PUNISHED FOR THEIR FATHERS?
SCHOOL DISCIPLINE
AMONG CHILDREN OF THE PRISON BOOM

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ABSTRACT

An excessive emphasis on punishment in the United States has led to high rates of exclusionary school discipline for children and unprecedented levels of incarceration for adults. Prior research suggests that suspension or expulsion from school may increase risk of incarceration, but in this paper, I assess whether the reverse association occurs within families. Specifically, I examine whether a father’s incarceration is associated with greater risk of his child being suspended or expelled in elementary school. Using data from the Fragile Families and Child Wellbeing Study, I examine the association between paternal incarceration and school discipline by age nine. Results suggest that paternal incarceration is associated with children’s increased risk of being suspended or expelled and that this association is partially explained by higher levels of child behavior problems following incarceration. My findings document an intergenerational and interinstitutional link between two forms of punishment and add to a growing body of research on consequences of mass incarceration for educational inequality.
As incarceration rates remain at unparalleled levels in the United States, rates of school discipline are also high. The number of children suspended from school in the 2009-2010 school year exceeded the nation’s incarcerated population by nearly a million (Losen and Gillespie 2012; Glaze and Herberman 2013), and both systems of punishment disproportionately affect African American males (Pettit and Western 2004; Skiba, Shure, and Williams 2012). Prior research finds suspension associated with later incarceration and other criminal justice involvement (Fabelo et al. 2011; Mowen and Brent in press; Shollenberger 2015) but conceptualizes the relationship as a one-way “school-to-prison pipeline” (Wald and Losen 2003).

In this paper, I suggest that among families, the reverse also occurs: a parent’s incarceration is associated with subsequent school discipline for their children.

In line with prior research on intergenerational consequences of the prison boom for educational outcomes (Hagan and Foster 2012; Johnson 2009; Turney and Haskins 2014; Haskins in press), I propose that a father’s incarceration is associated with increased risk of his child being excluded from school for disciplinary reasons (i.e., suspension and expulsion). A growing body of research suggests that some but not all of this association should be explained by higher levels of externalizing behavior problems following the incarceration of a father. To test these ideas, I use data from the Fragile Families and Child Wellbeing Study, a longitudinal birth-cohort study of urban-born children up to age nine. I find a positive association between paternal incarceration and school discipline that is partially explained by child behavior problems. Results are robust to alternative specifications of incarceration that address issues of unobserved heterogeneity and selection. They are also consistent across multivariate logistic regression and matching methods.
My findings suggest an intergenerational link between two widely used forms of institutional punishment. Given the high prevalence of exclusionary discipline, particularly among minorities and the poor (Raffaele Mendez, Knoff, and Ferron 2002; Vanderhaar, Petrosko, and Muñoz 2015), and the high incidence of paternal incarceration among children of the same demographics (Sykes and Pettit 2014), my results call for greater attention to how an overreliance on one severe form of punishment may influence another. By incapacitating fathers, criminal justice institutions may be unintentionally influencing the behavior of children, increasing their risk of exclusion from school and continuing a cycle of punishment among disadvantaged families.

BACKGROUND

Exclusionary Discipline in the United States

Exclusionary school discipline, defined as punishment involving the removal of a student from a classroom or school, includes in-school suspension (temporary exclusion from class), out-of-school suspension (temporary exclusion from school), and expulsion (permanent exclusion from school grounds). Expulsions are rare instances reserved for the most serious offenses, but suspensions are common. Political attention to rising juvenile crime rates in the 1980s (Browne et al. 2010) led schools to adapt more “zero-tolerance” approaches by increasing security measures (e.g., metal detectors, security officers, armed police) and employing harsher punishments (Gottfredson and Gottfredson 2001). School districts began mandating expulsions for violence, drugs, and gang-related activity in the early 1990s, but zero-tolerance approaches were soon being applied to less serious offenses and minor disruptions (California Legislative Counsel 2015; Maag 2012; Skiba 2000). For example, of the more than 155,000 incidents resulting in suspension or expulsion in Connecticut in the 2006-2007 school year, 70% were for
attendance problems, disrespect, or something other than violence, weapons, drugs, theft, or property damage (Connecticut Department of Education 2010).

These figures are worrisome given the potentially unstructured time suspended students spend outside their classrooms and growing evidence of negative consequences (Perry and Morris 2014). Ferguson (2001:39) writes, “[Out-of-school] suspension has the potential to be the freest space of all that children can win in a state of punishment. . . In general, there is little expectation that any schoolwork will be done on the part of the school, no monitoring procedures, and plenty of TV watching.” Away from the monitoring of teachers and school administrators, unstructured socializing is associated with higher levels of delinquency (Osgood and et al. 1996). Moreover, a suspension or expulsion may act as a negative label for children, prompting more deviance (Lemert 1951) and remaining on school records from year to year (Weissman 2015). Thus, whereas in the short term suspension or expulsion may mean falling behind in school and more unstructured socializing, in the long term it facilitates cumulative disadvantage (Sampson and Laub 1997). Indeed, prior research finds school discipline associated with grade retention, dropout, arrest, and incarceration (Arcia 2006; Arum and Beattie 1999; Balfanz, Byrnes, and Fox 2015; Davis and Jordan 1994; Fabelo et al. 2011; Mowen and Brent in press; Shollenberger 2015). For elementary school children, it may represent their first official sanction; for some, a precursor to criminal justice involvement.

National administrative data suggest the rise in school discipline is disproportionately affecting children of certain demographic groups. From the mid-1970s up through the mid-1990s, the proportion of elementary and secondary (i.e., middle and high school) students without disabilities who received at least one out-of-school suspension in the previous year increased by more than three quarters. Since then, it has hovered around 6% of students, with
rates for males on average more than 120% greater than females and rates for blacks and Hispanics continually increasing relative to whites (these figures based on my own estimates using data from the Office of Civil Rights: http://ocrdata.ed.gov/StateNationalEstimations). Disproportionality among blacks appears most dramatic; nearly 40% of all students who are suspended are black, even though they make up only 17% of the student population. Though much less frequent, similar disparities exist for expulsions. Whereas 0.2% of students were expelled in the 2009 to 2010 school year, among blacks and Hispanics the figures were 0.28% and 0.38% respectively.

Paternal Incarceration and Exclusionary School Discipline

As exclusion from school became increasingly common among disadvantaged children, exclusion from broader society became increasingly common for their parents. The US incarceration rate has risen by more than 4 times what it was in 1972 (National Research Council 2014). There are now nearly 2.3 million people, overwhelmingly men, in jail or prison (Glaze and Herberman 2013), and many are parents who lived with their children prior to incarceration (Mumola 2000). A disproportionate number of incarcerated men are black or Hispanic (Mauer and King 2007). Therefore, mass incarceration, like the overuse of school discipline, disproportionately affects minorities, especially blacks. Indeed, in a classroom of 25 white students, one will have a parent incarcerated by age 14, but in an equal-size classroom of black students, the number jumps to six (Wildeman 2009).

A growing body of research suggests that mass incarceration has negative consequences for children’s experiences in school (Hagan and Foster 2012; Turney and Haskins 2014; Haskins 2014), and some work touches on school discipline specifically. In two studies using small samples, authors find that children with a currently incarcerated mother (fathers were not
examined) are much more likely to experience suspension or expulsion than children without an incarcerated mother but with other similar characteristics (Hanlon et al. 2005; Trice and Brewster 2004). In another study, Shlafer and Poehlmann (2010) find qualitative evidence suggesting that children of incarcerated parents (mostly fathers) often experience suspension.

Finally, in probably the first large-scale quantitative examination of this issue, Johnson (2009) finds children of ever-incarcerated fathers but not mothers (examines both) to be at higher risk of suspension or expulsion. Importantly, he controls for a long list of potential confounders; however, comparisons are only made for children whose fathers have an incarceration history to those whose fathers have never experienced incarceration or other sanctions. This is an important comparison because it flags paternal incarceration as a salient indicator of childhood disadvantage. Nevertheless, the findings invite further investigation of the association between paternal incarceration and school discipline that (1) addresses unobserved heterogeneity between incarcerated and other fathers and (2) explores potential mechanisms of this association. I focus on fathers because maternal incarceration is much less common and because its effects on children’s behavior problems is less clear in prior research (Wildeman and Turney 2014).

**Paternal Incarceration and Child Behavior Problems**

Children of incarcerated fathers may be at greater risk of suspension or expulsion if they misbehave more in class. A well-established body of research finds evidence that paternal incarceration is associated with child aggression and adolescent delinquency (Geller et al. 2012; Haskins 2015; Murray, Farrington, and Sekol 2012; Roettger and Swisher 2011; Wakefield and Wildeman 2011; Wildeman 2010). Behavior problems may be responses to weakened family bonds and intensified economic strain following paternal incarceration. Prior studies find that when violence or severe addiction does not prevent fathers from already having strong bonds
with their children, incarceration breaks up families and reduces father involvement (Edin, Nelson, and Paranal 2004; Turney 2015). Family instability may increase children’s behavior problems (Ackerman et al. 1999) by reducing the quality of mothering and level of supervision (Astone and McLanahan 1991; Osborne and McLanahan 2007). Moreover, more than half of fathers in state prisons are the primary breadwinners in their families (Glaze and Maruschak 2008), putting those they leave behind at greater risk of economic and material hardship (Schwartz-Soicher, Geller, and Garfinkel 2011; Sugie 2012). Children often express economic strain emotionally through aggression or hyperactivity (Brooks-Gunn and Duncan 1997), increasing their risk of being removed from class or school.

Looking Beyond Behavior Problems

Ideally, students are disciplined for misbehavior, not background characteristics. Thus, after accounting for child behavior problems, paternal incarceration should have minimal influence on the decision to discipline. Nevertheless, prior literature suggests at least one reason why there might be an association: intergenerational stigmatization. Consistent with Braithwaite’s (1989:55) definition of stigmatization as shaming that produces a “class of outcasts,” Uggen, Manza, and Thompson (2006) find evidence of the emergence of a “criminal class” of previously incarcerated individuals who face legal and informal barriers to their rights and responsibilities as citizens (Geller and Curtis 2011; Pager 2003). Some studies contend that children who are affiliated with this class are also stigmatized (Murray 2007; Phillips and Gates 2011).

Little research examines such stigmatization in school, but a few studies offer important insights. Ferguson (2001:90-5) reports that the decisions educators make about individual students are influenced by the often distorted perceptions they have of students’ families. She
finds that once students are considered “at-risk,” their classroom behavior becomes more visible, increasing their risk of punishment. This may be due to heightened supervision over the student or a change in expectations about their behavior. Dallaire and colleagues (2010) find that when teachers know a parent has been incarcerated, they have lower expectations for the student, and lower expectations lead to poorer performance, especially among younger students (Rosenthal and Jacobson 1968). Findings by Dallaire and colleagues (2010) should be interpreted with caution because they use a small sample and focus specifically on maternal incarceration, but qualitative findings suggest their results may also apply to paternal incarceration. In a study by Weissman (2015:186) a boy describes how his teacher’s expectations are influenced by his father’s incarceration, “One time we were sitting in class and she really got upset with me and she said I’m going to be like my father … Right now he’s in jail and she said that I’m going to be like him … She thinks I’m going to be nothing.” The boy was suspended by the same teacher. Therefore, even after accounting for differences in behavior problems following the incarceration of a father, a child may still be at increased risk of school discipline due to stigmatization.

**STUDY CONTRIBUTIONS**

Building on prior research, I present a systematic examination of the intergenerational and interinstitutional association between two official sanctions. Specifically, I examine differences in children’s risk of being suspended or expelled from school by age nine that are associated with their fathers’ incarceration. I also assess the extent to which child behavior problems following paternal incarceration explain this important association. If children of incarcerated fathers are at greater risk of school discipline because they act out more, accounting for child behavior problems will render the association null. However, a remaining positive association could be due to intergenerational stigmatization or some other unobserved
mechanism. Enriching my analyses are the longitudinal design, abundant supply of covariates, and multiple reporters on school discipline, paternal incarceration, and child behavior problems, that are available in the Fragile Families Study.

Relying on comparisons between children whose fathers have any incarceration history and those whose fathers have never been incarcerated captures the breadth of this experience as a marker of disadvantage and allows for a larger and more representative sample. However, such comparisons are subject to greater bias due to unobserved heterogeneity between fathers caught up in the criminal justice system and those who are able to avoid it. To address this concern, I use two additional specifications of incarceration alongside this ever/never measure (Haskins 2014; Johnson 2009; Wildman 2010). The first focuses on the timing of the incarceration relative to covariates. In order to adjust for “selection into” incarceration (a greater likelihood of experiencing the “treatment”), covariates are observed prior to the father’s first incarceration experience. The second focuses on comparing “like with like” (Firebaugh 2008); it minimizes heterogeneity by limiting the whole sample to children whose fathers have ever been incarcerated and then comparing children whose fathers spent time in prison or jail recently to those whose fathers did not.

Using multivariate logistic regression and matching methods, my findings extend a growing body of research on the collateral consequences of mass incarceration for educational inequality by highlighting a link between a father’s incarceration and his child’s risk of school discipline. I also contribute to a growing body of research on the effects of paternal incarceration on child behavior by considering a meaningful consequence of increased behavior problems.

**DATA AND METHODS**

*Sample*
The Fragile Families and Child Wellbeing Study is a birth cohort study of about 5,000 children born in 20 of the largest US cities (more than 200,000) between 1998 and 2000. Unmarried parents were oversampled and represent about three-quarters of the original sample, so the data are over-representative of socioeconomically disadvantaged families. Mothers and fathers were interviewed either in person or by telephone shortly after the birth of their child. Both parents were contacted again by telephone in follow-up waves around the time of the child’s first (Y1), third (Y3), fifth (Y5), and ninth birthdays (Y9). By age nine, 76% of mothers and 59% of fathers had remained in the study. In addition to biological mother and father surveys, the primary caregiver (92% biological mother at Y9) was interviewed at home at Y3 (79% response rate) and Y5 (81% response rate) and by telephone at Y9 (77% response rate). Children whose primary caregivers participated at Y9 also took part in a 20-minute in-home interview (99% response rate). Neighborhood characteristics are based on census 2000 data from the census tract of the mother’s address.

Of the 4,898 observations in the original sample, my analytic sample excludes 114 cases in which the father is deceased or unknown by Y5, an additional 1,500 observations that did not participate in the primary caregiver or child surveys (conducted in the same visit) at Y9 due to survey attrition, and a final 83 observations missing data on incarceration status, bringing my full analytic sample to N = 3,201 children. This sample is comparable in size and composition to other work examining educational and behavioral outcomes using the Fragile Families Study (Turney and Haskins 2014; Cooper et al. 2011). Differences between the analytic sample and original Fragile Families Study sample are small, but some are statistically significant. For

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1 I opted to drop these 83 cases rather than impute them in order to avoid variation in sample sizes across multiply imputed datasets when reducing the analytic sample to different subsamples based on incarceration status in the regression models.
example, children in the analytic sample are more likely to be black and less likely to be Hispanic, but are no different in terms of parents’ postsecondary education or household income. Both parents are less likely to have lived with both of their own biological parents as adolescents, but fathers in the analytic sample are more likely to be living with their child at Y1.

By the time their children are old enough to begin school, nearly half of fathers in my sample have experienced an incarceration, but one quarter of these were not incarcerated until after their child’s first birthday. At Y9, most children are in third grade; most at this age are still learning to read (Annie E. Casey Foundation 2014) and already nearly one in five (19%) have experienced some of the most severe punishments an educational institution can administer. Because my focus is on disadvantaged urban children, this rate is considerably higher than would be expected from a random sample of the population; less than 10% of black, white, or Hispanic youth in the National Longitudinal Survey of Youth 1997 report having received an out-of-school suspension by third grade (Shollenberger 2015). Other elementary school samples range between 4% and 8% (Bradshaw, Mitchell, and Leaf 2010; Raffaele Mendez et al. 2002).

Variables

**Dependent Variable.** Exclusionary discipline is a binary measure taken primarily from child self-reports of having “ever been suspended or expelled from school.” Because the wording specifies “from school” it is possible that in-school suspensions are undercounted. If so, the proportion of students who have experienced such discipline may be even higher. Primary caregivers were also asked about the child’s school discipline but only with regards to absences due to suspension or expulsion in the current or most recent school year. Thus, this item only captures out-of-school suspensions and expulsions within the year leading up to the survey. Nevertheless, cases in which the child did not report having experienced discipline but the
primary caregiver reported that they had are coded as having ever been suspended or expelled (5% of all suspensions or expulsions in my sample). Because primary caregivers are only asked about the most recent school year, I am again likely underestimating the extent of school discipline among these children, and any statistical significance in results is likely to be biased down. The timing of discipline experiences is not reported, however I assume all suspensions and expulsions occurred after Y5 when 99.8% of children whose mothers participated at that wave are under age 6, the age at which US children generally enter first grade.²

*Paternal Incarceration.* I use three different binary specifications of paternal incarceration by Y5. Each measure is based on direct reports (e.g., “Have you ever spent time in a correctional institution?”) and indirect reports (e.g., “Please tell me why your romantic relationship ended.”) of both the mother and father, although questions vary somewhat across surveys and waves. In cases where mother and father reports disagree or where one parent reports that the father was incarcerated but the other’s report is missing or unknown, fathers are coded as having experienced incarceration.

The first incarceration measure indicates whether the father ever spent time in prison or jail by Y5 (N = 1,445), and the comparison group is children whose fathers were never incarcerated (N = 1,756). The second measure specifies whether the child’s father was incarcerated for the first time between Y1 and Y5 (N = 369), and again, the comparison group is children with never-incarcerated fathers. The third specification indicates whether the father spent time in prison or jail between Y1 and Y5 *in addition* to any incarceration experience prior

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² Although rare and highly publicized (Turner 2016), some US students experience exclusionary discipline prior to first grade, with greater risk among racial minorities. In the 2011-2012 school year less than 1% of preschoolers were suspended from school (Office of Civil Rights 2014).
to or at Y1 (N = 586). In this case, the comparison group is fathers who were only incarcerated prior to or at Y1 (N = 490). The first specification considers paternal incarceration as an indicator of childhood disadvantage and captures of the extent of this experience. The second establishes the appropriate temporal order between the father’s incarceration and characteristics that increase risk of paternal incarceration. The third compares fathers who spent additional time in prison or jail between Y1 and Y5 to fathers who were only incarcerated prior to or up to Y1. Results from this group are limited in terms of causal inference because the initial incarceration could have occurred prior to baseline. However, by comparing fathers with similar risk of incarceration, I reduce the risk of bias due to unobserved heterogeneity.

**Child Behavior Problems.** To address potential reporting bias and capture a wide array of behavior problems likely associated with school discipline, I include two measures of child behavior: (1) parent-reported externalizing behavior problems at Y5 and (2) self-reported delinquency by Y9. Parent-reports capture the current behavior of the child as perceived by the primary caregiver. This is important because the primary caregiver is likely the adult who spends the most time with the child, and is also the one most likely to be notified by school personnel of misbehavior and other problems in class. Even still, relying on parent-reports alone likely misses some of the child’s behaviors at school or elsewhere where the primary caregiver has less supervision or involvement. Thus, I supplement these reports with a measure of the child’s own self-reported delinquency. Both of these measures include items that refer to school behavior specifically (truancy, cheating, disobedience), in addition to behavior problems more generally.

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3 For 4% of cases, incarceration status between Y1 and Y5 is unknown and imputed with multiple imputation. The N’s reported here are consistent with Table 1, based on the first of 25 multiply imputed datasets.
Parent-reported externalizing behavior is a standardized (z-score) mean scale of 24 items from the Child Behavior Checklist (CBCL), 4-18 (Achenbach and Rescorla 1992) coded on a scale of 1 = not true to 3 = often or very true. Examples include “child physically attacks people” and “disobedient at school or in child care” (alpha = 0.84). Delinquency is based on the Things You Have Done Scale (Maumary-Gremaud 2000). Sixteen items asking “Have you ever . . .” are summed. Examples include “cheated on a school test,” “had a fist fight with another person,” “skipped school without an excuse,” “secretly taken a sip of alcohol,” and “smoked marijuana” (alpha = 0.68). Regression models use a natural log transformation of the latter measure (after adding 1) to account for their nonnormal distributions. Using parent-reported behavior problems measured at Y5 allows me to establish the appropriate time order among my key variables, but self-reported delinquency is measured concurrently with the outcome. This is an important limitation, but I opt to include self-reports as well because they capture behavior that most likely occurs during the same period in which suspensions or expulsions take place. They also include more serious types of misbehavior that may be more likely to lead to an official sanction.4

Control Variables. Paternal incarceration is not a random occurrence, and many of the characteristics of fathers who are most likely to be incarcerated may also be associated with school discipline. These may include demographic characteristics (Steffensmeier, Ulmer, and

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4 The Fragile Families Study also has data from some kindergarten teachers, but due to an error in data collection, the number of respondents enrolled in kindergarten (and thus the number of teachers) is unknown. There are 906 surveys (of 1,039 participating teachers) that pertain to cases in my analytic sample. This subsample has a higher average income and education, and is more likely to be white. Using multivariate logistic regression, I find some support for an association between paternal incarceration and school discipline in this subsample; however, results are weak and inconsistent, perhaps due to the smaller sample or more advantaged characteristics (see also Turney and Haskins 2014). Thus, I only show results for the full analytic sample here. I rely on parent- and child-reports because they capture a wide variety of behavior problems, including items specific to school.
Kramer 1998), family or neighborhood dynamics (Kubrin and Stewart 2006; Sampson, Laub, and Wimer 2006), self-control (Gottfredson and Hirschi 1990), genetic traits (Wright and Beaver 2005), or something else. To reduce potential bias due to omitted variables, it is necessary to adjust for a long list of covariates that are associated with paternal incarceration and suspension or expulsion. I use more than fifty (listed in Table 1), including the sample city to adjust for between-city heterogeneity at baseline. I check for multicollinearity by verifying that no two variables have a Pearson’s correlation at or above 0.7 (all but race dummies are below 0.5) and that variance inflation factors are all below 9 (all are below 4). To preserve the causal order in models focused on incarceration that occurs after Y1 and up to Y5, all controls are observed at the birth of the child or one year later, or are assumed to be time-stable (e.g., biological parent impulsivity and cognitive ability).

Analytic Strategy

Using multivariate logistic regression to account for a wide array of potential confounders, I first examine the overall difference in school discipline associated with paternal incarceration by comparing children whose fathers have ever experienced incarceration by Y5 to those whose fathers have not. Next, in order to establish the appropriate temporal order among variables, I remove cases in which the father had already been incarcerated by Y1, and then compare children whose fathers experienced incarceration for the first time between Y1 and Y5 to those with never-incarcerated fathers. Finally, to ease concerns about unobserved heterogeneity, I limit the sample to children whose fathers had already experienced an incarceration by Y1. I then compare children whose fathers spent additional time in prison or jail since Y1 to those whose fathers did not.
In supplemental analyses, I triangulate across methods. Coarsened exact matching (Iacus, King, and Porro 2012) compares the odds of school discipline for those who experienced paternal incarceration to the odds for a matched group who did not experience it. It involves “coarsening” or recoding covariates so that similar values are combined (e.g., grouping years of education into meaningful categories), and then matching “treatment” and “control” observations within strata of the coarsened covariates and pruning unmatched observations (Sharkey 2012). This relaxes assumptions about the functional form of the relationship between the treatment and outcome, but like regression, it assumes all selection is on observed characteristics. Greater reliability may be inferred from results that are consistent across multiple methods.

While I have eliminated missing cases from my key variables, there are a few missing cases due to fathers’ attrition or because some mothers did not participate in the Y5 in-home visit. Most are missing less than 10% of observations. The variable with the most missing cases (26%) is parent-reported behavior problems, although self-reported delinquency is missing less than 1%. To account for missing data, I use multiple imputation with chained equations and perform multivariate analyses using 25 multiply imputed datasets. Descriptive statistics are presented with non-imputed data. Analyses are unweighted, but I include whether the mother is married to the father at baseline as a control because unmarried parents are oversampled.

RESULTS

Sample Description

Severe institutional punishment and socioeconomic disadvantage are not uncommon among children in my sample. Thirty percent (23% among those who lived with their father) have experienced the incarceration of a father after their first birthday but before they are old enough to enter first grade; of these, 30% (19% of all children) have been suspended or expelled
from school just four years later. More than half the children in the sample are black and 31% are Hispanic, and both groups are disproportionately exposed to paternal incarceration and school discipline. Fifty-four percent of black students and 41% of Hispanics at about age five have a father with an incarceration history, compared to 28% of the reference category, whites and students of other races. Twenty-nine percent of blacks and 10% of Hispanics have been suspended or expelled by about age nine, compared to only 6% of their white or other-race counterparts. Less than half of fathers or mothers in the sample lived with both their biological parents at age 15. By the time their children are born, less than a third of fathers and only 35% of mothers have had any post-secondary training. Over the next year, more than a third of couples (father or mother) have been unemployed and 60% have experienced material hardship.

Table 1 presents descriptive statistics for the full analytic sample and by mutually exclusive categories of paternal incarceration: never incarcerated, incarcerated by Y1, and incarcerated for the first time between Y1 and Y5. It is important to note the strong heterogeneity between children whose fathers never experienced incarceration and those who have—they are significantly different on nearly every variable presented here. Children whose fathers have a history of incarceration are more likely to experience suspension or expulsion, display behavior problems, and experience other indicators of social and economic disadvantage. In contrast, among children with ever-incarcerated fathers, those whose fathers were incarcerated prior to or at about the time of their first birthday appear similar in many ways to those whose fathers were not incarcerated until later. Although less likely to be living with their child and more likely to have problems with substance use and violence, they are no different in terms of race, income, or neighborhood disadvantage from those incarcerated later. Of those who were incarcerated early on, more than half spent time in prison or jail between Y1 and Y5. Overall, at least 8% of fathers
are behind bars at the administration of Y5, 7% at Y9. It is important to emphasize here that these numbers may not be representative of urban families at large because unmarried parents were oversampled at baseline, resulting in a more disadvantaged sample. However, in multivariate analyses, I control for the parents’ marital status at baseline to adjust for this oversampling (Geller et al. 2012).

Association between Paternal Incarceration and School Discipline

Logistic regression results are presented in Table 2. Panel A presents results for analyses that conceptualize having a father with a history of incarceration as an indicator of disadvantage associated with school discipline. Bivariate results indicate the odds of being suspended or expelled from school are more than double—127% greater ($e^{0.819}$) [exp(b) – 1] · 100] for children whose fathers have spent time in prison or jail, compared to those whose fathers have been able to avoid it. This association declines considerably when covariates are included in the model, but remains positive, large, and statistically significant. Even when controlling for father, mother, household, neighborhood, and child characteristics, having a father with an incarceration history is associated with a 35% increase ($e^{0.298}$) in the odds of being suspended or expelled from school.

Next, I turn to alternative measures of paternal incarceration to address concerns with selection and unobserved heterogeneity within this sample. Panel B presents results that establish the appropriate temporal ordering between incarceration and covariates, in an attempt to improve causal inference. The odds of school discipline for those whose fathers were incarcerated for the first time after their first birthday are 165% greater than the odds for those whose fathers have never spent time in jail or prison. Furthermore, this association remains positive and significant when controls are including; the child’s risk of school discipline nearly doubles in association with a first-time incarceration ($e^{0.655}$). Panel C shows results that attempt to address concerns
about unobserved heterogeneity by limiting the sample to children whose fathers are at similar risk of experiencing incarceration. Specifically, I remove from the sample all cases in which the father had never spent time in prison or jail by the child’s first birthday. I then compare those who spent additional time in prison or jail after this first year to those who did not. Bivariate results suggest that the odds of school discipline are 84% greater \((e^{0.608})\) for children whose fathers had a subsequent incarceration. Adjusting for controls, this difference remains positive and significant; the odds of school discipline increase by nearly half \((e^{0.389})\).

To check the robustness of these results across multiple methods, I now turn to coarsened exact matching. In doing so, I strive to keep covariates as close as possible to those used in regression analyses while maintaining an adequate sample size. Because this forces me to exclude some variables, I focus on keeping those that are expected to be most strongly associated with paternal incarceration. I also combine variables that are theoretically similar in relation to paternal incarceration. I coarsen only by recoding variables prior to exact matching, rather than using an automated procedure (Blackwell et al. 2009). The revised covariate list includes whether the father is black (same as whether child is black), whether he was living with the child at Y1, his age (coded 1 if 27 or older), impulsivity at Y1 (two categories, split at median), substance abuse or violence against the mother by Y1 (coded 1 if either), whether he and the mother were married at baseline, whether they were cohabiting at baseline, whether he or the mother had any post-secondary education at baseline, whether either parent was unemployed or experienced material hardship at Y1 (coded 1 if any), and whether they have above average neighborhood disadvantage (mean baseline to Y1 across both parents) or either perceived their neighborhood to be less than very safe at baseline. In order to also match on sample city without considerably diminishing the sample size, I collapse 20 sample city dummies into eight
categories based on combinations of three city characteristics that guided the Fragile Families Study sample city selection: welfare generosity, labor market strength, and child support enforcement (Reichman et al. 2001). Basing the coarsening on information used in the original sampling frame should reduce bias that could occur when matching treatment and control observations from different cities (imbalance statistics in Appendix Table A).

After pruning unmatched observations, the sample sizes are much smaller than my full analytic sample, raising questions about the generalizability of these results relative to those from Table 2. I use these findings only to enrich those of my logistic regression models—to show that results are robust using another method. Coarsened exact matching carries the assumption that covariates are observed prior to the treatment, so I do not include comparisons between children with ever- and never-incarcerated fathers here. Using the other two specifications of incarceration yields results nearly identical to each other and closely resembling those in Table 2. The odds of suspension or expulsion for children with a father who is incarcerated for the first time between Y1 and Y5 (treatment N = 249) are 57% greater (b = 0.452; se = 0.179) than the odds for those with a never-incarcerated father (control N = 470). The odds of suspension or expulsion for children whose father spent time in jail or prison between Y1 and Y5 in addition to an incarceration prior to Y1 (treatment N = 261) are 59% greater (b = 0.463; se = 0.209) than the odds for children whose fathers were only incarcerated prior to or at Y1 (control N = 199).

Accounting for Child Behavior Problems

With consistent evidence of an association between paternal incarceration and school discipline, I now test the extent to which child behavior problems from multiple reporters explain this association. Using results in Table 2 (with controls) as a starting point, in Table 3 I add
parent-reported behavior problems and self-reported delinquency as mediating variables. Each is examined separately and then both are included together.

Across specifications of incarceration, parent-reported externalizing behavior appears to explain more of the association between paternal incarceration and school discipline than self-reported delinquency does. Adding the former to the models that include controls reduces the coefficient for ever-incarcerated fathers by 15%, the coefficient for first-time incarceration by 7%, and that for subsequent incarceration by 19%. The most that self-reported delinquency explains is 9% in models comparing ever- and never-incarcerated fathers. Accounting for both measures of behavior problems together reduces the incarceration coefficients by 21% in the ever/never comparison, 8% in the first-time/never comparison, and 14% in the model focused on subsequent incarceration. However, comparing results across logistic regression models may be problematic because coefficients rescale when explanatory variables are added to the model, due to a fixed residual variance. I resolve this issue using the Karlson, Holm, and Breen (2012) method, which standardizes models for comparison. I use this method in each of the 25 multiply imputed datasets and average the results (see Appendix Table B). Findings are fairly consistent with those based on comparing unstandardized models but suggest that child behavior problems explain a little more of the association between paternal incarceration and school discipline. Adjusting for covariates, about 29% of this association is explained by parent-reported behavior problems and self-reported delinquency. In models focused on first-time incarceration relative to no incarceration, these measures explain 21% of the association, and in models focused on subsequent compared to early-only incarceration, they explain 16% of the association.

**DISCUSSION AND CONCLUSION**
In this paper, I have examined the association between a father’s incarceration and his child’s risk of being excluded from school for disciplinary reasons. I have also assessed the extent to which differences in child behavior problems explain this association. Three important points emerge from my analyses. First, results suggest that children who experience paternal incarceration before they are old enough to begin school, are at greater risk of being excluded from school by age nine. The odds of suspension or expulsion for children whose fathers were ever incarcerated are about 35% greater than the odds for children whose fathers never spent time in jail or prison. And for children whose fathers aren’t incarcerated for the first time until after their child’s first birthday, the odds are nearly double. In limiting the comparison to cases with similar risk of incarceration, the odds of suspension or expulsion for those whose fathers spent additional time in jail or prison after their child’s first birthday are nearly 50% greater than the odds for those who were only incarcerated early on.

These findings extend previous work by highlighting an additional collateral consequence of mass incarceration and establishing a link at the family level between two major systems of punishment. In doing so, they add to a growing body of research documenting the impact of a “culture of control” (Garland 2001) on educational inequality (Hagan and Foster 2012; Kirk and Sampson 2013; Perry and Morris 2014; Turney and Haskins 2014). These findings also contribute to research in education policy by introducing a predictor of school discipline that has become increasingly relevant in the lives of disadvantaged students over the past several decades. While prior research focuses on the association between school discipline and later criminal involvement (Mowen and Brent in press; Shollenberger 2015), my findings suggest the reverse may also occur, intergenerationally. Specifically, a father’s incarceration may have
delayed consequences for his child’s school discipline, thus continuing a cycle of punishment among disadvantaged families.

Second, part of this association (16% to 29%) is due to variation in child behavior problems. This finding aligns with research suggesting that paternal incarceration increases children’s behavior problems (Haskins 2015; Wakefield and Wildeman 2011), perhaps even more so than other types of father absence (Geller et al. 2012). I build on these studies by investigating an important implication of increased behavior problems for children who attend school. By incarcerating fathers, perhaps especially nonviolent fathers (Wildeman 2010), the criminal justice system may be inadvertently influencing the behavior of children, thus increasing their risk of getting caught up in another system of punishment, even at an early age.

Given that the bulk of mass incarceration is born by a small number of communities with few resources (Sampson and Loeffler 2010), future research should continue to examine, at individual and institutional levels, the implications of mass incarceration for the experiences of children attending school in these communities (Hagan and Foster 2012).

Third, most of the association between paternal incarceration and school discipline is not explained by child behavior problems as reported here by children and parents. There are several possible reasons for this. One reason is that there may be unobserved heterogeneity or selection for which I have not accounted in my models. With regression and matching methods, I am limited in my ability to account for unobserved covariates. A more rigorous approach would be within-individual fixed-effects models, but this requires a change in the outcome over time. Because my focus here is on children in the first few grades of elementary school, they have only been asked about school discipline experiences at a single wave, precluding an examination of
change over time. Future research should examine the within-individual association between paternal incarceration and a change in school discipline to more fully address these concerns.

However, even if unobserved heterogeneity could be completed accounted for, a large portion of the association that is unexplained by child behavior problems would not be surprising. Though I am unable to test it directly, prior research suggests that much of the association may be due to intergenerational stigmatization (Ferguson 2001; Weissman 2015). If stigmatization occurs, it may also operate indirectly through behavior problems by causing children to act out in defiance against the school or classroom (Sherman 1993). This would be consistent with state-level data suggesting that the majority of suspensions and expulsions are for non-violent offenses like “insubordination” and “disrespect” (Connecticut Department of Education 2010; Maryland State Board of Education 2012). Apart from stigmatization, other unobserved mechanisms may also be at play. For example, Brayne (2014) finds that formerly incarcerated individuals are more likely to avoid surveilling institutions that keep formal records. Other research has implied that a child’s vulnerability to school discipline partially depends on the ability of parents to influence the actions of school personnel (Bowditch 1993). Together, these findings suggest that children of formerly incarcerated fathers may be at greater risk because a parent is less likely to intervene when the child is faced with threat of suspension or expulsion. Future research should examine whether system avoidance occurs in this way and its association with school discipline.

Additional cautions regarding interpretation should be reiterated. Most importantly, because my focus is on urban children in elementary school, about half of whom have experienced the incarceration of a father by about age nine, my results may not be generalizable beyond this group. Future research should examine the intergenerational and interinstitutional
effects of incarceration in more broadly representative samples. Additionally, school discipline is based primarily on self-reports of young children rather than administrative records and does not allow me to distinguish between types (in-school vs. out-of-school) or length of exclusion. The prevalence of school discipline in my sample may be underestimated, particularly if the same students are disciplined multiple times. Future research should examine whether administrative records find similar levels among urban children.

Despite these limitations, my findings are consistent with previous studies suggesting that mass incarceration has had serious educational consequences for already disadvantaged children (Foster and Hagan 2007, 2009; Hagan and Foster 2012; Haskins 2014, 2015; Turney and Haskins 2014). Part of the association between paternal incarceration and school discipline is due to differences in child behavior problems following a father’s incarceration, but some may also be due to stigma (Murray 2007; Phillips and Gates 2011) or something else. Future research should seek to identify protective factors that may already be embedded in these children’s social networks at school and in their communities. Focusing on predictors of resilience (Jacobsen and Hardaway in press; Poehlmann and Eddy 2013) and alternatives to excessive punishment, especially for young children, may help to curb trajectories of cumulative disadvantage.
REFERENCES


### Table 1. Descriptive Statistics of Variables Used in Analysis by Paternal Incarceration

<table>
<thead>
<tr>
<th>Variable</th>
<th>Full Analytic Sample</th>
<th>Never Incarcerated By Y1</th>
<th>Ever Incarcerated First Time Y1-Y5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>St Dev</td>
<td>Mean</td>
</tr>
<tr>
<td><strong>School Discipline and Paternal Incarceration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspended or expelled by Y9</td>
<td>0.19</td>
<td>0.13</td>
<td>***</td>
</tr>
<tr>
<td>Paternal incarceration (any) Y1-Y5</td>
<td>0.30</td>
<td>0.00</td>
<td>***</td>
</tr>
<tr>
<td><strong>Child Behavior Problems</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent-reported behavior problems at Y5 (z-scores)</td>
<td>-0.03</td>
<td>1.02</td>
<td>-0.19</td>
</tr>
<tr>
<td>Self-reported delinquency by Y9 (0 to 16)</td>
<td>1.06</td>
<td>1.58</td>
<td>0.90</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child male</td>
<td>0.52</td>
<td>0.53</td>
<td></td>
</tr>
<tr>
<td>Child Non-Hispanic black</td>
<td>0.51</td>
<td>0.43</td>
<td>***</td>
</tr>
<tr>
<td>Child Hispanic</td>
<td>0.30</td>
<td>0.32</td>
<td>**</td>
</tr>
<tr>
<td>Child age in months at Y5 (56 to 74)</td>
<td>61.61</td>
<td>2.73</td>
<td>61.54</td>
</tr>
<tr>
<td>Father lives with child at Y1</td>
<td>0.62</td>
<td>0.69</td>
<td>***</td>
</tr>
<tr>
<td>Father age at Y0 (14 to 67)</td>
<td>28.23</td>
<td>7.27</td>
<td>29.62</td>
</tr>
<tr>
<td>Father criminal justice contact at Y3</td>
<td>0.19</td>
<td>0.13</td>
<td>***</td>
</tr>
<tr>
<td>Father impulsivity at Y1 (z-scores)</td>
<td>0.01</td>
<td>1.00</td>
<td>-0.24</td>
</tr>
<tr>
<td>Mother impulsivity at Y3 (z-scores)</td>
<td>0.00</td>
<td>1.00</td>
<td>-0.13</td>
</tr>
<tr>
<td>Father substance abuse by Y1</td>
<td>0.15</td>
<td>0.08</td>
<td>***</td>
</tr>
<tr>
<td>Mother's violence victimization by father by Y1</td>
<td>0.12</td>
<td>0.06</td>
<td>***</td>
</tr>
<tr>
<td>Father and mother married at Y0</td>
<td>0.24</td>
<td>0.37</td>
<td>***</td>
</tr>
<tr>
<td>Father and mother cohabiting at Y0</td>
<td>0.37</td>
<td>0.33</td>
<td>***</td>
</tr>
<tr>
<td>Mother has post-secondary schooling at Y0</td>
<td>0.36</td>
<td>0.46</td>
<td>***</td>
</tr>
<tr>
<td>Father has post-secondary schooling at Y0</td>
<td>0.31</td>
<td>0.42</td>
<td>***</td>
</tr>
<tr>
<td>Mother-father hold income Y0-Y1, $10,000 units (0.1 to 36)</td>
<td>3.46</td>
<td>3.07</td>
<td>4.27</td>
</tr>
<tr>
<td>Either parent material hardship at Y1</td>
<td>0.60</td>
<td>0.49</td>
<td>***</td>
</tr>
<tr>
<td>Either parent unemployed at Y1</td>
<td>0.39</td>
<td>0.28</td>
<td>***</td>
</tr>
<tr>
<td>Mother depression at Y1</td>
<td>0.16</td>
<td>0.12</td>
<td>***</td>
</tr>
<tr>
<td>Either parent not a US citizen</td>
<td>0.14</td>
<td>0.20</td>
<td>***</td>
</tr>
<tr>
<td>Mother-father Y0-Y1 neighborhood disadvantage (z-scores)</td>
<td>0.01</td>
<td>0.79</td>
<td>-0.11</td>
</tr>
<tr>
<td>Either parent unsafe neighborhood at Y0</td>
<td>0.26</td>
<td>0.21</td>
<td>***</td>
</tr>
<tr>
<td>Mother lived with both parents at age 15</td>
<td>0.41</td>
<td>0.49</td>
<td>***</td>
</tr>
<tr>
<td>Father lived with both parents at age 15</td>
<td>0.44</td>
<td>0.53</td>
<td>***</td>
</tr>
<tr>
<td>Mother religious attendance at Y0</td>
<td>0.21</td>
<td>0.25</td>
<td>***</td>
</tr>
<tr>
<td>Father religious attendance at Y0</td>
<td>0.18</td>
<td>0.21</td>
<td>***</td>
</tr>
<tr>
<td>Mother cognitive ability at Y3 (z-scores)</td>
<td>-0.02</td>
<td>1.00</td>
<td>0.03</td>
</tr>
<tr>
<td>Father cognitive ability at Y3 (z-scores)</td>
<td>-0.02</td>
<td>1.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Child low birth weight</td>
<td>0.09</td>
<td>0.08</td>
<td>**</td>
</tr>
<tr>
<td>Number of children in mother household at Y1 (0 to 9)</td>
<td>2.32</td>
<td>1.32</td>
<td>2.22</td>
</tr>
<tr>
<td>Mother multipartner fertility at Y1</td>
<td>0.36</td>
<td>0.31</td>
<td>***</td>
</tr>
<tr>
<td>Mother spans child at Y1</td>
<td>0.28</td>
<td>0.24</td>
<td>***</td>
</tr>
</tbody>
</table>

Notes: Fragile Families and Child Wellbeing Study. Sample limited to observations with non-missing values for survey items about the child's school discipline by the nine-year survey. Children with deceased or unknown fathers by the five-year survey are excluded. All control variables are measured at baseline or up to the one-year survey unless otherwise noted. City dummy variables are not shown. Results are unweighted and based on the first of 25 multiply imputed datasets. Y0 = baseline; Y1 = one-year survey; Y3 = three-year survey; Y5 = five-year survey. Asterisks under "Never Incarcerated" show results of independent samples t-tests comparing children with ever-incarcerated fathers to those with never-incarcerated fathers. Asterisks under "By Y1" compare those with an early incarceration to those who experienced it between Y1 and Y5; *p<.05; **p<.01; ***p<.001 (two-tailed).
Table 2. Change in the Log Odds of Suspension or Expulsion Associated with Paternal Incarceration

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Logit</td>
<td>SE</td>
<td>Logit</td>
</tr>
<tr>
<td>Paternal Incarceration</td>
<td>0.819</td>
<td>(0.093) ***</td>
<td>0.974</td>
</tr>
<tr>
<td>Add controls</td>
<td>0.298</td>
<td>(0.117) *</td>
<td>0.655</td>
</tr>
<tr>
<td>N</td>
<td>3,201</td>
<td>2,125</td>
<td>1,076</td>
</tr>
</tbody>
</table>

Notes: Fragile Families and Child Wellbeing Study. Samples are limited to observations with non-missing values for survey items about the child's experience with school suspension or expulsion by the nine-year survey. Children with deceased or unknown fathers by Y5 are excluded. Control variables include gender, race, age in months, father residential status, father age, mother criminal justice involvement, father impulsivity, mother impulsivity, father substance use problem, mother domestic violence victimization, mother-father relationship at child's birth (married, cohabiting), mother post-secondary education, father post-secondary education, mother and father mean household income (log), either parent experienced material hardship, either parent experienced unemployment, mother depression, either parent not a citizen, mother and father average neighborhood disadvantage, either parent perceives neighborhood as unsafe, mother lived with both parents at age 15, father lived with both parents at age 15, mother religious attendance, father religious attendance, mother cognitive ability, father cognitive ability, child low birth weight, number of children in mother's household, mother multipartner fertility, mother spanks child, and 20 sample cities. Each model is based on the combined results of 25 multiply imputed datasets. Analyses are unweighted. Y1 = one-year follow-up survey; Y5 = five-year follow-up survey. ***p<.001; *p<.05 (two-tailed tests)
Table 3. Child Behavior Problems as Mechanism of Association between Paternal Incarceration and Suspension or Expulsion

<table>
<thead>
<tr>
<th>Model</th>
<th>A Ever-Incarcerated by Y5 versus Never</th>
<th>B First-Incarceration between Y1 and Y5 versus Never</th>
<th>C More Incarceration between Y1 and Y5 versus Only by Y1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Logit</td>
<td>SE</td>
<td>Logit</td>
</tr>
<tr>
<td>Include parent-reported externalizing behavior</td>
<td>0.252 (0.118) *</td>
<td>0.606 (0.171) ***</td>
<td>0.316 (0.198)</td>
</tr>
<tr>
<td>Include child-reported delinquency</td>
<td>0.272 (0.123) *</td>
<td>0.633 (0.178) ***</td>
<td>0.396 (0.204) †</td>
</tr>
<tr>
<td>Include both behavior problem measures together</td>
<td>0.236 (0.124) †</td>
<td>0.601 (0.180) **</td>
<td>0.333 (0.206)</td>
</tr>
<tr>
<td>N</td>
<td>3,201</td>
<td>2,125</td>
<td>1,076</td>
</tr>
</tbody>
</table>

Notes: Fragile Families and Child Wellbeing Study. Samples are limited to observations with non-missing values for survey items about the child's school discipline by the nine-year survey. Children with deceased or unknown fathers by Y5 are excluded. Control variables include gender, race, age in months, father residential status, father age, mother criminal justice involvement, father impulsivity, mother impulsivity, father substance use problem, mother domestic violence victimization, mother-father relationship at child's birth (married, cohabiting), mother post-secondary education, father post-secondary education, mother and father mean household income (log), either parent experienced material hardship, either parent experienced unemployment, mother depression, either parent not a citizen, mother and father average neighborhood disadvantage, either parent perceives neighborhood as unsafe, mother lived with both parents at age 15, father lived with both parents at age 15, mother religious attendance, father religious attendance, mother cognitive ability, father cognitive ability, child low birth weight, number of children in mother's household, mother multipartner fertility, mother spanks child, and 20 sample cities. Each model is based on the combined results of 25 multiply imputed datasets. Analyses are unweighted. Y1 = one-year follow-up survey; Y5 = five-year follow-up survey. ***p<.001; **p<.01; *p<.05; †p<.10 (two-tailed tests)
## Appendix Table A. Covariate Imbalance Before and After Coarsened Exact Matching

<table>
<thead>
<tr>
<th>Coarsened Covariate</th>
<th>First-Incarceration between Y1 and Y5 versus Never</th>
<th>More Incarceration between Y1 and Y5 versus Only by Y1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unadjusted</td>
<td>Adjusted</td>
</tr>
<tr>
<td></td>
<td>Mean 25% 50% 75%</td>
<td>Mean 25% 50% 75%</td>
</tr>
<tr>
<td>Father Non-Hispanic black</td>
<td>0.16 0.00 1.00 0.00</td>
<td>0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father lives with child</td>
<td>-0.08 0.00 0.00 0.00</td>
<td>0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father high impulsivity</td>
<td>0.05 0.00 0.00 0.00</td>
<td>0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father substance abuse or violence against mother</td>
<td>0.09 0.00 0.04 0.00</td>
<td>0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father and mother married</td>
<td>-0.27 0.00 0.00 -1.00</td>
<td>0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father and mother cohabiting</td>
<td>0.07 0.00 0.00 0.00</td>
<td>0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father or mother has post-secondary schooling</td>
<td>-0.19 0.00 -1.00 0.00</td>
<td>0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father or mother unemployed or material hardship</td>
<td>0.22 1.00 0.00 0.00</td>
<td>0.01 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father or mother disadvantaged or unsafe neighborhood</td>
<td>0.19 0.00 0.72 0.00</td>
<td>0.01 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Father age 27 or older</td>
<td>0.29 0.00 1.00 0.00</td>
<td>0.01 -0.08 0.00 0.00</td>
</tr>
</tbody>
</table>

**Sample City Category**

- High WG, strong LM, weak/avg CS
- High WG, weak/avg LM, weak/avg CS
- Low WG, weak/avg LM, weak/avg CS
- Low WG, weak/avg LM, strong CS
- Low WG, strong LM, strong CS
- High WG, weak/avg LM, strong CS
- Low WG, strong LM, weak/avg CS

| Multivariate imbalance L1 statistic | 0.808 | 0.207 | 0.783 | 0.296 |

**Notes:** Fragile Families and Child Wellbeing Study. Samples are limited to observations with non-missing values for survey items about the child's experience with school suspension or expulsion by the nine-year survey. Children with deceased or unknown fathers by Y5 are excluded. WG = welfare generosity; LM = labor market; CS = child support enforcement. See Reichman et al. (2001) for more information about sample cities. Columns labeled “Mean” present differences in the means for each variable between the treatment and control groups. Other columns report the difference in the quantiles for the distributions of the treatment and control groups for the 25th, 50th, and 75th percentiles for each variable. The $L_1$ statistic measures imbalance for the full joint distribution including interactions for all covariates; a value closer to zero signifies less imbalance. For the unmatched data, the $L_1$ represents a baseline point of comparison for the $L_1$ in the matched data (Blackwell et al. 2009 for more information). Results are based on 25 multiply imputed datasets.
Appendix Table B. Mediation Using Karlson, Holm, and Breen (2012) Method

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ever-Incarcerated</td>
<td>First-Incarceration</td>
<td>More Incarceration</td>
</tr>
<tr>
<td></td>
<td>by Y5 versus Never</td>
<td>between Y1 and Y5</td>
<td>between Y1 and Y5</td>
</tr>
<tr>
<td>Reduced model (includes controls, excludes behavior problems)</td>
<td>0.323 ** 0.123</td>
<td>0.766 ** 0.180</td>
<td>0.460 * 0.194</td>
</tr>
<tr>
<td>Full model (adds parent- and child-reported behavior problems)</td>
<td>0.223 † 0.123</td>
<td>0.604 ** 0.179</td>
<td>0.380 † 0.194</td>
</tr>
<tr>
<td>N</td>
<td>3,201</td>
<td>2,125</td>
<td>1,076</td>
</tr>
</tbody>
</table>

Notes: Fragile Families and Child Wellbeing Study. Samples are limited to observations with non-missing values for survey items about the child's experience with school suspension or expulsion by the nine-year survey. Children with deceased or unknown fathers by Y5 are excluded. Control variables include gender, race, age in months, father residential status, father age, mother criminal justice involvement, father impulsivity, mother impulsivity, father substance use problem, mother domestic violence victimization, mother-father relationship at child's birth (married, cohabiting), mother post-secondary education, father post-secondary education, mother and father mean household income (log), either parent experienced material hardship, either parent experienced unemployment, mother depression, either parent not a citizen, mother and father average neighborhood disadvantage, either parent perceives neighborhood as unsafe, mother lived with both parents at age 15, father lived with both parents at age 15, mother religious attendance, father religious attendance, mother cognitive ability, father cognitive ability, child low birth weight, number of children in mother's household, mother multipartner fertility, mother spanks child, and 20 sample cities. Results are unweighted and based on the first of 25 multiply imputed datasets. Y1 = one-year follow-up survey; Y5 = five-year follow-up survey. ***p<.001 **p<.01; *p<.05 †p<.10 (two-tailed tests)