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Eviction's Fallout: Housing, Hardship, and Health

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Millions of families across the United States are evicted each year. Yet, we know next to nothing about the impact eviction has on their lives. Focusing on low-income urban mothers, a population at high risk of eviction, this study is among the first to examine rigorously the consequences of involuntary displacement from housing. Applying two methods of propensity score analyses to data from a national survey, we find that eviction has negative effects on mothers in multiple domains. Compared to matched mothers who were not evicted, mothers who were evicted in the previous year experienced more material hardship, were more likely to suffer from depression, reported worse health for themselves and their children, and reported more parenting stress. Some evidence suggests that at least two years after their eviction, mothers still experienced significantly higher rates of material hardship and depression than peers.

Poor renting families are facing the worst affordable housing crisis in several generations. Millions of low-income households are devoting the majority of their income to housing costs, and millions are estimated to be evicted each year.

Historically, housing was central to the poverty debate. Slum dwelling, overcrowded and filthy housing conditions, and the development and expansion of housing programs were predominant in the study of urban life throughout the nineteenth and mid-twentieth century (e.g., Riis 1890; Park 1952; Foley 1980). And for much of the twentieth century, housing occupied a focal place in domestic policy. Until the 1980s, the Department of Housing and Urban Development's budget was second only to the Department of Defense's (Schwartz 2010, 45). But for the past several decades, housing has been relegated to the sidelines. Lyndon B. Johnson's War on Poverty placed the family, especially the black family, in the middle of the debate (Rainwater and Yancey 1967). In the wake of deindustrialization, the shuttered factory and chronic joblessness—issues raised by Wilson's *The Truly Disadvantaged* (1987)—took main stage. The poverty debate turned toward public assistance in the mid-1990s as President Clinton sought to "end

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welfare as we know it" (Edin and Lein 1997). More recently, the debate has focused on mass incarceration, with books like Western's *Punishment and Inequality in America* (2006) and Alexander's *The New Jim Crow* (2010). No one can deny the importance of these topics, but something fundamental is missing from the picture.

The poverty debate has not fully appreciated how housing dynamics are deeply implicated in creating and deepening poverty in America. Despite an impressive literature on inner cities and racial segregation and a rich tradition of community studies, research on housing and poverty is far less developed than the literature on the relationship between inequality and the family, employment, welfare, and the criminal justice system (Pattillo 2013). Yet, housing remains absolutely central to the lives of the poor. This is especially clear today, when the majority of poor renting families in America now devote over half of their income to housing costs (Desmond 2015). Extreme rent burden among low-income households necessarily makes them poorer. As households are forced to devote a larger portion of their income to housing expenses, their budget shares for food, school supplies, medication, transportation, and other necessities shrink (McConnell 2012; Newman and Holupka 2014). Owing to a shortage of affordable housing in urban areas, low-income families often move into substandard units, and housing problems have been linked to a wide array of negative health outcomes (Shaw 2004).

The affordable housing crisis also is a major source of residential instability among low-income families. In the absence of residential stability, it is increasingly difficult for low-income families to enjoy a kind of psychological stability, which allows people to place an emotional investment in their home, social relationships, and community (Oishi 2010); school stability, which increases the chances that children will excel in their studies and graduate (Temple and Reynolds 1999); or community stability, which increases the chances for neighbors to form strong bonds and to invest in their neighborhoods (Sampson 2012). As the severe housing burden among low-income households continues to rise, the number of households that experience acute residential instability owing to involuntary displacement from housing is likely to increase. If forced removal is becoming a common moment in the life course of poor Americans (Desmond 2012; Desmond, Gershenson, and Kiviat 2015), then investigating how eviction affects these families is critical to fully understanding the role housing dynamics play in driving health and economic disparities. Yet, researchers have neglected to identify the consequences of eviction.

This study corrects this oversight. Focusing on a population at heightened risk of eviction—low-income urban mothers—we examine the relationship between eviction and multiple outcomes by applying to a nationally representative and longitudinal data set several stringent statistical analyses. We find that eviction has negative effects on mothers in multiple domains. Compared to those not evicted, mothers who were evicted in the previous year experienced more material hardship, were more likely to suffer from depression, reported worse health for themselves and their children, and reported more parenting stress. Some evidence suggests that at least two years after their eviction, mothers still experienced significantly higher rates of material hardship and depression than peers. Our findings indicate that to fully understand the lives of disadvantaged women,

we should examine not only events related to work, welfare, and family, but also those related to housing, eviction being among the most consequential of them.

The Rise of Extreme Housing Burden among Poor Families

Today's affordable housing crisis is primarily the result of three factors: housing costs have soared, incomes of the poor have fallen or flatlined, and federal assistance has failed to bridge the gap.

Median monthly rent for vacant units in the United States was $371 in 1990, $483 in 2000, and $633 in 2006 (all in current dollars)—an overall increase of 70 percent in 16 years (Downs 2008, 6; see also Collinson 2011). From 2001 to 2010, median rents increased by roughly 21 percent in Midwestern and Western regions, by 26 percent in the South, and by fully 37.2 percent in the Northeast. These advances far outpaced modest gains in median incomes, which in the 2000s rose by 6 percent for households headed by people with a ninth-grade education or less, 7.3 percent for those headed by high school graduates, and 12 percent by those headed by college graduates (Desmond 2015; see also Shierholz and Gould 2012).

During the years in which more and more renting families were in need of housing assistance, fewer and fewer new households were receiving it. Owing to cutbacks in budget authority, in recent years a growing portion of federal assistance has been dedicated to renewing existing subsidies, rather than to extending aid to new households. In an average year between 1981 and 1986, 161,000 additional households received subsidies; in an average year between 1995 and 2007, fewer than 3,000 did. As in years past, the vast majority of poor renters today do not benefit from federal housing programs (Schwartz 2010).

As a result of these structural changes, the number of families severely rent burdened has spiked in recent years. At least since the National Housing Act of 1937, which established America's public housing system, the public and its policymakers have believed that families should spend no more than 30 percent of their income on housing costs (Henderson 2013). Until recently, most renting households in the United States met this goal. But times have changed. Today, most renting households are not able to meet what long has been considered the standard metric of affordability, and spend more than 30 percent of their income on housing costs. At least one in five renter households in America now devotes at least half of its income to housing costs (Eggers and Moumen 2010).

Eviction in Poor Neighborhoods

The affordable housing crisis has placed millions of families at risk of eviction. New York City's housing courts process roughly 350,000 cases each year, the vast majority of which allege nonpayment of rent (Brescia 2009, 192). Research based on an analysis of Milwaukee court records found that one in 29 renter-occupied households in the city are evicted annually. With one in 14 renter-occupied households evicted through the court system annually, eviction is commonplace in Milwaukee's black neighborhoods (Desmond 2012). These estimates are limited to formal, court-ordered evictions. A recent study that captures multiple forms of

involuntary displacement—formal evictions (which are processed through the court) and informal evictions (which are not), landlord foreclosures, and building condemnations—found that between 2009 and 2011 one in eight Milwaukee renters experienced a forced move sometime in the previous two years (Desmond and Shollenberger 2013).

Low-income women—and mothers in particular—are at especially high risk of eviction. One of 11 mothers receiving welfare interviewed by Edin and Lein (1997, 53) reported having been evicted in the previous two years. "If our numbers were nationally representative," the authors write, "1.3 million American children whose mothers relied on welfare were evicted over a two-year period… during the early 1990s." Phinney et al. (2007) show that 20 percent of urban mothers in Michigan who were receiving cash welfare in February 1997 were evicted at some point between then and 2003. Desmond (2012) finds that in Milwaukee's predominantly black inner-city neighborhoods, women are more than twice as likely to be evicted as men and, drawing on a survey of tenants appearing in housing court, also shows that among evicted tenants black women outnumber black men by 1.75:1, even after accounting for tenants excluded from the lease. One reason behind this discrepancy has to do with the fact that children can cause problems for landlords (e.g., noise complaints, lead poisoning). Indeed, among tenants who appear in eviction court, the likelihood of receiving an eviction judgment is highest for mothers with children, even after accounting for arrears (Desmond et al. 2013).

Eviction's Fallout

Despite eviction's prevalence in the lives of the urban poor, we know next to nothing about its impact on people's lives. Social scientists and policymakers have all but ignored eviction—its antecedents, consequences, and social ramifications—rendering it the "hidden housing problem" (Hartman and Robinson 2003). The prevalence of eviction in the lives of low-income mothers, one of America's poorest demographic groups, makes the lack of attention paid to it by researchers all the more troubling. Does eviction affect mothers' material hardship and poverty? Their health? And which of its effects linger long after the event?

Before reviewing our hypotheses, let us provide a bit more detail about the eviction process. Evictions are landlord-initiated forced moves from rental property. (Foreclosures, on the other hand, are lending institution–initiated forced moves from owner-occupied property. Evictions tend to affect the urban poor; foreclosures, the working and middle class). Most evictions are attributed to nonpayment of rent. A recent survey of tenants in eviction court found that one-third devoted at least 80 percent of their household income to rent, and that 92 percent received an eviction notice for falling behind (Desmond et al. 2013). It does not take a major life event (a death, a diagnosis) to cause severely housing burdened families to miss a rent payment; pedestrian expenses or setbacks—for example a reduction in work hours, or public benefits sanction—can cause families to come up short with the rent. When tenants miss a full payment, landlords show considerable discretion over whether to move forward with an eviction (Lempert and Ikeda 1970), and extra-financial considerations (the presence of children in the

household, for example) can influence their decision. Given the scope of the affordable housing crisis, many more families are in arrears than actually are evicted (Desmond 2012). These considerations, along with the frequency of eviction in low-income neighborhoods, reveal that many evictions are not necessarily the outcome of a drawn-out downward spiral or the result of a "more fundamental" cause having to do with tenants' behavior or bad luck.

And irrespective of its underlying cause, there are many reasons to believe that eviction itself may be a considerably consequential event. For one, events leading up to the moment of forced removal—conflict with one's landlord, multiple court appearances, looming uncertainty of the outcome—can consume tenants' time and focus and can cause a good deal of stress (Manzo, Kleit, and Couch 2008). The actual moment of forced removal, moreover, also can be taxing. Families who receive an eviction judgment often are ordered to vacate in a matter of days; if the family is removed by sheriff deputies, its possessions are piled on the curb or confiscated by movers; many tenants, lacking legal counsel and confused by the eviction process, are caught off-guard when the eviction squad raps on their door and orders them to leave; and evicted families must find somewhere else to live very quickly and under considerable duress (Desmond 2012; Hartman and Robinson 2003). A further consideration is that tenants evicted through the court system carry that judgment on their record. Just as the mark of a criminal record can greatly affect one's experiences on the job market (Pager 2007), the blemish of eviction can significantly influence one's experiences on the housing market (Greiner, Pattanayak, and Hennessy 2013).

Poverty Effects

We hypothesize the consequences of eviction to be many and multidimensional. First, prolonged periods of homelessness may follow eviction (Burt 2001; Kleysteuber 2006).[1] During these periods, families' belongings often are left behind or locked in storage by moving companies. The energy and resources that evicted tenants dedicate to securing subsequent housing and restoring a household often require them to forego other basic necessities, like warm clothing, food, or medical care. Additionally, a court-ordered eviction renders some voucher holders ineligible for federal housing assistance. And the mark of eviction on one's record not only can prevent one from securing affordable housing in a decent neighborhood, it also can tarnish one's credit rating (Greiner, Pattanayak, and Hennessy 2013). For these reasons, we hypothesize that *eviction will increase mothers' material hardship*.

Additionally, eviction can prolong families' residential instability, which begets economic instability (Desmond, Gershenson, and Kiviat 2015). A mother who does not know where she and her children will sleep the next night likely will be unable to maintain steady employment. If she is unemployed, securing housing after being evicted may take precedence over securing a job. If she is employed, the turmoil set off by eviction may affect her work performance and absenteeism, causing her to lose her job. Recent research has found the likelihood of being laid off to be 11 to 15 percentage points higher for workers who experienced an eviction or other involuntary move, compared to matched workers who did not

(Desmond and Gershenson 2015). These considerations lead us to hypothesize that *evicted mothers will experience higher levels of poverty*.

These proposed mechanisms suggest that the direct effect of eviction on material hardship will be longer lasting than the effect on poverty. Once a mother is able to regain a degree of residential stability post-eviction, she may refocus her energies on finding employment, transferring to a better job, or boosting her income by some other means. But the proposed factors through which eviction may lead to increased levels of material hardship—homelessness, the loss of possessions, and a legal eviction record—leave a deeper mark. Research has shown that homelessness has some long-term consequences (Sosin, Piliavin, and Westerfelt 2010); many low-income mothers will be unable to quickly replace their possessions if they were lost during the eviction; and the mark of an eviction will remain on a mother's record years after the event, with landlords classifying as "recent" evictions that happened in the past two to five years (Desmond 2012). Accordingly, we hypothesize that *the effect of eviction on mothers' material hardship will be resilient, lasting years after the event, while the effect on mother's poverty will be more short lived*.

Health Effects

The trauma of eviction and its aftermath also may have significant effects on mothers' health. Although very little is known about the effects of eviction on health outcomes, research documenting an association between foreclosure, housing instability, and health is beginning to appear (e.g., Burgard, Seefeldt, and Johnson 2012; Currie and Tekin 2011). Extended periods of homelessness that follow eviction can take a toll on one's physical health. Although evictions are concentrated in disadvantaged neighborhoods, families who are involuntarily displaced often relocate to neighborhoods with even higher levels of poverty and violent crime (Desmond and Shollenberger 2013). Severely distressed neighborhoods can negatively influence adults' and children's wellbeing (Sampson, Morenoff, and Gannonn-Rowley 2002). What is more, evicted families desperate to secure housing often accept substandard living conditions (Desmond, Gershenson, and Kiviat 2015), which in turn can bring about significant health problems (Shaw 2004). Accordingly, we hypothesize that *evicted mothers will rate their health and the health of their children more poorly than their peers who avoided eviction*.

Mothers' mental health, too, might not be spared by eviction. Qualitative studies have shown that residents involuntarily forced from their homes experience psychological distress (Fried 1963; Manzo, Kleit, and Couch 2008). Recent studies have found that women who experienced a recent foreclosure were at significantly greater risk of depression (Osypuk et al. 2012). Moreover, studies have shown that trying events associated with poverty, such as forced displacement, can diminish a mother's capacity for affirming and supportive parenting and increase her tendency to act punitively and erratically toward her children (Bradley and Corwyn 2002). These considerations lead us to hypothesize that *mothers who have been evicted will be more likely to suffer from depression and will experience higher levels of parental stress*.

The effects of many of the social determinants on health discussed above appear to be most durable with respect to mental health outcomes. Shinn et al. (2008) found homelessness to have long-term associations with mental health but not with mother- or child-reported health. Experiencing involuntary housing loss might also result in "economic scarring" akin to what workers sometimes experience after involuntary job loss, scarring that has been linked to persistent depressive symptoms (Gallo et al. 2006). A large body of evidence in psychology has found that acute stressful life events can cause recurrent episodes of major depression (Kessler 1997). Eviction may be one such episode. For these reasons, we hypothesize that *the effect of eviction on mental health outcomes—and mothers' depression in particular—will be resilient, lasting years after the event*.

Data and Methods

Data and Key Measures

We test our hypotheses by analyzing longitudinal data from the Fragile Families and Child Wellbeing Study (FFCWS), a survey that follows a birth cohort of new parents and their children. Initial interviews (Wave I) were conducted between 1998 and 2000 and contain information on 3,712 births to unmarried parents and 1,188 births to married parents from 20 US cities. Follow-up interviews were conducted at year one (Wave II), year three (Wave III), and year five (Wave IV). The survey oversampled unmarried mothers and contains a large sample of minority and disadvantaged women. The data include substantial information on the resources and relationships of parents and their effects on children.

We examine 2,676 mothers and children who were renting at the baseline wave and who persisted in the study through the fourth wave (when the child was approximately 5). Mothers who attrit before the fourth wave are less likely to be black and more likely to be Hispanic but otherwise are similar to mothers who persist on other characteristics and, importantly, are not more likely to have experienced an eviction by the third wave. To address missing data across all waves, we use Stata's ICE command to execute multiple imputation (Royston 2009). The fraction of missing data varied across measures but rarely exceeded 8 percent. We include both treatment and outcome measures in the imputation equation but in our analyses do not use imputed outcomes (von Hippel 2007). We estimate 20 complete data sets for analysis.

At each wave, the FFCWS study asked mothers, "In the past 12 months, were you evicted from your home or apartment for not paying the rent or mortgage?"[2] Because the FFCWS followed the conventions of material hardship surveys by simply asking respondents if they had been evicted during a certain time period (e.g., Mayer and Jencks 1989), it underestimated (likely drastically) the number of respondents who experienced eviction. As previous work has shown (Desmond 2012), tenants often have misguided perceptions of eviction; many who were evicted do not realize (or admit) as much. This is why studies based on court records produce larger estimates of the scope of eviction than those based on self-reports. New survey techniques designed to capture the mechanisms driving families' residential relocations—techniques that aim to record formal and informal

evictions—have found involuntary displacement to be common among low-income renters (Desmond and Shollenberger 2013). Because the FFCWS's eviction question likely did not capture all the evictions experienced by mothers in its sample, not only because some respondents who were involuntarily displaced likely reported otherwise but also because the data do not allow us to observe evictions that may have occurred when the child was between the ages of 1 and 2 and the ages of 3 and 4, other data are better suited to provide an estimate of the *frequency* of eviction among low-income families. However, because the FFCWS is a nationally representative, longitudinal data set that includes an item for eviction, it is an ideal data source to estimate the *effects* of an eviction. Our estimates of those effects are likely biased in a conservative direction, as some evicted families (who most likely experienced some of eviction's ramifications) were categorized as nonevicted.

Our event of interest is whether a mother experienced an "early eviction" (when the child was 0–1 or 2–3) or a "recent eviction" (when the child was 4–5). We examine the effects of recent and early evictions on six outcomes, each assessed during the fourth wave of the study (when the focal child was 5). *Material hardship* is a scale ($\alpha = .71$) composed of 10 dichotomous items that are summed and the resulting scale standardized such that higher values represent more hardship. The items measure a mother's ability to obtain basic necessities (e.g., food, clothing, medicine). *Income-to-poverty ratio* is a continuous ratio of the household's total income to the federal poverty threshold for a household of that size.[3] *Mothers' and children's health status* was measured with the same question: "In general, would you say (your/your child's) health is…excellent, very good, good, fair, or poor?" Because the proportional odds assumption was not met, we dichotomize this outcome into "fair/poor" for both mothers and children. We rely on a dichotomous indicator to measure *depressive symptoms* in mothers. Mothers were asked a series of questions, focused on experiences in the previous 12 months, based on the Composite International Diagnostic Interview Short Form (CIDI-SF). Respondents were asked whether they had feelings of dysphoria (depression) or anhedonia (inability to enjoy what is usually pleasurable) in the past year that lasted for two weeks or more, and if so, whether the symptoms lasted most of the day and occurred every day of the two-week period. If so, they were asked more specific questions about: (a) losing interest, (b) feeling tired, (c) change in weight, (d) trouble sleeping, (e) trouble concentrating, (f) feeling worthless, and (g) thinking about death. Mothers were classified as probable cases of depression if they endorsed either dysphoria or anhedonia plus two of the other symptoms in the follow-up questions (leading to a CIDI-SF MD score of three or higher) (Kessler et al. 1998).[4] Finally, *parenting stress* is an index composed of four questions asking mothers about parenting difficulties. To create the index, we summed responses to a scale, with higher values representing higher stress ($\alpha = .92$). Questions used to construct the material hardship and parental stress indices are reproduced in the appendix.[5]

Analytical Strategy

Seven percent of the sample experienced an eviction by the time the focal child was 5. Five percent experienced an "early eviction" (when the child was 0–1 or

2–3), and two percent experienced a "recent eviction" (when the child was 4–5). As we noted above, these numbers are very conservative estimates of the frequency of eviction. Some respondents ($N = 23$) experienced both early and recent evictions. To maximize sample size, all models estimating the effects of a recent eviction retained mothers who had experienced a prior eviction. Excluding repeat evictees from those models generated nearly identical results.

The effect of eviction on various outcomes is difficult to isolate, owing to a number of factors potentially related to both the likelihood of eviction and our outcomes. As we emphasized above, eviction is not always a predictable outcome of certain behaviors or chained events. Not all tenants who fall behind or break their rental agreement are evicted, and not all evictees fell behind or egregiously violated their rental agreement. Forced moves may be caused by landlord foreclosure, tenant-landlord disputes, building condemnations, and other factors exogenous to tenant behavior (Desmond and Gershenson 2015). Nevertheless, it is important to compare evicted and nonevicted families to determine whether there are multiple and meaningful differences between the two groups.

Significant differences between evicted and nonevicted respondents were detected along several key measures (see table 1). With respect to our outcome variables, mothers who experienced an eviction are more likely to be depressed and to experience higher parenting stress; they also report higher material hardship, lower income-to-poverty ratios, and worse health status for themselves and their child. Whether such differences are due to the eviction itself—or to characteristics that would predict both poorer outcomes and eviction—is the central question we test in our analyses.

Because respondents who have been evicted were found to be observationally different from those who have not been, standard regression techniques that estimate the average assocation of two variables across a large group of heterogeneous respondents would likely produce biased estimates of the effects of eviction, irrespective of the number of factors for which we controlled. More accurate and rigorous estimates of the effects of eviction can be generated by employing propsensity score analyses. Propensity score estimation techniques apply an experimentalist logic to observational data, allowing us to compare mothers matched along a multitude of characteristics but who differ by whether they were exposed to a treatment (eviction). This study relies on two propensity score techniques: propensity score weighting and nearest-neighbor matching. Table 1 presents descriptive statistics for all variables included in our models, indicating which variables were used to predict propensity scores for both early and recent evictions. The goal of propensity score methods is to produce the best estimate of a treatment's effects by comparing a treatment and control group that are as similar as possible, a similarity achieved when covariates across groups are "balanced" (Becker and Ichino 2002). Because for each type of eviction we retain the maximum number of covariates for matching that satisfied the balancing property, a significant number of demographic, neighborhood, and city variables were used to generate propensity scores (see table 1).

All respondents in our sample received a propensity score, the predicted probability of treatment. Once it was ensured that covariates in the treatment and control groups were balanced, the sample was restricted to the region of common support

Table 1. Descriptive Statistics, Fragile Families and Child Wellbeing Study, Renters at Baseline (*N* = 2,676)

	Full sample	Evicted	Not evicted	Recent evictions		Early evictions	
	% or mean	% or mean	% or mean	PS	ATT	PS	ATT
Eviction measures							
Ever experienced an eviction (*N* = 193)	0.07	–	–	–	–	–	–
Early eviction (child aged 0–3) (*N* = 147)	0.05	–	–	–	–	–	–
Midrange eviction (child aged 2–3) (*N* = 77)	0.03						
Recent eviction (child aged 4–5) (*N* = 64)	0.02	–	–	–	–	–	–
Outcome measures (child age 5)							
Material hardship (standardized)	0.00	0.82	–0.06***	–	–	–	–
Income-to-poverty ratio	1.59	1.07	1.62***	–	–	–	–
Mother's poor/fair health	0.16	0.27	0.15***	–	–	–	–
Child's poor/fair health	0.05	0.11	0.04***	–	–	–	–
Maternal depression	0.17	0.34	0.16***	–	–	–	–
Parenting stress	8.83	9.59	8.78**	–	–	–	–
Shocks (in previous 12 months)					–	–	–
Father incarcerated (since child age 3)	0.22	0.40	0.21***	–	–	–	–
Mother's relationship dissolved	0.24	0.35	0.23**	–	–	–	–
Mother had an additional child	0.24	0.23	0.24	–	–	–	–
Sanctioned from welfare/TANF	0.03	0.08	0.03**	–	–	–	–
Demographics							
Race (Ref: White)	0.15	0.17	0.16				
Black	0.53	0.56	0.53				
Hispanic/other	0.32	0.27	0.32	x	x	x	x

Mother is foreign born	0.17	0.05	0.18***				
Mother's age at first birth	20.8	19.9	20.9*	x	x	x	x
Mother's parity – Wave I	1.19	1.35	1.18	x	x	x	x
Socioeconomic status							
Household income ($10,000 s) – Wave I	2.37	1.95	2.40**			x	x
Household income ($10,000 s) – Wave III	2.76	1.81	2.83***	x	x		
Mother's education (Ref: Less than HS)	0.39	0.49	0.38				
HS	0.32	0.30	0.32	x	x	x	x
Some college +	0.29	0.21	0.30*				
Mother employed – Wave I	0.52	0.53	0.52			x	x
Mother employed – Wave II	0.50	0.49	0.50				
Mother employed – Wave III	0.53	0.44	0.54*	x	x		
Father employed – Wave I	0.77	0.71	0.77			x	x
Father employed – Wave II	0.67	0.54	0.68***				
Father employed – Wave III	0.67	0.57	0.68**	x	x		
Family does not have a credit card – Wave II	0.66	0.80	0.65***				
Family does not have a credit card – Wave III	0.68	0.83	0.67***	x	x		
Child care cost per week – Wave II	44.1	40.9	44.3				
Child care cost per week – Wave III	68.6	32.8	71.4	x	x		
Rent paid – Wave II	416.5	453.1	413.9				
Rent paid – Wave III	450.1	392.4	454.1*	x	x		
Family owns a car – Wave II	0.41	0.37	0.41	x	x		

(Continued)

Table 1. ***continued***

	Full sample	Evicted	Not evicted	Recent evictions		Early evictions	
	% or mean	% or mean	% or mean	PS	ATT	PS	ATT
Family characteristics							
Grandmother in household – Wave I	0.19	0.15	0.20	x	x	x	x
Number of adults in household – Wave I	2.2	2.1	2.2	x	x	x	x
Mother's relationship status							
(Ref: Married) – Wave I	0.18	0.08	0.19			x	x
Cohabiting – Wave I	0.42	0.54	0.41**			x	x
Single – Wave I	0.40	0.39	0.40			x	x
(Ref: Married) – Wave III	0.27	0.16	0.28	x	x		
Cohabiting – Wave III	0.33	0.34	0.33	x	x		
Single – Wave III	0.40	0.50	0.39**	x	x		
Father ever incarcerated – Wave II	0.36	0.51	0.35***				
Father ever incarcerated – Wave III	0.46	0.65	0.45***	x	x		
Legal paternity established – Wave II	0.74	0.68	0.75*	x	x		
Days per month father sees child – Wave II	22.5	19.7	22.7**				
Days per month father sees child – Wave III	21.5	18.9	21.7**	x	x		
Father is sometimes late with child support – Wave II	0.08	0.14	0.07**				
Father is sometimes late with child support – Wave III	0.15	0.23	0.14**	x	x		
Father has child support order for another child – Wave II	0.20	0.29	0.19**				
Father has child support order for another child – Wave III	0.22	0.26	0.21	x	x		

Mother has health problem that limits work – Wave II	0.08	0.13	0.08*				
Mother has health problem that limits work – Wave III	0.10	0.15	0.09**	x	x		
Father has health problem that limits work – Wave II	0.08	0.10	0.08				
Father has health problem that limits work – Wave III	0.09	0.13	0.08*	x	x		
Father has a drug or alcohol problem – Wave II	0.09	0.18	0.08***				
Father has a drug or alcohol problem – Wave III	0.10	0.18	0.09**	x	x		
Public assistance							
Birth paid for with Medicaid – Wave I	0.70	0.78	0.70*			x	x
Receives SSI – Wave I	0.09	0.10	0.09			x	x
Receives SSI – Wave II	0.04	0.06	0.04				
Receives SSI – Wave III	0.06	0.05	0.06	x	x		
Receives housing voucher/assistance – Wave I	0.19	0.21	0.19			x	x
Receives housing voucher/assistance – Wave II	0.20	0.18	0.20				
Receives housing voucher/assistance – Wave III	0.24	0.24	0.24	x	x		
Receives public assistance of any kind – Wave I	0.43	0.54	0.42**	x	x	x	x
Lives in public housing – Wave I	0.16	0.15	0.16			x	x
Lives in public housing – Wave II	0.21	0.20	0.21	x	x		
Lives in public housing – Wave III	0.17	0.14	0.17				
Received EITC – Wave II	0.35	0.31	0.35				
Received EITC – Wave III	0.45	0.52	0.44†	x	x		
Receives assistance from any agency – Wave II	0.85	0.89	0.84				
Receives assistance from any agency – Wave III	0.79	0.88	0.78**	x	x		
Sanctioned from welfare/TANF – Wave II	0.05	0.11	0.05**				

(Continued)

Table 1. ***continued***

	Full sample	Evicted	Not evicted	Recent evictions		Early evictions	
	% or mean	% or mean	% or mean	PS	ATT	PS	ATT
Social support							
High instrumental support – Wave II	0.50	0.36	0.52***				
High instrumental support – Wave III	0.48	0.29	0.49***	x	x		
Frequency of religious attendance – Wave I	3.03	3.15	3.03			x	x
Frequency of religious attendance – Wave II	3.58	3.72	3.57				
Frequency of religious attendance – Wave III	4.26	4.41	4.24	x	x		
Neighborhood and city characteristics							
Number of years lived in neighborhood – Wave I	2.80	2.53	2.82	x	x	x	x
Neighborhood is unsafe at night – Wave I	0.20	0.27	0.19*	x	x	x	x
Number of moves between birth and age five	2.32	2.19	4.01***				
Owner-occupied housing, city	0.47	0.48	0.47	x	x	x	x
Average household size for renters, city	2.43	2.42	2.43	x	x	x	x
Rental housing vacancy rate, city	0.06	0.06	0.06	x	x	x	x
Median rent, city	621.2	608.0	622.2	x	x	x	x
Median number of rooms per unit, city	4.84	4.88	4.84	x	x	x	x
Median gross rent as % of household income, city	0.27	0.26	0.27†	x	x	x	x
N	2,676	193	2,483				

Note: Chi-squared or *t*-tests were used to compare evicted and nonevicted families. If a variable was used to calculate propensity scores for the propensity weighted models (PS) or the ATT matching models (ATT), it is indicated with an "x." The shocks and residential mobility variables were not included in the weighting or matching equations, because only factors that are temporally prior to the treatment can be included in the propensity score model. Rather, they are included as adjustments after weighting and matching.

†$p < .1$ *$p < .05$ **$p < .01$ ***$p < .001$

(which excluded two cases), meaning that the distribution of propensity scores for treatment and control cases overlapped. Within each imputed data set, each treated respondent was then matched with a control case, using nearest-neighbor matching with replacement. Next, we estimated the average treatment effect on the treated (ATT), which allows us to estimate the effect of an eviction on our outcomes by comparing the averages across treatment and control groups. Additionally, because matching is imperfect and differences between treatment and control cases may remain, we also present estimates of the ATT after further adjustment for covariates (Shafer and King 2008). Adjusting covariates involved estimating the ATT after matching and while controlling covariates (Rosenbaum 2002); this helps eliminate any residual bias between the two groups, post-matching.

Because we have a small number of treated cases (evictions) in our sample, standard matching techniques exclude a large number of respondents. Accordingly, we also develop a weighted propensity score model. This method increases our efficiency and statistical power by allowing us to retain the full sample and allows us to assess the robustness of our findings from propensity score matching. Here, we use propensity scores to calculate a weight for each respondent, thereby assigning all treated (evicted) cases a value of 1 and weighting all untreated cases according to their estimated propensities for eviction (Hirano and Imbens 2001). Formally, the weight is calculated as follows:

$$\omega(t, z) = t + (1 - t) * \check{e}(z) / (1 - \check{e}(z)),$$

where ω is the weight, t is a dichotomous treatment measure, and ě(z) represents the propensity score for each respondent. We then estimate linear or logistic regression models (depending on the outcome) treating propensity score weights as sampling weights. Respondents who were not evicted, but who have the highest propensities for eviction, are weighted more heavily.

Utilizing propensity score matching and weighting techniques allows us not only to present rigorous estimates of the effects of eviction but also to replicate our estimates in multiple models, reinforcing confidence in our findings. ATT models estimate the effect of an eviction by comparing the averages of the treatment and control cases. For linear outcomes, this involves direct comparisons with regression coefficients (as the latter also are averaged over respondents); for dichotomous outcomes, this involves calculating and comparing predicted probabilities for evicted and nonevicted respondents (which are more directly comparable to the unadjusted ATT estimates). To estimate the matching propensity scores, we utilize Stata's PSMATCH2 (Leuven and Sianesi 2003) command (nearest neighbor matching), revising the program to incorporate both correct standard errors for multiply imputed data sets as well as the ability to compute the ATT for dichotomous outcomes. Identical sets of covariates were used for the propensity score matching and weighting models. A number of additional covariates also were tested (not shown), and we retained the maximum number of covariates for both "early" and "recent" evictions that satisfied the balancing property.

The sets of covariates differ between models evaluating the effects of "early" and "recent" evictions because we can include only covariates for matching that

are temporally prior to the treatment (eviction). For example, we use household income at Wave I when calculating propensity scores for early evictions and household income at Wave III when calculating propensity scores for recent evictions. Also, we could not include residential mobility and life shocks when calculating propensity scores, as these variables are contemporaneous with our outcomes and occurred after the observed evictions. Instead, post-weighting and post-matching, we control for residential mobility—the number of moves a family has experienced between birth and age 5—and a set of contemporaneous (between child age 4–5) shocks: whether the father was incarcerated, whether the mother's relationship had dissolved, whether the mother had an additional child, and whether the mother had been sanctioned from TANF.

Propensity score analyses allow us to address treatment selection conditional on observed covariates. To address possible bias introduced by unobserved factors, we employ two additional techniques to further assess the robustness of our findings. First, we use placebo regression, predicting our outcomes at Wave III instead of Wave IV for recent evictions; that is, the outcome precedes the treatment. This allows us to test whether the observed relationships from our propensity score models may be spurious. (Because our models for early evictions measure the effects of an eviction that occurred during the first wave of data collection, we were unable to test for bias with placebo regression. When the treatment is measured at Wave I, there is no scenario in which the outcome precedes treatment.) Second, to assess whether respondents' stable but unobserved characteristics are influencing our observed relationships, we rely on OLS or logit models with fixed effects. These models investigate whether a recent or early eviction is associated with a change in our outcome measures between Waves III and IV. We account, additionally, for several time-varying factors across Waves III and IV to address the possibility of confounding due to time-varying observed characteristics.

Results

Tables 2 and 3 display the estimated effects of recent and early evictions, respectively. In both tables, model 1 presents a propensity score-weighted regression model without the contemporaneous shocks, and model 2 adds the shocks. Model 3 presents estimates from the ATT matching model without shocks, model 4 adds the shocks, and model 5 presents the same ATT estimates as in model 4 but further conditioned on a set of relevant covariates.[6]

Effects of a Recent Eviction

We turn first to results estimating the effect of a recent eviction on the wellbeing of mothers and children when the focal child is 5 (see table 2). Across all models, there is a large and robust relationship between a recent eviction and material hardship. Regardless of the estimation technique, respondents who experienced an eviction in the past year report around one standard deviation higher material hardship. We found eviction to be associated with reductions in the income-to-poverty ratio, although this relationship becomes insignificant in ATT models 3–5. In order to more directly compare the results from the logit models for our

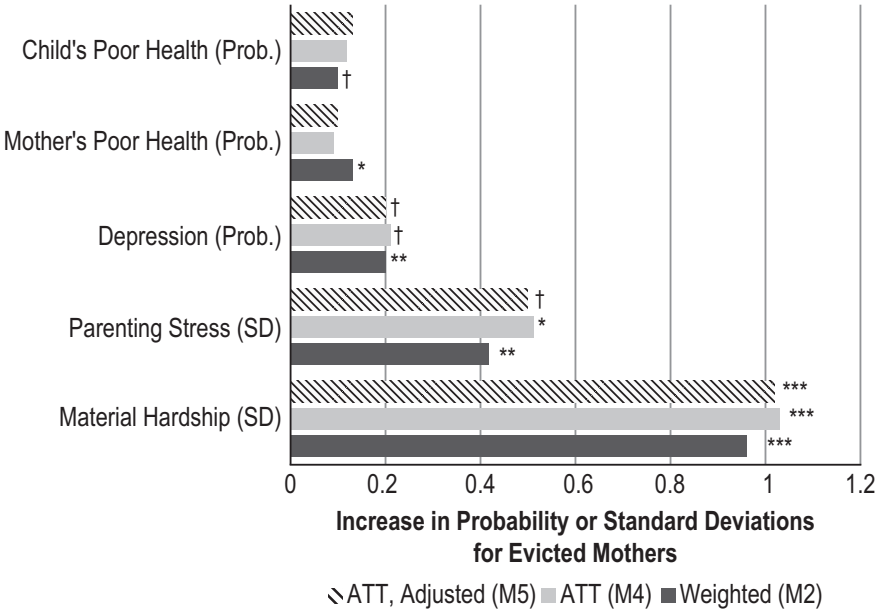
Table 2. Effects of a Recent Eviction (child age 4–5) on Maternal and Child Wellbeing Outcomes at Child Age 5

	Propensity score weighting ($N = 2{,}676$)		Propensity score matching ($N = 122$)		
	Model 1	Model 2	Model 3	Model 4	Model 5
	No shocks	With shocks	No shocks	With shocks	Regression adjusted, with shocks
Outcome	Coefficient		ATT		
Material hardship	0.99*** (0.16)	0.96*** (0.16)	1.06*** (0.23)	1.03*** (0.24)	1.02** (0.29)
Poverty ratio	–0.35** (0.11)	–0.30** (0.11)	–0.38 (0.31)	–0.34 (0.31)	–0.35 (0.33)
Parenting stress	1.19** (0.39)	1.18** (0.38)	1.42* (0.64)	1.45* (0.68)	1.41† (0.73)
	Difference in predicted probabilities, evicted vs. not evicted		ATT		
Mother's poor health	0.14* (0.07)	0.13* (0.06)	0.11 (0.10)	0.09 (0.11)	0.10 (0.11)
Child's poor health	0.10* (0.05)	0.10† (0.06)	0.11 (0.07)	0.12 (0.08)	0.13 (0.09)
Maternal depression	0.21** (0.07)	0.20** (0.07)	0.22* (0.11)	0.21† (0.11)	0.20† (0.11)

Note: Standard errors are in parentheses. All models control for residential mobility. ATT estimates represent the average treatment effect on the treated. Weighted models for mother's health, child's health, and depression are dichotomous outcomes estimated with logistic regression models; the difference in predicted probabilities for evicted and not evicted respondents are calculated for these outcomes to better compare to ATT estimates.
†$p < .1$ *$p < .05$ **$p < .01$ ***$p < .001$

dichotomous outcomes with the propensity score weighted models, we calculate predicted probabilities from models 1 and 2 and assess the *average probability change* for evicted and nonevicted respondents. The weighted logit coefficient estimate from model 1 is equivalent to a .14 difference ($p < .05$) in the probability of mother's poor health, and a .10 difference ($p < .05$) in the probability of child's poor health, for evicted mothers compared to nonevicted mothers. This means, for instance, that for two mothers who are very similar, but only one experiences an eviction, the mother who is evicted is more than twice as likely to report that her child is in poor health. Adding the shocks in model 2 does not substantively change the estimates. These probability difference estimates from models 1 and 2 are very similar to the ATT estimates in models 3–5, demonstrating that the two different estimation techniques result in similar findings. Although the estimates are substantively similar, for models 3–5, the difference between evicted and non-evicted mothers on both health measures is not significant, which is likely an artifact of the much smaller sample sizes for these models.

Figure 1. Increase in probability or standard deviations for evicted mothers, estimated effects of a recent eviction (models 2, 4, and 5 of table 2); † $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$



Evicted mothers also were far more likely to report depression, equating to a predicted probability difference of approximately .21 across model specifications; or from model 1, about twice the likelihood (.47 versus .26). This effect drops to marginal significance in models 4 and 5. Finally, models 1 through 4 report a significant and large effect of an eviction on parenting stress. Mothers who experienced a recent eviction score more than one point higher on the parenting stress scale across specifications.

Figure 1 summarizes the statistically significant findings of models 2, 4, and 5. For five wellbeing outcomes, the figure graphs the increase in standard deviations or the difference in probability (for dichotomous outcomes), comparing mothers who experienced a recent eviction to otherwise similar mothers who did not. The pronounced effect of a recent eviction on mother's material hardship should not overshadow the fact that the effects on the other outcomes are substantively large as well. Evicted mothers report roughly half a standard deviation more parenting stress and worse self-reported health, and their probability of suffering from depression is approximately .2 higher than their peers.

We do not know the exact timing of the evictions, only that they occurred in the 12 months prior to the interview. This is unproblematic for the outcomes child's health status and parenting stress, which are asked about at the time of the interview. However, material hardship, mother's health status, depression, and income-to-poverty are asked about "in the prior 12 months." Accordingly, it is possible that a decline in the outcome would precede the eviction, rather than the other way around. To address this issue, we conducted a sensitivity analysis by

restricting evictions to those between child age 2–3, which we term "midrange evictions," and estimated the exact same models presented in table 2. Doing so ensures that the eviction preceded the measurement of our outcome and is an especially stringent test given that the eviction took place as much as three years before the outcome was assessed. The results for midrange evictions are presented in the appendix (table A1) and show that experiencing a midrange eviction is associated with all of our outcomes except poor child health. Mothers who experienced a midrange eviction reported half a standard deviation higher material hardship between two and three years later, had lower income-to-poverty ratios, reported that their own health was poorer, were more likely to be depressed, and reported higher parenting stress than their nonevicted peers. In fact, the predicted probabilities for maternal health and depression show stronger differences than did our more recent eviction models. None of the ATT models for midrange evictions are significant, which we believe to be an artifact of the even smaller sample sizes used for the matching, as there were only 77 midrange evictions.[7]

Effects of an Early Eviction

We now turn to results estimating the effect of an early eviction (table 3). Across all models, an early eviction is associated with an increase in mothers' material hardship. Each model reports an approximate effect size of one-third of a standard deviation higher on the material hardship scale. Models 1 and 2 ($p < .05$), and 3 and 5 ($p < .1$) also indicate that mothers who experienced eviction are more likely to report depression several years later. For example, model 2 estimates the probability of depression for mothers to be .31 for those who have experienced an early eviction and .20 for those who have not, a difference that is statistically significant ($p < .05$).

These analyses suggest, then, that eviction has long-term negative consequences for mothers' material hardship and depression. However, it is important to recognize for both outcomes that these effects are reduced to insignificance or marginal significance in some of the matching models. With respect to the effect of an early eviction on material hardship, models 3 and 4 ATT estimates are marginally significant ($p < .1$). For maternal depression, models 3 and 5 are marginally significant and model 4 does not find significant effects of an early eviction on depression. Across all models, the magnitude of the effects of an early eviction on material hardship and depression are smaller than those of a recent eviction. This suggests (intuitively) that the influence of eviction on multiple outcomes shrinks over time and is felt less acutely—but is still felt—years after forced removal. Owing to the relatively small number of eviction cases in our sample, only large differences will be detected with significance in the matching models. We believe these factors help explain why the effects of an early eviction on material hardship and depression are of limited (or non-) significance in models 3–5.

Additional Sensitivity Analyses

Having accounted for dozens of observed covariates, we now ask: What about possible spuriousness introduced by unobserved factors? To first test for

Table 3. Effects of an Early Eviction (child age 0–1 or 2–3) on Maternal and Child Wellbeing Outcomes at Child Age 5

	Propensity score weighting ($N = 2{,}676$)		Propensity score matching ($N = 236$)		
	Model 1	Model 2	Model 3	Model 4	Model 5
	No shocks	With shocks	No shocks	With shocks	Regression adjusted, with shocks
Outcome	Coefficient		ATT		
Material hardship	0.36** (0.12)	0.31** (0.12)	0.30† (0.16)	0.28† (0.16)	0.33* (0.16)
Poverty ratio	–0.14 (0.11)	–0.09 (0.10)	–0.09 (0.16)	–0.05 (0.16)	–0.09 (0.15)
Parenting stress	0.15 (0.28)	0.05 (0.27)	0.49 (0.46)	0.45 (0.46)	0.62 (0.46)
	Difference in predicted probabilities, evicted vs. not evicted		ATT		
Mother's poor health	0.08† (0.05)	0.07 (0.05)	0.06 (0.06)	0.05 (0.06)	0.07 (0.06)
Child's poor health	0.01 (0.03)	0.01 (0.03)	0.01 (0.04)	0.01 (0.04)	–
Maternal depression	0.13* (0.05)	0.11* (0.05)	0.10† (0.06)	0.09 (0.06)	0.11† (0.06)

Note: Standard errors are in parentheses. All models control for residential mobility. ATT estimates represent the average treatment effect on the treated. Weighted models for mother's health, child's health, and depression are dichotomous outcomes estimated with logistic regression models; the difference in predicted probabilities for evicted and not evicted respondents are calculated for these outcomes to better compare to ATT estimates. The regression-adjusted ATT estimate for poor child health did not converge.
†$p < .1$ *$p < .05$ **$p < .01$

spuriousness on account of omitted-variable bias in our models estimating the effect of a recent eviction, we performed a placebo regression sensitivity analysis. Rather than predicting outcomes at year five, this sensitivity analysis employs the same models to predict outcomes at year three. Because the outcome is prior to the treatment, there should be no relationship between the two. Results are presented in table 4. As in tables 2 and 3, the difference in predicted probabilities for evicted and nonevicted respondents are presented for the dichotomous outcomes. This test found no evidence of spuriousness between our treatment and outcomes, further reinforcing the robustness of the findings.

Finally, to assess whether any stable but unmeasured characteristics of families are influencing our estimated effects, we employ fixed-effects models, which hold constant respondents' traits that did not change over the course of the data collection. The results are presented in model 3 of table 5. In model 4, we further control for time-varying characteristics possibly associated with our outcomes,

Table 4. Placebo Regressions (*N* = 2,676)

Outcome	
Material hardship	0.42 (0.28)
Poverty ratio	–0.14 (0.23)
Parenting stress	0.33 (0.69)
Mother's poor health	0.12 (0.08)
Child's poor health	0.02 (0.09)
Maternal depression	0.06 (0.10)

Note: Standard errors are in parentheses. These models replicate model 4 of table 2 with year-three outcomes.

including household income, maternal and paternal employment, father's incarceration, mother's relationship dissolution, whether the mother had an additional child, monthly rent paid, whether the father is sometimes late with child support, and whether the mother has been sanctioned from welfare. If unobserved, stable characteristics were producing the effects of recent evictions, the fixed-effects model would report smaller or insignificant estimates. For material hardship, child's health, and parenting stress, we do observe smaller estimates—but the difference is slight and the substantive interpretation remains the same. In fact, all of the significant associations generated from the propensity score analyses are replicated in the fixed-effects models, and the size of the estimates is similar. These results indicate that our estimates of the effects of a recent eviction are attributed neither to stable but unobserved characteristics nor to a number of time-varying, observed covariates.

We also use a fixed-effects model to assess whether an early eviction was associated with a change between Waves III and IV in mothers' material hardship or depression, the two outcomes our propensity score analyses found to be significant. As we expected, given the results of our matching models, we found only a marginally significant relationship between an early eviction and material hardship changes between Waves III and IV. However, both fixed-effects models found a significant effect for an early eviction on changes in maternal depression, similar in magnitude to those from both propensity score analyses, further confirming our finding that eviction may leave a deep impression on mothers' mental health (see models 1 and 2 in table 5).

Finally, one might also ask if the same set of mothers experienced all the adverse outcomes or if some experienced one type of consequence while others experienced another. To address this point, we created an adverse factors scale, which represents the total number of adverse factors, derived from our six outcomes, experienced by mothers in the sample. For the continuous measures,

Table 5. Fixed-Effects Regression Models for an Early and a Recent Eviction's Association with Changes in Outcomes between Waves III and IV (effective *N* = 2,676)

	Early eviction		Recent eviction	
	Model 1	Model 2	Model 3	Model 4
Outcome				
Material hardship	0.16† (0.08)	0.15† (0.08)	0.89*** (0.11)	0.87*** (0.11)
Poverty ratio	–	–	–0.36 (0.23)	–0.16 (0.24)
Parenting stress	–	–	1.07** (0.31)	0.99** (0.31)
Mother's poor health	–	–	0.10** (0.04)	0.10* (0.04)
Child's poor health	–	–	0.03* (0.02)	0.03† (0.02)
Maternal depression	0.07** (0.02)	0.07** (0.02)	0.15*** (0.03)	0.14*** (0.03)

Note: Standard errors in parentheses. Models 2 and 4 include time-varying covariates (between Waves III and IV) for household income, maternal and paternal employment, father's incarceration, mother's relationship dissolution, whether the mother had an additional child, monthly rent paid, whether a father is sometimes late with child support, and whether the mother had been sanctioned from welfare. Because mother's health, child's health, and depression are dichotomous outcomes, we present the difference in predicted probabilities for evicted and not evicted respondents to better compare to our other estimates.
†$p < .1$ *$p < .05$ **$p < .01$ ***$p < .001$

we dichotomized each one to represent a "high" level relative to the rest of the sample. (For example, we characterized mothers reporting in the 75th percentile of material hardship as experiencing material hardship.) The adverse factors scale ranges from 0 to 6. Next, we assessed whether the pattern of adverse factors differed for evicted and nonevicted respondents; here, we pooled early and recent evictions for an "ever evicted" measure. We found that the modal number of adverse factors is 0 for nonevicted mothers and 2 for evicted mothers. About 13 percent of evicted mothers report experiencing three factors; 14 percent report experiencing four; 5 percent report experiencing five factors; and 2 percent report experiencing all six. Thus, it seems that while adverse experiences for evicted mothers most often occur in tandem, the patterning and degree of compounded adversity vary.

Discussion

This study yielded two important findings. We found, first, that eviction results in multiple and multidimensional negative consequences for mothers. Mothers who were evicted the previous year experienced higher levels of material hardship and parenting stress and were more likely to suffer from depression and to report their health and that of their children as being poor. The effects of a recent eviction on

multiple outcomes were substantively large, statistically significant across multiple specifications, and robust to hidden bias. The year following eviction is incredibly trying for low-income mothers. Eviction spares neither their material, physical, nor mental wellbeing, thereby undermining efforts of social programs designed to help them. The hardship of this difficult hour may in turn lead to additional hardships, such as relationship dissolution or selecting into a disadvantaged neighborhood (Desmond and Shollenberger 2013). Moreover, because the evictions we observed in our sample occurred at a crucial developmental phase in children's lives, we expect them to have a durable impact on children's wellbeing (Hertzman 2010).

Second, we found that the impact of eviction on some outcomes may be stubbornly resilient, enduring years after families were forced from their homes. We found some evidence that at least two years after their eviction mothers still experienced significantly higher rates of material hardship and depression than their peers. In our matching models, these effects were found to be marginally (or non-) significant. And our fixed-effects models reported a significant effect of an early eviction on maternal depression and a marginally significant effect on material hardship. These results imply that our findings regarding the long-term effects of eviction deserve our reserve. However, that the effects of an early eviction on material hardship and depression were found to be robust across multiple model specifications does suggest that eviction has long-term effects on these outcomes.

On some measures, eviction may not simply drop poor mothers and their children into a dark valley, a trying yet relatively short section along life's journey; it may fundamentally redirect their way, casting them onto a different, and much more difficult, path. If evicted mothers experience higher rates of depression several years after their forced removal, as our findings indicate, that suggests that eviction has lasting effects on mothers' happiness and quality of life. This in turn could affect their relationships with their romantic partners and children, kin and neighbors; could cause them to withdraw from social institutions, dampening their civic engagement and level of community embeddedness; and could sap their energy, preventing them from seeking or keeping gainful employment or participating fully in their children's development (Karp 1996). We also found some evidence that eviction has long-term effects on mothers' material hardship. Material hardship is a measure of the lived experience of scarcity. It assesses, say, if mothers experienced hunger or sickness because food or medical care was financially out of reach. Accordingly, our finding that evicted households have significantly higher rates of material hardship years after they were forced to move suggests that eviction may itself be a cause, not simply a condition, of poverty.

Our primary analyses incorporated a large number of variables potentially related both to eviction and to our outcomes. To isolate as much as possible the unique effects of early and recent evictions, we accounted for residential mobility, attributes of mothers' neighborhoods and cities, life shocks, health problems, socioeconomic status, social support, and many other family and individual characteristics. Doing so decreased the likelihood of spuriousness and increased our confidence that we identified the effects of eviction and not the effects, say, of residential instability, relationship dissolution, or some other event.

However, this study is not without limitations. Above, we explained the advantages of using the FFCWS to assess the effects of eviction, but one limitation of

this data set is that our findings, while tested across multiple methods for robustness, are based on a small number of eviction cases. Second, although the attrition rate in the FFCWS is fairly low, a number of mothers interviewed early in the study could not be located for subsequent interviews.[8] The experiences of these mothers necessarily were excluded from our analyses. This is unfortunate since there is good reason to suspect that mothers who were not interviewed during later waves of the study were precisely those most likely to experience residential instability and homelessness, perhaps brought about by eviction. However, experiencing an early eviction was not a significant predictor of leaving the study by Wave IV.

To the extent that urban sociologists and city planners have focused on involuntary displacement from housing, they typically have done so by examining gentrification (Freeman and Braconi 2004; Newman and Wyly 2006). The act of forcing families from their homes, primarily through rent hikes, is central to the study of gentrification; and yet, curiously absent from this sweeping literature is rigorous empirical research that investigates whether displacement itself results in deep and lasting effects on adults and children. This study finds that eviction leads to economic hardship and health problems, but a thousand questions remain unanswered. Does displacement lead to family dissolution or job loss? By forcing families out of neighborhoods, does it sever network ties and the possibility of cultivating vibrant, civically active communities? The importance of documenting the fallout of involuntary displacement from housing has significant implications for current debates about gentrification. It is one thing if gentrification changes the character of urban neighborhoods but has little lasting effect on the displaced; it is quite another if forced displacement from housing has durable and significant effects on families' health and wellbeing.

But gentrification remains a narrow perspective through which to study involuntary displacement and residential instability among the urban poor. Most evictions take place in un-gentrifying neighborhoods (Desmond 2012) and are not the result of sudden rent hikes owing to neighborhood turnover but to missed rental payments, owing to the extreme degree to which many low-income households are rent burdened. Interest in gentrification far overshadows that on affordable housing; since 1980, for every social-scientific journal article in which "affordable housing" appears in the title, there are nearly three others featuring "gentrification." But investigating displacement among poor renters by studying gentrification is akin to documenting the causes of mortality by studying rare diseases, since in most cities gentrification is responsible for a very small fraction of involuntary moves (Kasarda et al. 1997). What is needed, then, is a sociology of displacement beyond gentrification, a new body of work that records the causes, dynamics, and consequences of forced removal from housing owing to the pedestrian workings of the low-income housing market in disadvantaged, segregated neighborhoods. By documenting the consequences of eviction, we have contributed toward such a project.

Although most low-income families live unassisted in the private market, most research on housing dynamics has to do with housing policy and programs. We know much more about public housing (which serves less than 2 percent of the population) than about inner-city landlords and their properties (which constitute

the bulk of housing for the ghetto poor) (e.g., Bratt, Stone, and Hartman 2006). We know much more about the effects of the "Moving to Opportunity" program, which served roughly 4,600 households, than the effects of eviction, likely experienced by millions of households each year. Evictions are but one aspect of the private rental market deserving of more research. The most direct connection between housing and poverty is the pervasiveness of severe rent burden in low-income communities. If poor families are spending the majority of their income to rent, what do they go without? Does the shortage of affordable housing affect social mobility opportunities or food scarcity, for example? Finally, sociologists could begin investigating how dynamics of the low-income housing market contribute to neighborhood dynamics. What role does landlord screening play in the concentration of disadvantage or criminality in some inner-city areas? What role do evictions play in high residential turnover and community destabilization? By pursuing questions like these, research focused on the low-income private rental market, that cut of the country in which the majority of poor families are found, would help pull housing back to the center of the poverty debate, where it belongs.

By providing evidence that eviction brings about a variety of negative outcomes, this study underscores the need for policymakers to focus their attention on forced removal. If eviction is linked to economic and health disparities, then effective eviction-prevention initiatives could go a long way toward addressing these enduring problems. Relatedly, because we find that evicted mothers and their children were more likely to suffer from health problems, directing eviction-prevention aid upstream potentially could lower healthcare costs incurred downstream.

Notes

1. But this is not universally the case. A survey of tenants in housing court who received eviction judgments found that 14 percent planned to live with kin or friends, 15 percent had found another apartment, 12 percent were planning on staying in a hotel or shelter or on the street, and the remaining 53 percent simply did not know where they would stay after their eviction (Desmond 2012). Sometimes eviction results in homelessness—itself coming in many different forms: doubling up, living on the street, taking refuge in a shelter—and sometimes it does not. Studying the effects of eviction is not the same thing as studying the effects of homelessness.
2. This wording does not allow us to distinguish between tenants who were evicted formally (and carry the mark of an eviction on their record) and those who were evicted informally (and are spared an eviction record).
3. Our income-to-poverty measure is based on the federal poverty threshold for the year prior to each survey wave.
4. Our results are robust to varying the cut-point for the depression scale as well as to negative binomial models estimating the number of depressive symptoms respondents reported.
5. In supplementary analyses, we constructed fixed-effects models that accounted for the Wave III outcomes. Additionally, we replicated our regression models by including Wave III outcomes as covariates. Doing so did not significantly alter our main results. Because our fixed effects models account for unobserved confounders and assess

changes in our outcomes between Waves III and IV, we have not displayed those results here. They are available upon request.

6. For "early evictions," model 5 adjusts, post-matching, for race/ethnicity, mother's nativity, whether the father had ever been incarcerated, parity, whether a grandmother lived in the household at the time of the birth, how many adults live in the household, how long the mother has lived in her neighborhood, whether she receives housing assistance, whether she feels safe in her neighborhood, whether she lived in public housing at Wave I, maternal and paternal employment status, relationship status at Wave I, whether the family received any public assistance at Wave I, whether the family received SSI or unemployment at Wave I, mother's education, whether the family paid for the birth with Medicaid, the total household income at Wave I, whether paternity had been established, and the mother's age at her first birth. For "recent evictions," Model 5 adjusts, post-matching, for race/ethnicity, parity, the number of adults in the household, whether the father had ever been incarcerated, whether a grandmother lived in the household at the time of the birth, maternal and paternal employment status, mother's education, relationship status at Wave III, how long the mother had lived in her neighborhood, whether she received housing assistance, whether she feels safe in her neighborhood, whether she lived in public housing, whether the family received any public assistance at Wave I, whether the family owned a car at Wave II, monthly rent paid, monthly childcare costs, whether the father is ever late with child support, whether the mother reports high social support, whether the family received the EITC, whether the mother or father had any health problems that affected their ability to work, total household income at Wave III, how many days per month the father sees the child, whether legal paternity had ever been established, the mother's age at first birth, and whether the family has a credit card at Wave III.
7. We also conducted a sensitivity test by restricting evictions to those between child age 0–1, which we term "very early evictions." The results (not shown) were similar to the results for "midrange evictions," though the associations were generally smaller in magnitude, as would be expected.
8. Eighty-nine percent of the original sample of mothers were re-interviewed in Wave II, 86 percent in Wave III, and 85 percent in Wave IV.

Appendix

Material Hardship Scale Items

Mothers were asked if in the past twelve months they did "any of the following because there wasn't enough money."

1. Did you receive free food or meals?
2. Was (CHILD) ever hungry, but you just couldn't afford more food?*
3. Were you ever hungry, but didn't eat because you couldn't afford enough food?*
4. Did you not pay the full amount of a gas, oil, or electricity bill?
5. Was your gas or electric service ever turned off, or the heating oil company did not deliver oil, because there wasn't enough money to pay the bills?
6. Did you borrow money from friends or family to help pay bills?
7. Was there anyone in your household who needed to see a doctor or go to the hospital but couldn't go because of the cost?

8. Have you cut back on buying clothes for yourself?
9. Have you worked overtime or taken a second job?
10. Was your telephone ever disconnected by the telephone company because there wasn't enough money to pay the bill?

* These items were asked in the Wave IV follow-up only.

Parenting Stress Items

Mothers were asked whether they strongly agreed, somewhat agreed, somewhat disagreed, or strongly disagreed with the following statements.

1. Being a parent is harder than I thought it would be.
2. I feel trapped by my responsibilities as a parent.
3. I find that taking care of my children is much more work than pleasure.
4. I often feel tired, worn out, or exhausted from raising a family.

Table A1. Effects of a "Midrange" Eviction (child age 2–3) on Maternal and Child Wellbeing Outcomes at Child Age 5

	Propensity score weighting ($N = 2,676$)		Propensity score matching ($N = 154$)		
	Model 1	Model 2	Model 3	Model 4	Model 5
	No shocks	With shocks	No shocks	With shocks	Regression adjusted, with shocks
Outcome	Coefficient		ATT		
Material hardship	0.56** (0.17)	0.53** (0.17)	0.33 (0.25)	0.31 (0.26)	0.35 (0.29)
Poverty ratio	–0.32* (0.15)	–0.28† (0.15)	–0.51 (0.40)	–0.43 (0.40)	–0.06 (0.23)
Parenting stress	0.95* (0.40)	0.89* (0.40)	0.66 (0.67)	0.65 (0.68)	0.56 (0.79)
	Difference in predicted probabilities, evicted vs. not evicted		ATT		
Mother's poor health	0.21** (0.07)	0.20** (0.07)	0.13 (0.09)	0.13 (0.10)	0.14 (0.11)
Child's poor health	0.05 (0.05)	0.04 (0.05)	–	–	–
Maternal depression	0.25** (0.08)	0.24** (0.08)	0.15 (0.09)	0.14 (0.09)	0.16 (0.10)

Note: All models control for residential mobility. ATT estimates represent the average treatment effect on the treated. Weighted models for mother's health, child's health, and depression are dichotomous outcomes estimated with logistic regression models; the difference in predicted probabilities for evicted and not evicted respondents are calculated for these outcomes to better compare to ATT estimates. ATT models for child's health would not converge.
†$p < .1$ *$p < .05$ **$p < .01$ ***$p < .001$

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