care of their children was much more work than pleasure, and they often felt tired, worn out, or exhausted from raising a family. Each question was coded from 1 to 4 with one representing the least stress. The answers were then reverse coded and averaged to form the scale.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table 1. Descriptive Statistics for the Full Sample and by New Paternal and Maternal Incarceration

	Full Sample		New Paternal Inc.		No New Paternal Inc.		New Maternal Inc.		No New Maternal Inc.	
	M	SD	M	SD	M	SD	M	SD	M	SD
Homeless at 60 Months	.03	---	.06***	---	.02***	---	.07#	---	.03#	---
New Paternal Incarceration	.17	---	---	---	---	---	.39***	---	.17***	---
Prior Paternal Incarceration	.41	---	.78***	---	.34***	---	.65***	---	.41***	---
New Maternal Incarceration	.03	---	.06***	---	.02***	---	---	---	---	---
Prior Maternal Incarceration	.06	---	.13***	---	.05***	---	.44***	---	.05***	---
Maternal Age	25.15	(6.05)	23.00***	(5.39)	25.60***	(6.08)	25.53*	(5.57)	25.20*	(6.05)
Paternal Age	27.78	(7.22)	25.56***	(6.92)	28.23***	(7.19)	26.90	(8.52)	27.80	(7.18)
Mother HS Dropout	.33	---	.44***	---	.31***	---	.46*	---	.33*	---
Father HS Dropout	.35	---	.49***	---	.32***	---	.41	---	.35	---
Child's Race/Ethnicity										
Black	.54	---	.71***	---	.51***	---	.56	---	.54	---
Hispanic	.26	---	.19***	---	.28***	---	.19#	---	.26#	---
Other	.03	---	.01***	---	.03***	---	.05	---	.03	---
White	.17	---	.09***	---	.19***	---	.19	---	.17	---
Mother's Other Children (0-12)	1.12	(1.32)	1.19	(1.34)	1.12	(1.32)	1.35	(1.54)	1.12	(1.32)
Caretaker's Self-Rated Health at 30 Months (1-5)	2.19	(.90)	2.27*	(.96)	2.18*	(.89)	2.35	(1.06)	2.19	(.90)
Caretaker an Immigrant	.14	---	.06***	---	.16***	---	.05**	---	.14**	---
Maternal Smoking During Pregnancy (0-2)	.22	(.47)	.32***	(.52)	.20***	(.46)	.49***	(.67)	.21***	(.46)
Either Parent Had Drug/Alcohol Problem by 30 Months	.21	---	.39***	---	.17***	---	.47***	---	.20***	---
Domestic Abuse by 30 Months	.08	---	.15*	---	.06	---	.23***	---	.07***	---
Resident Father at 30 Months	.52	---	.30***	---	.57***	---	.30***	---	.53***	---
Household Income/Poverty Level at 30 Months	2.08	(2.61)	1.30***	(2.07)	2.24***	(2.68)	1.23***	(1.09)	2.10***	(2.63)
Unable to Pay Bills at 30 Months (0-4)	.57	(.85)	.77***	(.95)	.53***	(.82)	.77*	(.96)	.57*	(.85)
Caregiver Lacks Social Support at 30 Months (0-4)	.86	(1.08)	1.16***	(1.19)	.79***	(1.05)	1.30**	(1.19)	.85**	(1.08)
Caregiver Lives in Public Housing at 30 Months	.16	---	.20**	---	.15**	---	.19	---	.16	---
Caregiver Receives Housing Subsidy at 30 Months	.16	---	.24***	---	.14***	---	.18	---	.15	---
Caregiver Receives Cash Welfare at 30 Months	.22	---	.38***	---	.18***	---	.37*	---	.21*	---
Mother Depressed at 30 Months	.20	---	.30***	---	.18***	---	.29#	---	.20#	---
Maternal Life Dissatisfaction at 30 Months (1-4)	1.71	(.72)	1.94***	(.79)	1.67***	(.70)	2.10***	(.80)	1.70***	(.72)
Maternal Stress at 30 Months (1-4)	2.70	(.72)	2.60***	(.76)	2.72***	(.71)	2.36***	(.80)	2.71***	(.72)
Homeless at 30 Months	.03	---	.07***	---	.02***	---	.09*	---	.03*	---
Number of Moves in Last 18 Months at 30 Months	.80	(.90)	1.02***	(1.05)	.76***	(.87)	1.32***	(1.07)	.79***	(.90)
Evicted in the Last Year at 30 Months	.02	---	.03*	---	.02*	---	.07#	---	.02#	---
N	3774		653		3121		98		3676	

Source: Fragile Families and Child Wellbeing Study (1998-2005).

Notes: Two-sided t-tests show differences between those experiencing and not experiencing new paternal or maternal incarceration.

*** P<.001 ** P<.01 * P<.05 # P<.10

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table 2. Results from Logistic Regression Models Predicting Child Homelessness

	Model 1		Model 2		Model 3 ^a		Model 4 ^b		Model 5		Model 6	
New Paternal Incarceration	.68**	(.26)	.67**	(.28)	.72*	(.31)	.70*	(.35)	-.14	(.65)	-.20	(.70)
New Paternal Incarceration * Child Black	---	---	---	---	---	---	---	---	1.03#	(.72)	1.09#	(.73)
Prior Paternal Incarceration	-.02	(.24)	-.10	(.23)	---	---	-.17	(.21)	-.01	(.24)	-.09	(.24)
New Maternal Incarceration	.21	(.41)	.17	(.44)	.22	(.49)	.25	(.48)	.23	(.40)	.17	(.43)
Prior Maternal Incarceration	.83*	(.38)	.69#	(.38)	.62#	(.39)	.86*	(.52)	.80*	(.40)	.68#	(.39)
Maternal Age	-.02	(.04)	-.01	(.04)	-.04	(.05)	-.00	(.04)	-.02	(.04)	-.01	(.04)
Paternal Age	-.01	(.01)	-.01	(.02)	-.03	(.02)	-.01	(.02)	-.01	(.01)	-.01	(.02)
Mother HS Dropout	-.01	(.25)	.02	(.28)	-.10	(.23)	.07	(.32)	-.02	(.25)	.02	(.28)
Father HS Dropout	-.16	(.26)	-.10	(.26)	-.47	(.31)	.01	(.28)	-.19	(.26)	-.13	(.26)
Child's Race/Ethnicity												
Black	.36	(.41)	.25	(.39)	-.10	(.50)	.35	(.41)	.06	(.45)	-.06	(.44)
Hispanic	-.95	(.60)	-1.03#	(.61)	-1.30*	(.62)	-.99	(.67)	-.96	(.60)	-1.04#	(.62)
Other	-.44	(.98)	-.61	(.96)	---	---	-.58	(.97)	-.42	(.89)	-.55	(.86)
Mother's Other Children (0-12)	-.06	(.13)	-.04	(.14)	.27	(.17)	-.15	(.15)	-.06	(.13)	-.04	(.14)
Caretaker's Self-Rated Health at 30 Months (1-5)	.01	(.09)	.00	(.09)	-.24*	(.12)	.04	(.12)	.01	(.09)	.00	(.09)
Caretaker an Immigrant	.40	(.45)	.57	(.45)	.15	(.72)	.42	(.49)	.32	(.46)	.48	(.47)
Maternal Smoking During Pregnancy (0-2)	.33#	(.18)	.39*	(.17)	.23	(.17)	.67***	(.21)	.34#	(.18)	.39*	(.17)
Either Parent Had Drug/Alcohol Problem by 30 Months	.23	(.27)	.18	(.28)	.24	(.30)	-.15	(.35)	.24	(.26)	.20	(.27)
Domestic Abuse by 30 Months	-.22	(.33)	-.21	(.34)	-.21	(.40)	-.52	(.51)	-.19	(.34)	-.18	(.35)
Resident Father at 30 Months	-.01	(.23)	-.01	(.26)	.05	(.33)	-.07	(.30)	-.02	(.23)	-.01	(.26)
Household Income/Poverty Level at 30 Months	-.37**	(.14)	-.33**	(.13)	-.20	(.20)	-.37**	(.14)	-.38**	(.14)	-.35**	(.13)
Unable to Pay Bills at 30 Months (0-4)	.41**	(.15)	.39*	(.16)	.16	(.20)	.36*	(.15)	.43**	(.15)	.41*	(.17)
Caregiver Lacks Social Support at 30 Months (0-4)	.17*	(.08)	.13	(.08)	.19	(.10)	.10	(.09)	.17*	(.08)	.13	(.08)
Caregiver Lives in Public Housing at 30 Months	-.29	(.29)	-.21	(.29)	-.68	(.44)	-.44	(.35)	-.30	(.28)	-.23	(.29)
Caregiver Receives Housing Subsidy at 30 Months	-.36	(.22)	-.33	(.25)	-.11	(.32)	-.16	(.31)	-.37	(.22)	-.34	(.25)
Caregiver Receives Cash Welfare at 30 Months	.47**	(.17)	.37#	(.19)	.35	(.31)	.33	(.25)	.48**	(.18)	.37#	(.20)
Mother Depressed at 30 Months	-.09	(.26)	-.14	(.25)	.32	(.30)	-.37	(.31)	-.09	(.26)	-.13	(.26)
Maternal Life Dissatisfaction at 30 Months (1-4)	.14	(.14)	.12	(.14)	.15	(.18)	.19	(.15)	.15	(.14)	.13	(.14)
Maternal Stress at 30 Months (1-4)	-.15	(.19)	-.14	(.19)	.10	(.25)	-.09	(.21)	-.15	(.19)	-.13	(.19)
Homeless at 30 Months	---	---	1.50***	(.29)	1.74***	(.37)	---	---	---	---	1.47***	(.28)
Number of Moves in Last 18 Months at 30 Months	---	---	.22*	(.09)	.14	(.13)	.22**	(.08)	---	---	.23*	(.08)
Evicted in the Last Year at 30 Months	---	---	.01	(.65)	.23	(.78)	.12	(.72)	---	---	.04	(.65)
Intercept	-2.54*	(1.04)	-3.07**	(.97)	-2.10#	(1.27)	-3.01**	(1.08)	-2.42*	(1.03)	-2.99**	(.96)
-2 Log Likelihood	776.29		784.58		408.02		632.76		772.99		742.97	
N	3774		3774		1465		3663		3774		3774	

Source: Fragile Families and Child Wellbeing Study (1998-2005).

Notes: All t-tests for paternal and maternal incarceration are one-sided. All other t-tests are two-sided. All models include city dummies, and all t-tests use clustered standard errors to account for the clustering of observations within cities.

^a Sample limited to children of fathers who had ever been incarcerated by 30 months.

^b Sample limited to children who had never been homeless before 30 months.

*** P<.001 ** P<.01 * P<.05 # P<.10

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table 3. Estimated Change in the Risk of Experiencing Homelessness Associated with Recent Paternal Incarceration, Propensity Score and Logistic Regression Models

Estimated Effect Based on Model	Total		Black		Non-Black	
Propensity Score Models						
Radius	.025**	(.010)	.042**	(.014)	-.013	(.014)
Nearest Neighbor	.024**	(.011)	.042**	(.015)	-.012	(.015)
Kernel	.027**	(.010)	.042***	(.014)	-.030	(.013)
Logistic Regression Models						
Table 2, Model 1						
Sample Mean	.008**	---	---	---	---	---
Recent Paternal Incarceration Mean	.037**	---	---	---	---	---
Table 2, Model 2						
Sample Mean	.007**	---	---	---	---	---
Recent Paternal Incarceration Mean	.035**	---	---	---	---	---
Table 2, Model 3						
Sample Mean	.014*	---	---	---	---	---
Recent Paternal Incarceration Mean	.041*	---	---	---	---	---
Table 2, Model 4						
Sample Mean	.006*	---	---	---	---	---
Recent Paternal Incarceration Mean	.029*	---	---	---	---	---
Table 2, Model 5						
Sample Mean	---	---	.021#	---	-.003	---
Recent Paternal Incarceration Mean	---	---	.047#	---	-.008	---
Table 2, Model 6						
Sample Mean	---	---	.021#	---	-.005	---
Recent Paternal Incarceration Mean	---	---	.045#	---	-.010	---

Source: Fragile Families and Child Wellbeing Study (1998-2005).

Notes: The N of observations used in the propensity score models were the following: Total (Radius = 3766, Neighbor = 3766, Kernel = 3773); Black (Radius = 2042, Neighbor = 2042, Kernel = 2048); and Non-Black (Radius = 1702, Neighbor = 1702, Kernel = 1722). Estimated effects using logistic regression models were based on the effects shown in Table 2, holding all values except for recent paternal incarceration at the sample mean (Table 1, Column 1) or the mean for those experiencing recent paternal incarceration (Table 1, Column 2). Estimates of significance are drawn from the same models. Logistic regression models limited to Blacks showed significant associations at the .01 level in both models, but I present significance levels for the interactions shown in Table 2 rather than those main effects. All t-tests are one-sided.

*** P<.001 ** P<.01 * P<.05 # P<.10

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table 4. Results from Sensitivity Analysis for Average Treatment Effects (Assuming Overestimation of the Treatment Effect)

Full Sample						Black Sample					
Radius		Nearest Neighbor		Kernel		Radius		Nearest Neighbor		Kernel	
Gamma	p	Gamma	p	Gamma	p	Gamma	p	Gamma	p	Gamma	p
1.00	<.001	1.00	<.001	1.00	<.001	1.00	<.001	1.00	<.001	1.00	<.001
1.13	<.001	1.13	.005	1.13	<.001	1.13	<.001	1.13	<.001	1.13	<.001
1.25	<.001	1.25	.017	1.25	<.001	1.25	<.001	1.25	.002	1.25	<.001
1.38	<.001	1.38	.046	1.38	<.001	1.38	<.001	1.38	.006	1.38	<.001
1.50	<.001	1.50	.096	1.50	<.001	1.50	.001	1.50	.015	1.50	<.001
1.63	<.001	1.63	.171	1.63	<.001	1.63	.004	1.63	.031	1.63	.002
1.75	<.001	1.75	---	1.75	<.001	1.75	.011	1.75	.057	1.75	.005
1.88	.003	1.88	---	1.88	.002	1.88	.023	1.88	.093	1.88	.012
2.00	.007	2.00	---	2.00	.006	2.00	.042	2.00	.140	2.00	.024
2.13	.015	2.13	---	2.13	.014	2.13	.071	2.13	---	2.13	.044
2.25	.028	2.25	---	2.25	.027	2.25	.109	2.25	---	2.25	.071
2.38	.051	2.38	---	2.38	.048	2.38	---	2.38	---	2.38	.109
2.50	.082	2.50	---	2.50	.079	2.50	---	2.50	---	2.50	---
2.63	.123	2.63	---	2.63	.012	2.63	---	2.63	---	2.63	---
2.75	---	2.75	---	2.75	---	2.75	---	2.75	---	2.75	---
2.88	---	2.88	---	2.88	---	2.88	---	2.88	---	2.88	---
3.00	---	3.00	---	3.00	---	3.00	---	3.00	---	3.00	---

Source: Fragile Families and Child Wellbeing Study (1998-2005).

Notes: All p-values are based on one-sided significance tests. Results are based on sensitivity analyses implemented using STATA-compatible software designed by Becker and Caliendo (2007) and Leuven and Sianesi (2003). All p-values (except the first one) exceeding .10 have been left blank to make the point at which the relationships are no longer marginally significant obvious. I have also noted the point at which the relationship becomes nonsignificant at the conventional .05 level in each of the six models. Results for the non-Black sample are suppressed because in no case were effects on them significant, rendering those results superfluous.

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table 5. Results for Selected Coefficients from Logistic Regression Models Considering Mechanisms Linking Recent Paternal Incarceration and Child Homelessness (Log-Odds)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
New Paternal Incarceration	.49*	(.29)	.58*	(.32)	.58*	(.32)	.65*	(.29)	.56*	(.33)	.42	(.33)
Either Parent Had Recent Drug/Alcohol Problem	1.06***	(.30)	---	---	---	---	---	---	---	---	1.11***	(.32)
New Domestic Abuse	.68*	(.32)	---	---	---	---	---	---	---	---	.55	(.34)
Resident Father at 60 Months	---	---	-.28	(.24)	---	---	---	---	-.22	(.24)	-.09	(.29)
Household Income/Poverty Level at 60 Months	---	---	-.40**	(.13)	---	---	---	---	-.38**	(.14)	-.42**	(.15)
Unable to Pay Bills at 60 Months	---	---	.13	(.12)	---	---	---	---	.07	(.11)	-.00	(.10)
Number of Moves in Last 18 Months at 60 Months	---	---	.75***	(.16)	---	---	---	---	.72***	(.15)	.73***	(.14)
Evicted in the Last Year at 60 Months	---	---	1.64***	(.45)	---	---	---	---	1.61***	(.46)	1.65***	(.47)
Caregiver Lacks Social Support at 60 Months	---	---	---	---	.31***	(.10)	---	---	.25**	(.09)	.29**	(.10)
Caregiver Lost Public Housing	---	---	---	---	.91*	(.37)	---	---	.32	(.30)	.41	(.33)
Caregiver Lost Housing Subsidy	---	---	---	---	.90*	(.36)	---	---	.46	(.35)	.46	(.35)
Caregiver Lost Cash Welfare	---	---	---	---	-.75**	(.24)	---	---	-.65*	(.26)	-.69*	(.27)
Mother Depressed at 60 Months	---	---	---	---	---	---	.63#	(.34)	.51	(.36)	.45	(.37)
Maternal Life Dissatisfaction at 60 Months	---	---	---	---	---	---	.05	(.15)	-.11	(.16)	-.15	(.18)
Maternal Stress at 60 Months	---	---	---	---	---	---	-.15	(.16)	-.05	(.17)	-.04	(.16)
Intercept	-3.02**	(.99)	-4.09***	(.96)	-3.47***	(1.07)	-3.02***	(1.18)	-4.22***	(1.11)	-4.32***	(1.13)
Includes All Controls?	YES		YES		YES		YES		YES		YES	
-2 Log Likelihood	728.30		662.82		724.70		738.51		649.34		634.54	
N	3774		3774		3774		3774		3774		3774	

Source: Fragile Families and Child Wellbeing Study (1998-2005).

Notes: All t-tests for paternal incarceration are one-sided. All other t-tests are two-sided. All models include city dummies, and all t-tests use clustered standard errors to account for the clustering of observations within cities.

*** P<.001 ** P<.01 * P<.05 # P<.10

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table B1. Descriptive Statistics for Children Experiencing New Paternal Incarceration by Race

	Black Children		All Other Children	
	M	SD	M	SD
Homeless at 60 Months	.08**	---	.03**	---
Prior Paternal Incarceration	.81**	---	.71**	---
New Maternal Incarceration	.06	---	.06	---
Prior Maternal Incarceration	.14	---	.11	---
Maternal Age	22.57**	(4.98)	24.04**	(6.17)
Paternal Age	25.11*	(6.64)	26.64*	(7.48)
Mother HS Dropout	.44	---	.45	---
Father HS Dropout	.50	---	.51	---
Child's Race/Ethnicity				
Black	1.00***	---	.00***	---
Hispanic	.00***	---	.66***	---
Other	.00***	---	.04***	---
White	.00***	---	.29***	---
Mother's Other Children (0-12)	1.23	(1.39)	1.09	(1.20)
Caretaker's Self-Rated Health at 30 Months (1-5)	2.21*	(.94)	2.42*	(.99)
Caretaker an Immigrant	.02***	---	.15***	---
Maternal Smoking During Pregnancy (0-2)	.30	(.52)	.38	(.55)
Either Parent Had Drug/Alcohol Problem by 30 Months	.35**	---	.48**	---
Domestic Abuse by 30 Months	.14	---	.19	---
Resident Father at 30 Months	.24***	---	.44***	---
Household Income/Poverty Level at 30 Months	1.27	(2.31)	1.38	(1.30)
Unable to Pay Bills at 30 Months (0-4)	.75	(.93)	.81	(1.00)
Caregiver Lacks Social Support at 30 Months (0-4)	1.21	(1.19)	1.06	(1.20)
Caregiver Lives in Public Housing at 30 Months	.24***	---	.11***	---
Caregiver Receives Housing Subsidy at 30 Months	.27**	---	.16**	---
Caregiver Receives Cash Welfare at 30 Months	.42**	---	.31**	---
Mother Depressed at 30 Months	.27*	---	.37*	---
Maternal Life Dissatisfaction at 30 Months (1-4)	1.93	(.76)	1.96	(.85)
Maternal Stress at 30 Months (1-4)	2.56	(.77)	2.69	(.73)
Homeless at 30 Months	.08#	---	.04#	---
Number of Moves in Last 18 Months at 30 Months	.97#	(.97)	1.15#	(1.22)
Evicted in the Last Year at 30 Months	.02*	---	.06*	---
N	464		189	

Source: Fragile Families and Child Wellbeing Study (1998-2005).

Notes: Two-sided t-tests show differences between black children and all other children. The sample is limited to children experiencing recent paternal incarceration.

*** P<.001 ** P<.01 * P<.05 # P<.10

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table B2. Robustness Checks and Alternate Specifications

Estimated Effect of Recent Pat. Incarceration Based on Model	Main Results		Adjusts for Self-Control, No Poverty Sample Restriction		No Adjustment for Self-Control, Poverty Sample Restriction		Adjusts for Self-Control, Poverty Sample Restriction	
Logistic Regression Models								
Model 1	.68**	(.26)	.40#	(.26)	.96***	(.31)	.79**	(.29)
Model 2	.67**	(.28)	.39#	(.29)	.93**	(.32)	.74**	(.31)
Model 3	.72*	(.31)	.50*	(.30)	1.09**	(.39)	.98**	(.38)
Model 4	.70*	(.35)	.41	(.36)	.88*	(.49)	.71#	(.46)
Propensity Score Models								
Total								
Radius	.025**	(.010)	.031**	(.011)	.055**	(.019)	.052***	(.018)
Nearest Neighbor	.024**	(.011)	.033**	(.012)	.047**	(.019)	.054**	(.018)
Kernel	.027**	(.010)	.023*	(.011)	.057**	(.019)	.055**	(.018)
Black								
Radius	.042**	(.014)	.044**	(.015)	.063**	(.023)	.067**	(.023)
Nearest Neighbor	.042**	(.015)	.044**	(.016)	.064**	(.026)	.069**	(.023)
Kernel	.042***	(.014)	.036**	(.015)	.072**	(.025)	.075***	(.022)
Non-Black								
Radius	-.013	(.014)	.003	(.014)	.016	(.031)	-.011	(.026)
Nearest Neighbor	-.012	(.015)	.001	(.016)	.018	(.029)	-.007	(.027)
Kernel	-.030	(.013)	.003	(.013)	-.010	(.027)	-.006	(.023)

Source: Fragile Families and Child Wellbeing Study (1998-2005).

Notes: All t-tests for paternal incarceration are one-sided. All logistic regression models correspond to models shown in Table 2 and include city dummies, and all t-tests use clustered standard errors to account for the clustering of observations within cities. All propensity score models correspond to models shown in Table 3. For information about the covariates used in all propensity score models shown as robustness checks, please contact the author. Models from robustness checks were also comparable to race-specific interactions shown in Models 5 and 6 of Table 2, as the results from the propensity score results from robustness checks suggest.

*** P<.001 ** P<.01 * P<.05 # P<.10

Parental Incarceration, Child Homelessness,
and the Invisible Consequences of Mass Imprisonment

Table B3. Paternal and Maternal Homelessness for Recently Homeless Children

Percent	All Children Considered Recently Homeless	Recently Homeless and Recent Pat. Incarceration	Recently Homeless and No Recent Pat. Incarceration
Only Mom Homeless	77.2	78.0	76.7
Only Dad Homeless	21.8	19.5	23.3
Both Homeless	1.0	2.5	0.0
N	101	41	60

Source: Fragile Families and Child Wellbeing Study (1998-2005).