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Schools as Surveilling Institutions? Paternal Incarceration, System Avoidance, and Parental Involvement in Schooling

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Abstract

Parents play important roles in their children's lives, and parental involvement in elementary schooling in particular is meaningful for a range of child outcomes. Given the increasing number of school-aged children with incarcerated parents, this study explores the ways paternal incarceration is associated with mothers' and fathers' reports of home- and school-based involvement in schooling. Using Fragile Families Study data, we find that a father's incarceration inhibits his school- and home-based involvement in schooling, but associations for maternal involvement are weaker. Results are robust to alternative specifications of incarceration that address concerns about selection and unobserved heterogeneity. Findings also hold across levels of father-child contact. We also conducted a test of the system avoidance mechanism and results suggest it partially explains reductions in school involvement for fathers following incarceration. Given the reoccurring interest in the interconnection between families and schools and how this translates into success, this study suggests that paternal incarceration is associated with lower parental involvement in schooling and highlights the role of system avoidance in this association. Attachment to social institutions like schools is quite consequential, and this work highlights another way mass incarceration influences social life in the United States.

Keywords

paternal incarceration; school involvement; system avoidance; parental involvement; urban families; elementary children; teacher reports

Parental involvement in elementary schooling is meaningful for a range of proximate and distal child outcomes. Alongside this, an important body of scholarship on the collateral consequences of parental incarceration for children's well-being suggests overwhelmingly negative effects for children across a range of social, economic, cognitive, behavioral, and health outcomes (e.g., Haskins 2016; Travis, Western, and Redburn 2014; Wakefield and Wildeman 2014). With the number of school-aged children in the United States with currently or formerly incarcerated parents at record levels, there is growing interest in developing a multifaceted and interactional understanding of the ways mass incarceration

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facilitates intergenerational social inequality and exclusion (for a review, see Foster and Hagan 2015).

One understudied area is schools and the interactions occurring within and between families and this social institution. Understanding the connection between families, schools, and the criminal justice system is essential, as schools can be conduit institutions that offer access to resources and avenues of economic mobility and social integration. However, present-day schools can also be seen as surveilling institutions, through their keeping of formal records, increased security, and direct connections to other public agencies. Thus, parents associated with, involved in, or in fear of engagement with the criminal justice system might disengage from schools, reducing or inhibiting the extent of their involvement in their children's schooling.

This study contributes to the body of knowledge on collateral consequences of mass incarceration by exploring whether paternal incarceration is associated with parental involvement in schooling, and outlining potential mechanisms at play as families navigate interactions with schools and the criminal justice system. Using data from the Fragile Families and Child Wellbeing Study (FFS) and focusing on elementary school-aged children, we examine whether a father's incarceration is associated with lower levels of parental home- and school-based involvement in schooling. We examine associations for mothers and fathers using self-reports and teacher-reports; we find that a father's involvement in his children's schooling declines following his incarceration, but evidence for the same effect of paternal incarceration among mothers' schooling involvement is weaker. We also extend the concept of system avoidance (Brayne 2014) by assessing its role as a mechanism of this association. Results suggest fathers' evasion of surveilling institutions partially explains their lower involvement in school-based activities following a period of incarceration. By drawing attention to interactions occurring at the intersection of three of the United States' most powerful social institutions—families, schools, and the criminal justice system—this work highlights an additional entry in the growing incarceration ledger (Sampson 2011), suggesting children face negative, intergenerational, and interinstitutional consequences of mass incarceration.

PARENTAL INVOLVEMENT IN SCHOOLING

Attention to the relationship between school and family and how these two institutions foster student success has been a reoccurring area of interest among researchers, policymakers, and educational reformists for decades. The belief that children do better educationally when their parents are involved in their schooling is widespread, supported empirically, and often highlighted as a key component of successful family-school partnerships. As a result, many efforts have been made to understand the various dimensions of parents' school involvement and implement interventions to increase it, particularly for young disadvantaged children.

In general, parental involvement encompasses any learning-related effort provided by a parent or caregiver to increase their children's educational outcomes. The majority of scholars use the term "parental involvement" somewhat narrowly, referring to activities prescribed by schools, such as attending functions and helping children with homework

(e.g., Jeynes 2011). Others use “parent engagement” to capture the activities prescribed by schools as well as those that represent broader collaborative relationships and shared responsibilities between schools and families (e.g., Epstein 2011).

Whether using a narrower or broader framework to explore the many ways parents promote their children’s learning and convey educational expectations, most researchers distinguish between two facets of parental involvement in schooling, namely “school-based” and “home-based” involvement (Barnard 2004; Epstein 1992). Standard indicators of school-based involvement in schooling consist of parents visiting the school for meetings or events, participating on the school governing board, volunteering for or chaperoning field trips, and communicating with teachers and administrators. Alternatively, home-based involvement in schooling is broadly characterized as the set of techniques used at home to encourage student learning and parent-child communication about school. Such approaches encompass helping with homework, reading with your child, communicating educational expectations, and making home a learning environment by providing access to books and educational materials.

Parental Involvement during Elementary School

Research on parental involvement in schooling suggests both facets (home and school) are important and meaningful, albeit partial, predictors of educational success and well-being. In general, research suggests parental involvement in schooling has positive effects on academic achievement and educational attainment, in addition to reducing the likelihood of dropout and lowering behavioral problems for children at various stages of the life course (Child Trends 2013; Higgins and Katsipataki 2015; Jeynes 2011; Kim and Hill 2015).¹ Many studies on this topic draw conclusions from middle or high school students, but parental involvement during elementary school may be most salient, because involvement declines as children age (Crosnoe 2001; Hornby and Lafaele 2011), and early inputs set the stage for later schooling trajectories.

Among studies focused on elementary students, school-based parental involvement—that is, parents’ attendance at conferences, their attendance at Parent Teacher Association (PTA/O) meetings, or volunteering in their children’s school—has been linked to improved behavioral and academic outcomes in the short term and educational attainment in the long term (Barnard 2004; Domina 2005; Jeynes 2005). Parental involvement is often aggregately lower for disadvantaged urban populations (Stacer and Perrucci 2013), but some studies suggest that increased involvement in schooling among low-income and minority parents has a greater effect on child outcomes than do similar efforts by higher-socioeconomic status or majority parents (Domina 2005; Jeynes 2005, 2011).

Moreover, parental involvement in schooling can strengthen parent-school relationships and parents’ confidence and ability to advocate for their children. It also provides access to important information networks that are integral to children’s success (Hornby and

¹However, there is not strict consensus in the literature, with some work finding weak, null, or even negative results for student outcomes. Most recently, Robinson and Harris (2014) argue that parent involvement in schooling is overrated and often does not improve the outcome of much policy focus: standardized test scores.

Lafaele 2011). Helping with homework conveys the importance of education and facilitates academic socialization. Attending school events builds relationships with teachers, school administrators, and parents of school peers that create avenues of social control as parents are better able to monitor their children. Actively interacting with school personnel provides parents access to information within broader social networks and conveys to the child institutional trust (Domina 2005; McNeal 1999). Thus, through academic socialization, social control, and access to resources, parental involvement in schooling can be quite beneficial. Importantly, reductions in involvement or avoiding the school altogether could restrict parents' and children's access to resources, information, and avenues of social integration, and it could potentially transfer feelings of institutional distrust.

PATERNAL INCARCERATION AND PARENTAL INVOLVEMENT FOR SCHOOL-AGED CHILDREN

There are a number of potential barriers to parental involvement in schooling, including parent and child traits, economic constraints, family circumstances, demographic characteristics, teacher characteristics, and school contexts (Hornby and Lafaele 2011; Stacer and Perrucci 2013). For example, prior research emphasizes family structure, race/ethnicity, and socioeconomic status; currently understudied, paternal incarceration could also alter the amount and types of involvement a parent might have in their children's schooling.

The past 25 years have witnessed a marked increase in the number of children with incarcerated parents (Sykes and Pettit 2014). Current estimates suggest over 5.1 million, or 1 in 14, U.S. children are affected by parental incarceration (Annie E. Casey Foundation 2016; Murphey and Cooper 2015). Of relevance for elementary schooling is evidence that parental incarceration peaks by age nine, with nearly 10 percent of U.S. children having a residential parent ever-incarcerated by middle childhood (Murphey and Cooper 2015). Thus, for most children, initial episodes of parental incarceration occur within prime elementary school years. Both maternal and paternal incarceration rates have increased, but most incarcerated parents are fathers, such that paternal incarceration is becoming an increasingly common event in the lives of economically disadvantaged, often urban, children of color (Murphey and Cooper 2015; Western and Wildeman 2009).

The association between father involvement and child development is well documented. Positive fathering and father involvement promote healthy socio-emotional development and improve children's educational outcomes (Lamb 2010; McWayne et al. 2013). Fathers are likely to be most involved during their children's formative years (early and middle childhood), and parental involvement during these periods of early development is a robust predictor of schooling success and overall child well-being. Furthermore, in a recent meta-analysis examining the specific role of father involvement in student educational success, Kim and Hill (2015) suggest that fathers' participation and engagement in schooling activities is just as important for child outcomes as maternal involvement, and it can serve as a key protective factor for disadvantaged children (Jeynes 2003).

Of course, not all fathers are actively involved in their children's lives. It is possible that the types of men who become incarcerated are those who were already less likely to be involved in their children's schooling. However, empirical work suggests this broad assumption is not always the norm. Paternal involvement varies with such characteristics as the father's age, relationship status, socioeconomic disadvantage, and residential status. Indeed, some men who become wrapped up in the criminal justice system were not involved fathers prior to their incarceration, but a fair amount of research finds that fathers who become incarcerated were often involved in their children's lives in some way prior to their confinement (Edin, Nelson, and Paranal 2004; Geller 2013; Geller et al. 2012; Turanovic, Rodriguez, and Pratt 2012).

Mechanisms Affecting Parental Involvement among Fathers Involved in the Criminal Justice System

Assuming some level of prior involvement, there are a number of theoretical avenues through which a father's incarceration could affect parental involvement in schooling. For fathers who are currently incarcerated, physical confinement makes it impossible for them to participate in any school-based activities. Confinement also makes it quite difficult, although not impossible (see Lombardi 2004; Marte 2015), to engage in home-based types of schooling activities, such as helping with homework or reading with their children (e.g., during visitation or through prison family reading programs; Blumberg and Griffin 2013). Additionally, recent theories regarding formerly incarcerated populations provide insight into how a previous incarceration spell may affect parental involvement in schooling even after release.

Of particular relevance is the work on "system avoidance" (Brayne 2014) and "opting out" (Lageson 2016), which suggests that parents who have been involved in the criminal justice system purposely avoid engaging with particular institutions out of fear of the outcomes of those interactions. Brayne's (2014) work on system avoidance suggests that individuals in fear of coming into contact with the criminal justice system avoid surveilling institutions that keep formal records (e.g., banks, hospitals, formal employers, and schools) and therefore heighten the risk of apprehension by authorities. Fathers involved in the criminal justice system may thus refrain from parental involvement activities that require physical interaction with the school (Goffman 2009), such as volunteering or attending a parent-teacher conference.

Similarly, recent field work by Lageson (2016) at criminal record expungement clinics suggests that some people—many of them parents—are opting out of meaningful interactions with community institutions because of stigma or fear of having their online criminal records discovered by teachers, school officials, other parents, or their own children. This opting out can occur preemptively because parents believe they will be barred from schooling activities such as volunteering (extensive background clearances are required in some states) or because of fear of stigmatization and embarrassment. Choosing to opt out can occur even if charges are minor, ultimately dismissed, or time has been served, because online criminal records loom large in our digital world. Thus, as with system avoidance,

opting out would most likely inhibit fathers' school-based forms of parental involvement in schooling, and less so their home-based schooling activities.

Along with the ways paternal incarceration can limit a father's direct involvement in his child's schooling, his absence can also affect the remaining caregiver's capacity for schooling involvement. For example, if a father is incarcerated, the remaining caregiver may be forced to devote more time to employment, childcare activities, or court appearances. Moreover, research by Turney, Schnittker, and Wildeman (2012) and Wildeman, Schnittker, and Turney (2012) demonstrates that a father's incarceration is detrimental to a caregiver's mental health and access to parenting resources, suggesting paternal incarceration may also affect caregivers' ability to engage in home- and school-based forms of parental involvement in schooling via reductions in motivation, time, or ability. Finally, partners of men caught up in the criminal justice system may also choose to refrain from parental involvement activities that require physical interaction with the school, due to related fears of interaction with surveilling institutions, either to protect the father from further apprehension or to protect their family from stigmatization.

Paternal incarceration, whether past or recent, thus has the potential to hinder home- and school-based parental involvement in schooling, for both fathers and remaining caregivers. Given the literature, associations should be strongest among fathers and for school-based parental involvement. Nevertheless, as shown in other work on the effects of parental incarceration (e.g., Turanovic et al. 2012; Wakefield and Wildeman 2014), there is potential for null or even positive associations between a father's incarceration and parental involvement in schooling. For example, paternal incarceration might increase caregiver involvement when an abusive father is removed from the home by providing more household stability and allowing focus to shift to more engagement with the child. A father's involvement might also increase if his incarceration leads to a "turning point" moment (Edin et al. 2004), providing him with distance from negative influences and the opportunity to begin to rebuild ties with his children by encouraging them in school and supporting their educational interests.

Addressing Reporting Bias in Parental Involvement

The majority of research on parental involvement in education, even among two-parent families, relies solely on mothers' reports, rarely distinguishing between schooling efforts made separately by fathers and mothers (Kim and Hill 2015). This failure to explicitly include fathers, in addition to an overreliance on parent-only reports of school involvement (Barnard 2004), particularly given the social desirability of reporting educational engagement with children, has sparked concerns about reporting accuracy and reliability of results. Moreover, in research on effects of parental incarceration, some scholars have raised critiques about the reliance on only parental reports of child-related outcomes (Johnson and Easterling 2012), suggesting the usefulness of additional or alternative reporters. Exploring similar reports of parental involvement in schooling by paternal incarceration status across multiple respondents—primary caregivers, fathers, and teachers—addresses these parallel critiques and allows for a more robust and broader picture of the

impact of a father's incarceration on the likelihood of parental schooling engagement among urban elementary children.

RESEARCH QUESTIONS AND STUDY CONTRIBUTIONS

Utilizing the covariate richness and longitudinal nature of the FFS data, alongside multivariate regression analyses, this study begins by examining the association of having an ever-incarcerated father with parental involvement in schooling for children about age 9. We use primary caregiver and paternal self-reports, as well as teacher reports, of parental involvement in schooling to flesh out the potential depth and variation in the relationship between families, schools, and the criminal justice system. Furthermore, by examining results separately across home- and school-based forms of parental involvement, we hope to uncover ways in which this type of father absence may be unique to schooling engagement.

Beginning with comparisons between children with ever- and never-incarcerated fathers allows us to examine the association between paternal incarceration and parental involvement in schooling among the most generalizable group of urban children who experience this phenomenon, thus capturing extent. However, recognizing the limitations that are rightfully raised in research on effects of paternal incarceration (Travis et al. 2014), we use supplementary analyses with two alternative specifications of paternal incarceration to more specifically address issues of selection and unobserved heterogeneity. Moreover, to address concerns that our results simply reflect lower overall father-child interactions, we run separate analyses for children with high and low contact with their fathers. Finally, we explore teacher reports of school-based parental involvement among primary caregivers and fathers, and we conduct a test of the system avoidance mechanism across the multiple reports of school-based paternal schooling involvement.

DATA, MEASURES, AND ANALYTIC APPROACH

Fragile Families and Child Wellbeing Study

The FFS is a longitudinal birth-cohort study that follows 4,898 focal children and their parents, providing a representative, contemporary, and diverse sample of urban hospital births in large U.S. cities between the years 1998 and 2000.² For mothers, baseline interviews took place in hospitals within 48 hours after the birth of the focal child and for fathers, soon thereafter. Since the baseline wave, four additional follow-up waves of phone interviews have occurred, taking place when the child is approximately 1, 3, 5, and 9 years old. Each wave includes separate interviews of each parent, in-home direct assessments of the child and the home environment (starting at the Year 3 follow-up), and for the most recent wave—when the child is approximately 9 years old and has entered elementary school—it includes a teacher survey, a focal child survey, and administrative data on the child's elementary school.³ The baseline response rate for the nationally representative

²Sixteen cities were drawn from a stratified random sample of cities of 200,000 or more, and an additional four cities were targeted for special interest to specific foundations. Marital and non-marital births were randomly sampled within hospitals that were stratified by labor market conditions and policy environments (for a complete description of the sample and design, see Reichman et al. 2001); non-marital births were oversampled, making the unweighted data a sample of relatively disadvantaged families.

sample of mothers is 86 percent; for fathers it is slightly lower at 79 percent. Follow-up interview response rates for parents across waves can be found in Appendix Table A1.

The FFS is well-suited for this study for three main reasons. First, it is a contemporary dataset representative of urban families, a population often at high risk of experiencing criminal justice involvement and its consequences (Braman and Wood 2003). Second, it has a sizeable sample of fathers with information on incarceration histories and, when compared to national samples, is broadly representative of the current population of incarcerated fathers with young children (e.g., see Table 1 in Turney and Wildeman 2013). Third, it is one of the few data sources with elementary school-aged children, numerous indicators of parental involvement in schooling outcomes, and a wealth of background, demographic, environmental, household, health, neighborhood, and economic information to include as covariates. Our analyses take advantage of information across the five current waves of data, covering the first nine years of the focal child's life. The main analytic sample of $N=3,561$ includes all children in the FFS with valid data on our outcome measures of parental involvement in schooling at Year 9.⁴ Our analytic sample constitutes about 73 percent of the full FFS sample and looks descriptively quite similar, except respondents are slightly more likely to be black, less likely to be Hispanic, and somewhat more advantaged along indicators of education. Table 1 provides a descriptive snapshot of the overall analytic sample by paternal incarceration status. All but 5 of the more than 60 variables used in our main analyses are missing less than 19 percent of observations.⁵ To preserve missing data, we use multiple imputation with chained equations to produce 25 multiply imputed datasets. We perform analyses on each dataset and combine results using Rubin's (1987) rules (Royston 2005).

Measures

Parental involvement in schooling.—We explore seven outcomes of parent involvement in schooling, drawn from across the primary caregiver (93 percent are the biological mother), father, and teacher surveys at the Year 9 follow-up wave. In the FFS, parental involvement in schooling is self-reported by both parents, reported on by the child's teacher, and the primary caregiver also provides reports on the biological father. From these multiple reporting sources, we created separate home- and school-based parental involvement in schooling scales for both fathers and primary caregivers (PCG). The main two PCG scales of home- and school-based involvement are based solely on self-reports. The main two father scales rely primarily on self-reports (providing voice to an often-neglected population in the broader literature); however, to maximize the sample, we used PCGs' reports of the biological father's involvement in schooling as a supplement if his self-reports were missing.⁶ The remaining three individual measures are drawn from teachers' reports ($N=2,147$)⁷ and assess parental and paternal school-based involvement.

³.These attributes of the study help validate the reliability of the child and parent measures, in addition to providing information about disadvantaged fathers that is otherwise unavailable given their frequent underrepresentation in surveys (Hernandez and Brandon 2002; Reichman et al. 2001).

⁴.Of the original 4,898 cases in the FFS data, we dropped 1,128 because the primary caregiver did not participate at Year 9. We dropped an additional 209 cases because the father was deceased or unknown at any wave.

⁵.These five are missing due to father attrition. The variable with the most missing data (27 percent) is whether the father had depression or a substance use problem but did not receive treatment, one of our indicators of system avoidance.

Characterized as techniques used at home to encourage student learning and parent-child communication about school, we constructed both our paternal ($\alpha = .89$) and primary caregiver ($\alpha = .55$) home-based parental involvement in schooling scales using the following four items: (1) read books or talked about books, (2) talked about current events, (3) checked that homework was complete, and (4) helped with homework. Parents were asked about the frequency with which they did these activities with the focal child in the past month on a scale from 0 = not once to 4 = every week. Scores for each scale were summed, with higher numbers indicating greater home-based parental involvement in schooling. Outcomes are standardized in analyses for ease of comparisons.

The school-based measures of parental involvement consist of activities that require parents to physically engage with their children's school, such as attending parent-teacher conferences or volunteering at school events. The PCG school-based measure ($\alpha = .77$) includes the following 10 items: (1) attended an open house or back-to-school night, (2) went to a parent-teacher conference, (3) attended a school or class event child was in, (4) attended a PTA/PTO/similar-type meeting, (5) went to a school or class event child was *not* in, (6) volunteered or served on a committee, (7) met with school counselor, (8) visited child's classroom, (9) had a conference with the principal, and (10) went to a workshop about health/safety/nutrition. The paternal measure ($\alpha = .86$) consists of the first three items from the PCG construct (fathers were not asked about the remaining events). Parents were asked about the frequency with which they did these activities with the focal child in the past year on a scale from 0 = not once to 2 = more than once. Scores were summed, with higher numbers indicating greater school-based parental involvement in schooling. These outcomes were also standardized (*z*-scores) for ease of comparisons. In addition, we address skewness in the father involvement variables by using binary versions (coded 1 if the unstandardized version is greater than 0) for regression analyses.

Finally, teachers were asked during the current school year if the focal child's parents: (1) attended regularly scheduled conferences at the school or (2) volunteered to help in the classroom or school. Additionally, teachers separately reported whether the father (3) attended a conference or meeting at the school. These three individual measures of teacher-reported school-based parental and paternal involvement are binary (0 = no, 1 = yes). Figure 1 shows the descriptive distributions for all seven outcome measures.

Paternal incarceration.—Many fathers in the FFS experienced incarceration across the five study waves, indicating that paternal incarceration is not a rare event in the lives of urban U.S. children. At Year 1, the first follow-up wave, when the focal child was 1 year old and paternal incarceration was first measured (the baseline survey did not include direct

⁶Sixty-six percent of reports on fathers' school-based involvement, and 62 percent of reports on fathers' home-based involvement in schooling, are from the fathers themselves. The remainder supplement PCG reports of the father's schooling involvement. This strategy may introduce some bias, but it allows for the best maximization of data. Additionally, we removed 237 cases with a currently incarcerated father, and 63 cases for which current incarceration status was unknown at Year 9, from any analyses of father-reported school-based involvement in schooling measures. For father-reported home-based involvement in schooling measures, we left currently incarcerated fathers at Year 9 in the analytic sample but we control for current incarceration.

⁷This reduction in sample size is because not all teachers of focal children in the Year 9 follow-up wave participated in the survey, and their missingness is not random. Although this is a concern for generalizability, including these measures in supplementary analyses can help bolster results found in the main analytic models.

questions about incarceration experiences), approximately 30 percent of fathers in the study had experienced incarceration at some point in their lives, and this increased to nearly 46 percent by Year 9—totaling just over 2,300 dads.

We operationalize paternal incarceration in three different but complementary ways. First, we use an “ever incarcerated” indicator, which treats paternal incarceration as a marker of disadvantage and allows for estimation of the association between paternal incarceration and parental involvement in schooling for the broader group of children who experience this phenomenon, thus capturing extent. The “ever” measure is based on a combination of mother and father reports of father’s current or previous incarceration status across study waves. This measure combines reports of whether the father was “currently incarcerated” at the point-in-time of the interview and whether the father was “ever incarcerated” at any point prior to the interview wave. Mothers are asked, through a variety of interview questions, if their child’s father ever spent time in jail or prison, and fathers are asked if they have ever been imprisoned. If either mother or father answered yes to any question related to paternal incarceration, then we indicate the father as “ever” incarcerated for that and subsequent waves. This yields a sample of $N = 1,745^8$ ever-incarcerated fathers by the Year 9 survey wave.

However, complicating any work in this area is the fact that incarceration does not happen at random, and many of the same factors that predict incarceration may also be associated with parental involvement in schooling. Incarceration is often experienced alongside other forms of concentrated disadvantage (Sampson and Loeffler 2010); families with incarcerated and formerly incarcerated fathers are thus likely to suffer from forms of socio-structural disadvantage independent of incarceration. Moreover, fathers who become incarcerated often exhibit higher levels of antisocial and deviant behavior, such as domestic violence, impulsivity, and substance abuse (Murray, Loeber, and Pardini 2012), and these behaviors may have consequences for father involvement. Because these differences are likely associated with parental involvement in schooling independently of the father’s incarceration, one must contend with the possibility that both types of preexisting disadvantages account for some of the differences in parental involvement estimated.

Thus, to better address issues of timing and selection into incarceration, the second operationalization of paternal incarceration relies on a subsample of the “ever” group—fathers with *first-time* incarceration experiences occurring between the Year 1 and Year 9 surveys. This group excludes any father with previously indicated incarceration experiences at baseline or Year 1. Fathers in this second sample account for a smaller number of the proportion of incarcerated fathers ($N = 563$) but are more appropriate for estimating effects, because their first-time incarceration occurred after the collection of relevant baseline and Year 1 covariates. This sample refinement allows for a more mindful accounting of selection concerns (via rich, appropriately time-ordered covariate adjustment), but it introduces trade-

⁸The sample sizes listed here refer to those presented in Table 1 for the first of our 25 imputed datasets. However, sample sizes based on incarceration status vary across imputed datasets, because 94 of our 3,561 observations are missing information on whether they were ever incarcerated by Year 9, and 271 are missing on whether they experienced a subsequent incarceration between Years 1 and 9. Sample sizes in regression Tables 3 through 6 vary slightly from those in Table 1, because they are based on combining results across imputed datasets and thus do not include fathers whose imputed incarceration status varies across datasets.

offs related to generalizability, as fathers who avoided incarceration until later in life may represent a unique subsample of the broader population involved in the criminal justice system. In analyses for these first two indicators of paternal incarceration—(1) ever by Year 9 and (2) first-time between Year 1 and Year 9—we compare parental involvement in schooling against children with fathers who have no discernible incarceration histories or experiences (as reported by either mother or father) by Year 9 (never incarcerated: $N=1,816$).

Finally, to minimize sample selection bias, the third alternative specification of paternal incarceration begins with the remaining portion of the broader “ever” sample, focusing only on the group of children with fathers who experienced incarceration *before or by* the Year 1 survey ($N=1,182$). These fathers could have experienced incarceration at any point before the time of the Year 1 follow-up interview. After this sample refinement, the previously incarcerated fathers who go on to experience any subsequent (higher-order) incarceration⁹ between the Year 1 and Year 9 survey waves ($n=707$) are compared to the fathers who were never again incarcerated after Year 1 ($n=475$). Estimates for this group of fathers do not provide evidence for strong causal claims, as their incarceration potentially occurred before the measurement of important baseline and Year 1 covariates, but starting with a group of fathers who have similar incarceration histories and comparing those who experienced a subsequent incarceration to those who were never again incarcerated can address concerns regarding unobserved heterogeneity and provide estimates for an arguably more similar subsample of fathers. Figure 2 provides a descriptive picture of these paternal incarceration measures over FFS waves.

Controls.—The wealth of information available in the restricted version of the FFS data allows for the control of a host of characteristics of mothers, fathers, and their children likely to be associated with paternal incarceration and parental involvement in schooling. These include sample city categories,¹⁰ basic demographic and household characteristics, measures of health and economic well-being, a number of contextual (census-tract) characteristics, specific measures of maternal and paternal pre-schooling involvement, and parental psycho-social and deviant behaviors, all measured at baseline or Year 1 or are assumed fixed traits (e.g., cognitive ability measured at Year 3 using the Wechsler Adult Intelligence Test is treated as a fixed trait for parents). Table 1 provides a list of all included controls, along with descriptive statistics by paternal incarceration status. Adjusting for this rich set of controls helps diminish concerns that socio-structural disadvantage and deviant parental behaviors drive both a father’s incarceration and parental involvement in schooling.

Exploring variation and mechanisms.—Anticipating potential differences in parental involvement in schooling by degrees of father-child contact, supplementary analyses split the various analytic samples by high or low contact at Year 9 as a robustness check.¹¹ To create this binary measure, we use primary caregiver reports of how frequently their child

⁹.Our measure of subsequent or higher order incarceration may include some fathers who have been incarcerated continually since prior to Year 1, but we are unable to identify these fathers without data on the timing of incarceration.

¹⁰.To avoid small cell sizes in subsample analyses, we collapsed the 20 sample cities to eight categories based on high or low levels of the three characteristics used in the original sampling frame: labor market strength, welfare generosity, and child support enforcement (see Reichman et al. 2001:316).

saw the biological father in the past 30 days. High father-child contact is coded as 1 if the father saw the child nine or more days in the past month (i.e., more than on weekend days only); low father-child contact (seeing the child eight days or fewer in the past month) is indicated as 0.

Extending work by Brayne (2014),¹² we measure fathers' system avoidance in the Year 9 FFS data using a series of five binary indicators that together reflect various ways one may choose not to engage with important formal institutions suspected of record keeping. Fathers report whether at the time of the survey they (1) are neither working nor in school; (2) have no bank account of their own or shared with a spouse/partner; (3) think they were eligible for welfare or Temporary Assistance to Needy Families (TANF) in the past 12 months but did not apply; (4) think they were eligible for food stamps or EBT (electronic bank transfer) in the past 12 months but did not apply; and (5) had depression or a substance use problem in the past 12 months but did not receive counseling, therapy, or other treatment.¹³ These measures reflect the various forms of educational, labor market, financial, and medical institutional avoidance fathers may practice in efforts to minimize their interactions with the criminal justice system. Because these items are not applicable to fathers who are currently incarcerated at Year 9 (6.9 percent of the analytic sample), we exclude them from models of fathers' school-based involvement. Table 1 provides descriptive means for this set of measures by paternal incarceration status.

Analytic Approach

We estimate a series of multivariate linear and logistic regression analyses on multiply imputed data and implement a multi-tiered analytic approach to assess the association between paternal incarceration and parental involvement in schooling. First, we examine the association between any paternal incarceration by Year 9 and parental involvement, including school- and home-based involvement as reported by both primary caregivers and fathers. We also control for a long list of observed socio-structural characteristics of families and deviant behaviors of parents. Next, we follow this same technique to examine the association of a father's first-time incarceration between Years 1 and 9 compared to no incarceration. Third, following the same steps again, we examine the association between a father's subsequent incarceration between Years 1 and 9 compared to fathers who last experienced incarceration before or by Year 1. We then move to a series of robustness checks by running all models separately by father-child contact at Year 9 and then modeling teacher-reports of parental and paternal school-based involvement. Finally, constructing our measures as closely as possible to those in Brayne (2014), we examine the extent to which system avoidance explains the association between paternal incarceration and fathers' school-based involvement. To do this, we use the Karlson, Holm, and Breen (2012)

¹¹·These supplementary analyses, although informative, have two limitations. One, they are underpowered to detect effects at the conventional .05 level, due to the reductions in subsample sizes among the cells of father-child contact, the three paternal incarceration status comparisons, and the four parental involvement in schooling outcomes. Second, they may severely underestimate the effects of father incarceration because they control for father-child contact at Year 9, a characteristic that is highly influenced by paternal incarceration (Geller 2013) and highly correlated with involvement in schooling.

¹²·Using Add Health data, Brayne (2014) uses (1) neither working nor in school, (2) no bank account, and (3) needed medical care but did not obtain it as indicators of system avoidance.

¹³·Mothers' reports about the father are used where possible for missing data; mothers' self-reports are used for welfare/TANF and SNAP information only if she was married to or living with the father at the time of the survey and he did not participate.

method for mediation analysis with a binary outcome. This method, explained in greater detail below, accounts for the change in scaling that occurs across nested logistic regression models.

RESULTS

Sample Description

As demonstrated in Figure 2, FFS data display high patterns of early exposure to paternal incarceration. Table 1 presents descriptive statistics by paternal incarceration status for both the full and subgroup analytic samples. In general, children with incarcerated fathers are more likely to be black, experience higher levels of poverty, and reside in neighborhoods that have higher concentrated disadvantage and are perceived to be unsafe. Parents of these children are on average younger, have lower levels of education, are less likely to be married at the time of the child's birth, and have higher levels of impulsivity. Fathers with a history of incarceration also have more problems with substance abuse and domestic violence.

With regard to parental involvement in schooling, compared to national estimates of self-reported school-based parent involvement for children in grades K to 12 by parental education level (drawn from a Child Trends 2013 report), the main analytic sample exhibits quite similar descriptive patterns, as demonstrated in Figure 3. Even though the data sources (i.e., FFS and Child Trends) used to create Figure 3 are not directly comparable, the similarities in education gradient and percentage of parent school-based involvement across education levels is striking, easing some concerns of generalizability of our sample.

Across the four outcomes explored—paternal and maternal home-based and school-based involvement in schooling—Table 1 shows significant unadjusted mean differences. Incarcerated fathers, regardless of the specification, have consistently and significantly lower home- and school-based involvement in schooling. Descriptive differences between the primary caregiver's home- and school-based involvement in schooling measures are a little less consistent. Paternal incarceration appears to be associated with lower school-based involvement for mothers, but the differences are not as distinct for the home-based measure.

Regression Analyses

Capturing extent.—Highlighting the potential for paternal incarceration to serve as an important marker of disadvantage, Table 2 presents bivariate and multivariate regression results for the full analytic sample ($N = 3,561$), making parental involvement in schooling comparisons between children with ever- and never-incarcerated fathers at Year 9. Beginning with *school-based* involvement, the columns present bivariate results for primary caregivers and then fathers, showing highly significant differences for both school-based involvement outcomes. Because paternal school-based involvement is not possible with an incapacitated father, we exclude 300 cases with a father who was currently incarcerated at Year 9. Adding controls reduces the magnitude of the coefficients; however, paternal incarceration is still associated with significant reductions in primary caregiver involvement in school-based activities ($\beta = -.081$). After adding controls, the association between whether the father was ever incarcerated and his involvement in school-based activities continues to be strong,

negative, and statistically significant ($\beta = -.323$), suggesting a 28 percent reduction [$(e^{-.323}) - 1 \cdot 100$] in the odds of involvement.

Associations between paternal incarceration and *home-based* parental involvement in schooling look a bit different depending on the parent. For primary caregivers, the majority of whom are the child's mother, neither bivariate nor multivariate models indicate significant differences in reports of *home-based* parental involvement in schooling by paternal incarceration status. However, for fathers, ever being incarcerated is significantly associated with reductions in their participation in home-based schooling activities ($\beta = -.486$; 38 percent lower).

Attending to selection and unobserved heterogeneity.—We conducted the following supplementary analyses to be mindful of concerns regarding selection and unobserved heterogeneity within this sample of urban children with incarcerated fathers. Table 3 presents results for the first set of analyses, which draws comparisons of primary caregiver and father involvement in schooling between children with never-incarcerated fathers and the subgroup of fathers who experienced a first-time incarceration between Years 1 and 9 ($N = 2,327$). Focusing on this subsample allows for a more appropriate alignment in the time ordering of control variables, producing estimates that undergo a bit more causal scrutiny.

Bivariate and multivariate results for *school-based* involvement among primary caregivers and fathers using this alternative specification of paternal incarceration are found in the first row of Table 3. The primary caregivers of children with fathers incarcerated for the first-time between Years 1 and 9 show lower levels of school-based involvement compared to their counterparts with no incarceration history, but this association is only marginally statistically significant in the bivariate model. However, patterns for fathers continue from the previous table, suggesting that even in these more robust models there are highly significant and negative associations between paternal incarceration and a father's involvement in school-based activities ($\beta = -.585$; 44 percent reduction). With regard to *home-based* parental involvement in schooling, as presented in the second row of Table 3, neither bivariate nor multivariate models indicate significant (or negative) differences in primary caregiver reports by paternal incarceration status. However, again, experiencing a first-time incarceration between Years 1 and 9 is associated with a reduced log-odds ($\beta = -.701$; 50 percent lower odds) of a father participating in home-based schooling activities.

The second set of supplementary analyses, found in Table 4, attempts to address unobserved heterogeneity by limiting the analytic sample to children with fathers who reported being incarcerated before or by Year 1 ($N = 1,140$). From there, we draw comparisons of parental involvement in schooling between children whose fathers were never incarcerated again by Year 9 and children with fathers who experienced any subsequent or higher-order incarceration during that same timeframe. Patterns in bivariate and multivariate results for primary caregivers and fathers across both school- and home-based parental involvement in schooling measures show consistency across paternal incarceration specifications. We find no statistically significant results for primary caregivers. Among fathers with previous incarceration histories, a subsequent incarceration appears to be strongly associated with

reductions in the odds of involvement in schooling activities, decreasing both measures by 43 and 57 percent, respectively ($\beta = -.567$ for school-based involvement; $\beta = -.854$ for home-based involvement).

In summary, the above analyses suggest rather consistent associations between paternal incarceration and parental involvement in schooling. Paternal incarceration does not appear to significantly inhibit a primary caregiver's ability to engage in schooling activities; however, there are large reductions in paternal school- and home-based involvement among fathers with incarceration histories. Before examining potential mechanisms of this association, we perform a series of supplementary analyses to examine the robustness of these findings. We first examine variation by father-child contact at Year 9 and then substitute in teacher reports of parental and paternal involvement in schooling.

Exploring variation by father-child contact at year 9.—Given that parental involvement in schooling is contingent on some basic level of parental contact, we conducted supplementary analyses (not shown; see Table S1 in the online supplement) to address concerns that differences in paternal involvement in schooling may just be reflections of lower father involvement, and not uniquely associated with experiencing incarceration. Specifically, these analyses assess the association between each of the three paternal incarceration specifications (ever/never; first-time between Year 1 and Year 9/never; higher-order incarceration between Year 1 and Year 9/no additional incarceration after Year 1) and the primary caregiver and father schooling involvement measures, separately for children with high (children who saw their father nine or more days in the past month) and low (children who saw their father eight or fewer days in the past month) contact with their fathers at Year 9.

Disaggregating the data into these various subgroups results in a considerable loss of power to detect effects at the conventional .05 level (see note 11); not surprisingly, once controls are added, we find few statistically significant effects. Consistent with earlier models, no matter how paternal incarceration is operationalized, we find no statistically significant differences in primary caregiver reports of home- or school-based involvement for children with *high father-child contact* in the multivariate models. For fathers who had greater contact with their children at Year 9, bivariate results indicate significant negative associations when comparing children with ever-incarcerated fathers to those with never-incarcerated fathers, and children with fathers incarcerated for the first time between Year 1 and 9 to those with never-incarcerated fathers, for both school- and home-based involvement. However, after controls are added, these coefficients lose their statistical significance.

With regard to primary caregiver reports of involvement in schooling for children with *low father-child contact*, home-based involvement remains unaffected by paternal incarceration status. For PCG reports of school-based activities among children with similarly low-contact fathers, the significant negative association found in the bivariate models not only remains when controls are added but increases, suggesting that compared to similar children with never-incarcerated fathers, having an ever-incarcerated father or a father incarcerated for the first time between Years 1 and 9 is associated with a reduction of about .2 standard deviations ($\beta = -.199$ for ever-incarcerated; $\beta = -.217$ for first-time incarceration) in

school-based involvement for primary caregivers. Finally, even among less involved fathers, paternal incarceration appears to have an independent association with reductions in fathers' involvement in schooling, although only marginally once controls are added.

Using teacher reports of school-based parental involvement at year 9.—To this point, all previous models relied on parental reports of schooling involvement. Given that involvement in children's education and schooling is generally seen as socially desirable, there is potential for parents to over-report this behavior. The next analyses, which can be found in Table 5, substitute in teacher reports of school-based parental involvement to test the robustness of the association between paternal incarceration and parent involvement in schooling. All bivariate models show statistically significant differences by the various paternal incarceration statuses for the three teacher-reported parent involvement in schooling outcomes explored—parent conference attendance, parental volunteering, and father's conference attendance. For the two general “parent” measures, when controls are added, statistically significant associations remain for teachers' reports of volunteering ($\beta = -.306$) among children of ever-incarcerated fathers, suggesting a reduction in the odds of school involvement of 26 percent. Most striking, however, are the results for teacher reports of father conference or meeting attendance. Even after the inclusion of controls, and regardless of how paternal incarceration is operationalized, we find strong, negative, and significant differences, in the range of 35 to 53 percent ($\beta = -.440$ for ever-incarcerated; $\beta = -.489$ for first-time incarceration; $\beta = -.764$ for subsequent incarceration), for teacher reports of fathers' conference attendance. These results, in combination with the ones presented previously, give credence, via the use of an outside reporter, to the broader story that paternal incarceration is associated with lower parental involvement in schooling, particularly for activities that require parents to engage physically with the school.

Testing the system avoidance mechanism.—Finally, Table 6 presents results of a test of the system avoidance mechanism. Given the consistency of findings for fathers across involvement measures and incarceration specifications, an exploration of whether institutional avoidance mediates a part of the association among teacher and father self-reported school-based involvement is warranted. In line with Brayne (2014), each indicator of system avoidance is first entered into the models individually (as seen in the first five columns), then entered together as reported in the final column. We test this mediating effect of system avoidance separately across each of the three specifications of paternal incarceration for both the father self-reports and the teacher reports of fathers' school-based involvement.

Results suggest that system avoidance may partially explain the association between paternal incarceration and father involvement in school-based activities for both paternal self-reports and teacher reports. Estimates from the final models for father self-reports, which include all institutional avoidance measures, suggest system avoidance mediates as much as 22 percent of the association. Similarly, for teacher reports of fathers' school-based involvement, as much as 13 percent of the association is explained. However, comparing coefficients across nested logistic regression models may underestimate the extent to which the association between an explanatory variable and a binary outcome is mediated by confounders. In

contrast to linear models, the coefficient of interest depends not only on the presence or absence of a confounding variable in the model, but on the residual variance, which is not identified and depends on which other variables are included in the model. Thus, the scale on which the incarceration coefficient is estimated is not the same across models (Winship and Mare 1984).

We resolve this issue using the Karlson and colleagues (2012) method, which examines the level of confounding, or the percent change in the incarceration coefficient from the reduced model (mediators excluded) to the full model (mediators included), relative to the change in scaling that occurs when mediators are added (Kohler, Karlson, and Holm 2011). Using this method in each of the 25 multiply imputed datasets (results not shown for parsimony), findings still suggest that system avoidance partially explains the association between paternal incarceration and school-based father involvement, and it does so consistently across specifications of incarceration.

Indicators of system avoidance explain 24 percent of the association of any prior incarceration with fathers' self-reported school-based involvement, and in models of teacher-reported involvement in schooling, system avoidance explains 9 percent of the association. When incarceration is specified as experiencing a first-time incarceration between Years 1 and 9, system avoidance indicators explain 12 percent of the association with father self-reports and 3 percent for teacher-reported paternal school-based involvement. For fathers with a subsequent incarceration after Year 1, system avoidance indicators explain 11 percent of the self-reported association and 17 percent for teacher-reported involvement. The indirect effects estimated from fathers' self-reports are statistically significant for the ever/never comparison ($p = .001$) and for the first-time/never comparison ($p = .017$), but not for the subsequent incarceration comparison ($p = .193$). Models of teacher-reported schooling involvement suggest that among fathers who are more involved in the criminal justice system (i.e., fathers with any subsequent incarceration), system avoidance explains a larger portion of the incarceration-schooling involvement findings.

Finally, we tested an additional mediator in the form of parent-reported time and transportation constraints (see Table A2 in the Appendix). Parents were asked if inconvenient meeting times or problems with transportation made it harder for them to participate in activities at their children's school. This binary measure was negatively associated with father involvement ($\beta = -.328$ for ever-incarcerated; $\beta = -.593$ for first-time incarceration; $\beta = -.569$ for subsequent incarceration; coefficients for teacher-reported involvement are similar) and significant ($p < .01$), but it explained less than 1 percent of the association between incarceration and fathers' school-based involvement, suggesting that system avoidance is more influential than these practical constraints.¹⁴

¹⁴. This alternative mediating variable of time and transportation constraints is missing in 36 percent of cases because it was not asked of fathers who had not seen the child in the past year, and it could not be supplemented with mothers' reports. However, we found similar results when these cases were removed from the analysis instead of being imputed.

DISCUSSION

In drawing attention to the interactions occurring at the intersection of three of the United States' most powerful social institutions—families, schools, and the criminal justice system—this work highlights an additional dimension in the growing “incarceration ledger” (Sampson 2011) by suggesting that paternal incarceration is a unique marker of disadvantage associated with reductions in fathers' home-based schooling involvement and fathers' and primary caregivers' school-based involvement. Having an ever-incarcerated father is significantly associated with reductions in self-reported school-based involvement—such as attending conferences, volunteering at school, or participating in parent-teacher organizations—for primary caregivers by .08 standard deviation units and for fathers by 28 percent lower odds. Paternal incarceration is not negatively associated with home-based schooling activities (like reading books and helping with homework) in which primary caregivers engage with their children, but it is associated with reductions in fathers' self-reports of such activities by nearly 40 percent.

These findings for fathers are, for the most part, robust to variation in father-child contact and across two alternative specifications of paternal incarceration. Experiencing a first-time incarceration during a child's formative years, compared to no incarceration, reduces fathers' school-based involvement by 44 percent and home-based involvement in schooling by 50 percent. Experiencing a subsequent incarceration during the same period, compared to experiencing incarceration only prior to the child's 1st birthday, produces estimates of paternal reductions in school- and home-based involvement by 43 and 57 percent, respectively. By reducing unobserved heterogeneity between incarcerated fathers and those in the reference category, thereby minimizing selection influences, these specifications uniquely address concerns that have plagued work in this area.

Moreover, the inclusion of teacher reports reduces the likelihood that results are influenced by reporting bias, and it provides further evidence that paternal incarceration may be harmful for parental involvement in schooling. With increases in the number of young school-aged children with incarcerated parents, this study suggests there may be strong, lasting, and negative intergenerational and interinstitutional consequences of paternal incarceration for children. Understanding this association is essential because for children with current or formally incarcerated parents, their long-term prospects are likely tightly linked to their success in school.

Next, our findings suggest that following incarceration, system avoidance is a strong, partial mechanism for fathers' lower involvement in activities at their children's school. Our indicators of system avoidance, which are closely patterned after Brayne (2014), appear to explain more of the association for fathers who are more involved with the criminal justice system, particularly when examining teacher-reported involvement. As Lareau (1987) suggests, teachers often interpret parental involvement as a reflection of the value parents place on their children's educational success. However, a father's avoidance of his child's school may be due to fear of apprehension, in the more literal sense of “system avoidance,” or fear of stigmatization as implied in research on “opting out” (Lageson 2016). Moreover, Dallaire, Ciccone, and Wilson (2010) highlight how teacher stigmatization and lowered

expectations within schools further harm the educational success of children who have experienced parental incarceration. Thus, our findings speak to studies that highlight the social exclusion of formerly incarcerated individuals and their families (Foster and Hagan 2007, 2015) and suggest that incarceration may lead fathers to exclude themselves from important opportunities to be involved in their children's schooling. This lower involvement in school-based activities due to distrust or fear of surveilling institutions is similar to that experienced by undocumented immigrant parents of U.S.-born children (Pérez Carreón, Drake, and Barton 2005). Schools often provide access to resources and information, avenues of social integration, and means for greater social control of children, so this lower involvement may be consequential for children's success. Therefore, children with incarcerated fathers may benefit from added support from educators, counselors, and school administrators.

This study is illustrative, but it is not without limitations. First, our reliance on observational data and our inability to examine within-individual changes in parental involvement in schooling preclude us from making strong causal claims. However, we attempt to address potential bias due to unobserved heterogeneity by including multiple alternative specifications of incarceration that allow for better comparisons of "like with like" (Firebaugh 2008). Our models also include a long list of observed covariates of paternal incarceration, including impulsivity, substance use, domestic violence, and multiple indicators of socioeconomic and neighborhood disadvantage. We also control for early maternal and paternal reading to the child, which approximates a lagged form of our outcome measures. Second, given the focal population of the FFS data, our findings may not be generalizable beyond urban-born children, although we find similar levels of parental involvement among national samples (Child Trends 2013), providing some credence to our estimates. Moreover, we are unable to establish the appropriate temporal order between our indicators of system avoidance and our outcome measures of parental involvement, even though the appropriate causal direction from paternal incarceration to system avoidance is in place. Finally, theory suggests reductions in parental school involvement due to paternal incarceration by (partial) way of system avoidance would have deleterious consequences for children's educational outcome such as grades, behavioral assessments, or test scores, but testing this full relationship was beyond the scope of our data. We can turn to existing studies, such as Haskins (2015, 2016), for evidence that paternal incarceration is associated with lower behavioral functioning and cognitive skills for young school-aged children, but future work should seek to further connect each of these important components.

CONCLUSION

Given the reoccurring interest among researchers, policymakers, and educational reformists in the interconnection between families and schools and how that translates into student success, this study highlights the potential ways—both obvious and hidden—the social phenomenon of mass incarceration has shaped and structured schooling in the United States. The findings suggest that fathers' incarceration is associated with lower levels of home- and school-based dimensions of parental involvement in schooling. Parents play important roles in their children's lives, and parental involvement in elementary schooling in particular is meaningful for a range of proximate and distal child outcomes. Moreover, attachment to

social institutions like schools is consequential, as they provide access to traditional avenues of social mobility.

As evidence of the depth and social cost of mass incarceration grows, the need for holistic social policies that take into account the varied ways families, schools, and the criminal justice system interact are increasingly necessary to prevent the cyclical reproduction of inequality across generations. Parental involvement in schooling is alterable, as are parental perceptions of schools as safe spaces. Both can be enhanced by research-based interventions or changed via policy. With recognition of the issues that arise for children and families when schools are perceived as surveilling institutions, policies that increase parental involvement among children of the incarcerated may lead to improved family-school partnerships and educational success for this growing population of U.S. children.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Biographies

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APPENDIX

Table A1.

Response Rates by Wave for Fragile Families and Child Wellbeing Study

	Mothers			Fathers		
	Overall	Married	Unmarried	Overall	Married	Unmarried
Baseline	86%	82%	87%	79%	89%	77%
Year 1	91%	91%	91%	74%	83%	71%
Year 3	88%	90%	88%	72%	83%	68%
Year 5	87%	88%	87%	70%	79%	67%
Year 9	76%			59%		

Note: Fathers' and mothers' percentages for Years 1, 3, and 5 are of eligible baseline mothers. All percentages exclude 109 of the 4,898 total families that are followed, because these are not part of the national or city samples but were originally included as part of a separate study. The 109 are not included in any of our analytic samples. See Reichman and colleagues (2001) for sampling details and the following documentation for more information: http://fragilefamilies.princeton.edu/sites/fragilefamilies/files/ff_public_guide_0to5.pdf.

Table A2.

Log Odds Representing the Association between Paternal Incarceration and Fathers' School-Based Involvement, Based on Self-Reports and Teacher-Reports of Involvement; Examining the Mediating Effect of Fathers' Time and Transportation Constraints

Father Incarceration Status	Add Time and Transportation Constraints		
	<i>b</i>	<i>se</i>	<i>N</i>
Father Involvement Self-Reports			
Ever incarcerated by Y9 (vs. never)	-.328	(.095)**	3,261
Incarcerated first time Y1–Y9 (vs. never)	-.593	(.127)***	2,239
Incarcerated again Y1–Y9 (vs. prior to Y1 only)	-.569	(.185)**	951
Father Involvement Teacher-Reports			
Ever incarcerated by Y9 (vs. never)	-.475	(.124)***	1,977
Incarcerated first time Y1–Y9 (vs. never)	-.531	(.167)**	1,379
Incarcerated again Y1–Y9 (vs. prior to Y1 only)	-.786	(.292)**	556

Note: Fragile Families and Child Wellbeing Study. Sample limited to eligible children whose teacher participated in a mail-in survey at Year 9. Observations with missing data on all parental involvement variables or that have a deceased or unknown father at any wave are excluded. Fathers with a current or unknown incarceration status at Y9 are also excluded. Control variables include mother criminal justice contact, father impulsivity, mother impulsivity, father substance abuse, mother violence victimization by father, mother married or cohabiting with father at child's birth, mother-father relationship quality, mother reads to child at one-year survey, father reads to child at one-year survey, father-child contact, either parent not a citizen, father age, mother lived with both parents at age 15, father lived with both parents at age 15, mother education, father education, mother cognitive ability, father cognitive ability, mother religious attendance, father religious attendance, mother depression, father depression, mother unemployment, father unemployment, father military service, mother-father income-to-poverty ratio, mother-father hardship, mother-father neighborhood disadvantage, father unsafe neighborhood, mother unsafe neighborhood, mother parenting stress, children in household, mother multipartner fertility, mother spansks child, child race, child gender, low birth weight, child poor health, and sample city category. Results based on 25 multiply imputed datasets.

**
 $p < .01$

 $p < .001$ (two-tailed tests).

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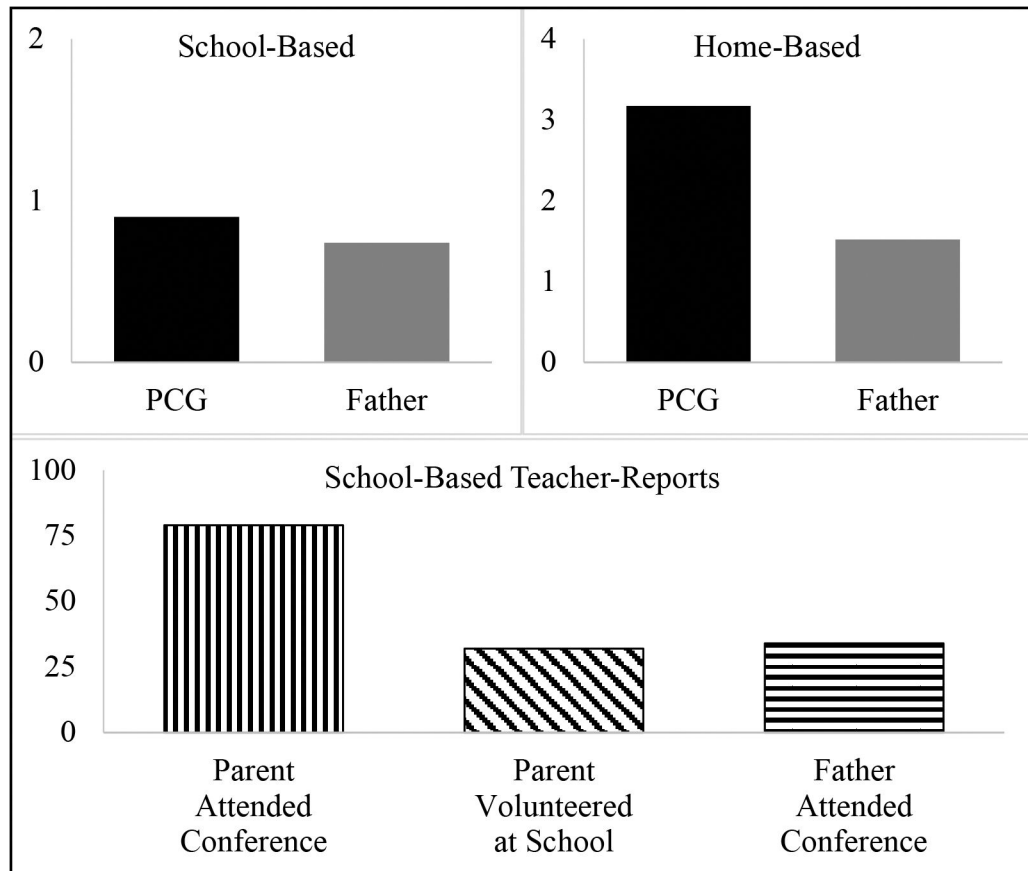


Figure 1.

Seven Measures of Parental Involvement in Schooling

Note: Fragile Families and Child Wellbeing Study. Sample for self-reports limited to cases with non-missing data for all self-reported measures ($N = 3,561$). Sample for teacher-reports limited to cases with non-missing data for all teacher-reported measures ($N = 2,147$). Data are unweighted.

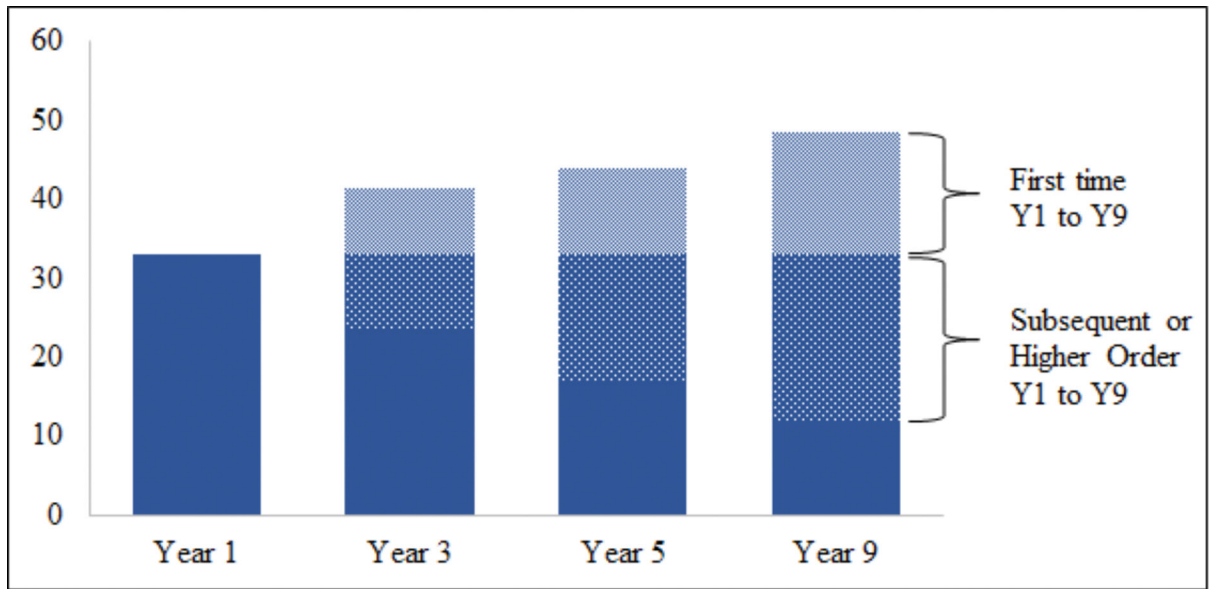


Figure 2.
 Percent of Fathers Ever Incarcerated at Each Follow-up Wave
Note: Fragile Families and Child Wellbeing Study. Excludes cases with missing data on incarceration status at any wave ($N = 3,561$). Data are unweighted.

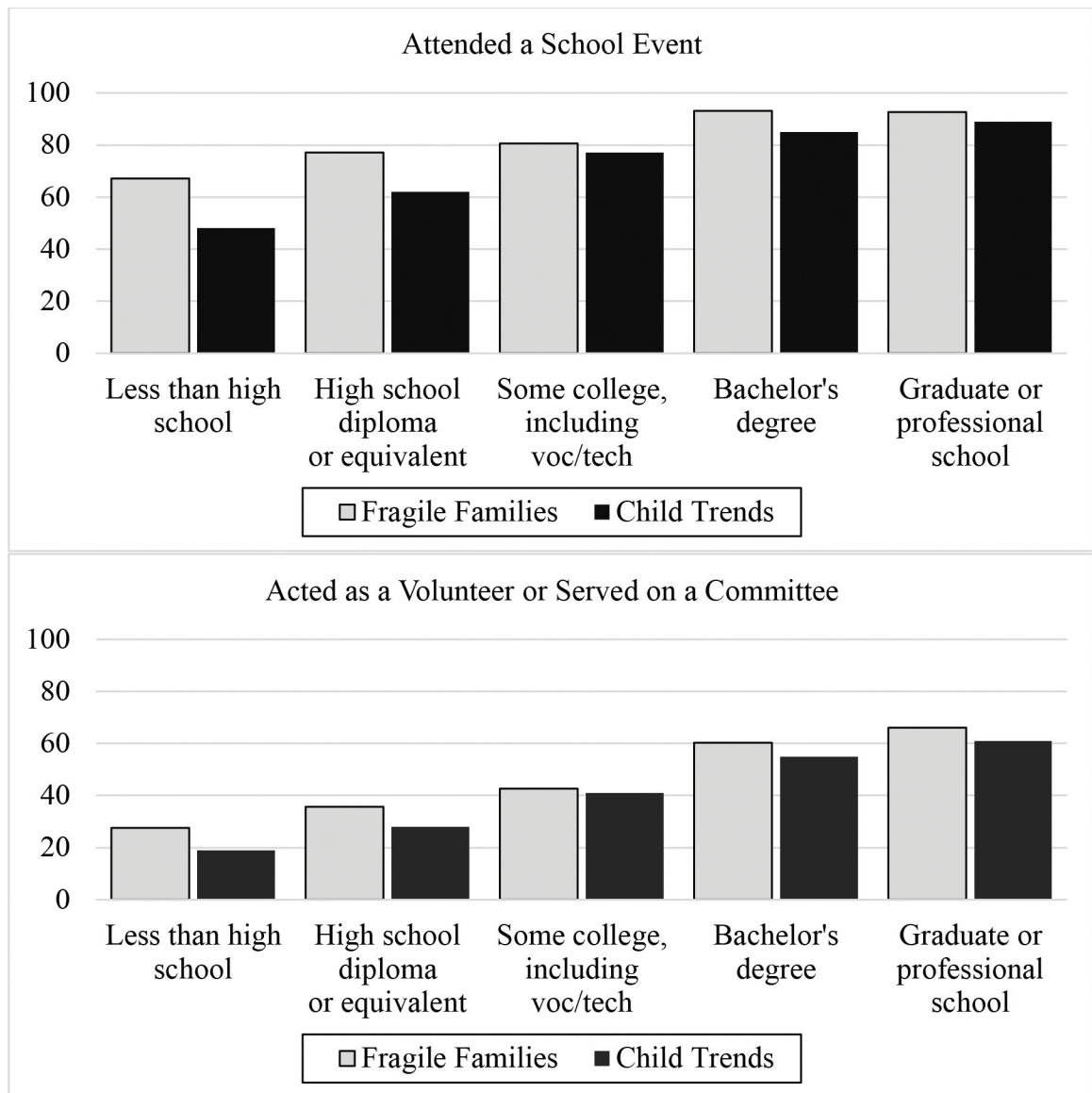


Figure 3.
 Parental School-Based Involvement by Education Level
Note: Fragile Families Study data based on full, unweighted analytic sample ($N = 3,561$).
 Education level represents highest reported by primary caregiver by Year 9. Child Trends
 data from Figure 2 in Child Trends (2013).

Table 1.

Descriptive Statistics by Paternal Incarceration Status

Variables	Full Analytic Sample						Father Incarcerated					
	Father Never Incarcerated			Before or by Y1			First-Time Between Y1 and Y9			Father Incarcerated		
	Mean	SD		Mean	SD		Mean	SD		Mean	SD	
Parental Involvement in Schooling												
Primary caregiver school-based (z-scores)	-.01	1.00	.06	.98	1.00	1.00	-.10	1.00	1.00	-.03	1.04	
Primary caregiver home-based (z-scores)	-.01	1.00	-.01	1.00	1.00	1.02	-.02	1.02	1.02	.06	.97	
Father school-based (z-scores)	.00	1.00	.26	1.00	1.00	.94	-.25	.94	.94	-.26	.93	
Father home-based (z-scores)	.01	1.00	.30	.96	.96	.95	-.29	.95	.95	-.30	.94	
Father Incarceration Status												
Ever incarcerated by Y9	.49		.00				1.00			1.00		
Incarcerated first time between Y1 and Y9	.16		.00				.00			1.00		
Father System Avoidance												
Never incarcerated	.51		1.00				.00			.00		
No bank account	.42		.24				.63			.55		
Not working or in school	.27		.14				.43			.35		
Needed welfare/TANF but did not apply	.12		.07				.18			.15		
Needed food stamps/EBT but did not apply	.10		.07				.14			.14		
MH/substance use problem but did not seek treatment	.13		.09				.19			.16		
Control Variables												
Father currently incarcerated at Y9	.07		.00				.15			.12		
Mother criminal justice involvement	.19		.12				.29			.21		
Father impulsivity (z-scores)	.01	1.00	-.25	.85	.85	1.08	.37	1.08	.09	.09	.98	
Mother impulsivity (z-scores)	-.01	.98	-.13	.96	.96	.99	.15	.99	.05	.05	1.02	
Father substance abuse	.15		.07				.29			.13		
Mother violence victimization by father	.12		.06				.20			.10		
Mother and father married	.24		.40				.07			.12		
Mother and father cohabiting	.37		.32				.42			.41		
Mother and father very good relationship quality	.52		.63				.37			.46		

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Variables	Father Incarcerated							
	Full Analytic Sample		Father Never Incarcerated		Before or by Y1		First-Time Between Y1 and Y9	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Mother reads to child every day	.31		.33		.28		.31	
Father reads to child every day	.19		.23		.14		.17	
Father saw child 9 or more days of past 30	.76		.86		.61		.77	
Neither parent a U.S. citizen	.14		.20		.08		.10	
Father age (14 to 67 years)	28.11	7.23	29.78	7.46	26.76	6.53	25.56	6.53
Mother lived with both parents at age 15	.43		.52		.33		.32	
Father lived with both parents at age 15	.44		.55		.31		.38	
Mother postsecondary schooling	.36		.49		.22		.25	
Father postsecondary schooling	.31		.45		.15		.20	
Father cognitive ability (z-scores)	-.01	.99	.05	1.04	-.06	.93	-.12	.92
Mother cognitive ability (z-scores)	.02	1.01	.09	1.05	-.06	.98	-.07	.92
Father religious attendance	.32		.37		.26		.27	
Mother religious attendance	.38		.44		.32		.36	
Mother depression	.16		.13		.21		.15	
Father depression	.13		.09		.18		.15	
Father military service	.12		.15		.08		.12	
Mother unemployment	.22		.15		.30		.25	
Father unemployment	.26		.16		.40		.31	
Log mother-father Hh income-to-poverty ratio (0 to 3.61)	.96	.55	1.13	.56	.76	.47	.82	.45
Mother or father experienced material hardship	.59		.48		.74		.66	
Mother-father neighborhood disadvantage (z-scores)	.01	.79	-.15	.79	.17	.75	.16	.78
Father unsafe neighborhood	.72		.69		.76		.75	
Mother unsafe neighborhood	.74		.70		.78		.81	
Mother parenting stress (z-scores)	.00	1.01	.05	1.01	-.08	1.02	.01	1.01
Mother children in household (0 to 10)	2.30	1.33	2.19	1.28	2.44	1.40	2.36	1.33
Mother multipartner fertility	.35		.29		.44		.39	
Mother spansks child	.28		.25		.35		.28	
Child non-Hispanic black	.50		.40		.60		.58	
Child Hispanic	.31		.33		.28		.29	

Variables	Full Analytic Sample		Father Never Incarcerated		Father Incarcerated	
	Mean	SD	Mean	SD	Mean	SD
Child male	.53		.53		.53	
Child age in months (104 to 132)	112.73	4.60	112.61	4.51	112.95	4.80
Child low birth weight	.09		.08		.12	
Child poor health	.34		.33		.39	
<i>N</i>	3,561		1,816		1,182	
						563

Note: Fragile Families and Child Wellbeing Study. Observations with missing data on all parental involvement variables or that have a deceased or unknown father at any wave are excluded. Presented statistics are based on the first of 25 multiply imputed datasets. Sample city categories are not shown for reasons of parsimony. Y1 = Year 1 follow-up survey; Y9 = Year 9 follow-up survey; TANF = Temporary Assistance for Needy Families; EBT = Electronic Benefit Transfer; MH = mental health; Hh = household. All controls were measured at the baseline or Y1 follow-up surveys or considered fixed traits.

Table 2.

Regression Models Representing the Association between Paternal Incarceration and Parental Involvement in School by Type of Involvement: Ever Incarcerated by Year 9 Compared to Never Incarcerated ($N = 3,561$)

	Primary Caregiver Self-reports				Father Self-reports							
	Linear Regression Coefficients				Log Odds Coefficients							
	Incarceration		Add Controls		Incarceration		Add Controls					
<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>					
School-based	-.132	(.034)	***	-.081	(.041)	*	-.901	(.076)	***	-.323	(.095)	**
Home-based	.024	(.034)		.034	(.040)		-1.244	(.080)	***	-.486	(.106)	***

Note: Fragile Families and Child Wellbeing Study. Observations with missing data on all parental involvement variables or that have a deceased or unknown father at any wave are excluded. Control variables include whether the father is currently incarcerated at Y9, mother criminal justice contact, father impulsivity, mother impulsivity, father substance abuse, mother violence victimization by father, mother married or cohabiting with father at child's birth, mother-father relationship quality, mother reads to child at one-year survey, father reads to child at one-year survey, father-child contact, either parent not a citizen, father age, mother lived with both parents at age 15, father lived with both parents at age 15, mother education, father education, mother cognitive ability, father cognitive ability, mother religious attendance, father religious attendance, mother depression, father depression, mother unemployment, father unemployment, father military service, mother-father income-to-poverty ratio, mother-father hardship, mother-father neighborhood disadvantage, father unsafe neighborhood, mother unsafe neighborhood, mother parenting stress, children in household, mother multipartner fertility, mother spansks child, child race, child gender, low birth weight, child poor health, and sample city category. Results based on 25 multiply imputed datasets. Models of father self-reported school-based involvement exclude fathers with current or unknown incarceration status at Y9 ($n = 300$).

* $p < .05$

** $p < .01$

*** $p < .001$ (two-tailed tests)

Table 3.

Regression Models Representing the Association between Paternal Incarceration and Parental Involvement in School by Type of Involvement: Incarcerated for the First Time between Years 1 and 9 Compared to Never Incarcerated ($N = 2,327$)

	Primary Caregiver Self-reports			Father Self-reports						
	Linear Regression Coefficients			Log Odds Coefficients						
	<u>Incarceration</u>	<u>Add Controls</u>	<u>Incarceration</u>	<u>Add Controls</u>	<u>Add Controls</u>	<u>Add Controls</u>				
<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>			
School-based	-.086	(.049)	-.043	(.055)	-.943	(.106)	***	-.585	(.126)	***
Home-based	.069	(.049)	.057	(.053)	-1.173	(.108)	***	-.701	(.138)	***

Note: Fragile Families and Child Wellbeing Study. Observations with missing data on all parental involvement variables or that have a deceased or unknown father at any wave are excluded. Control variables include whether the father is currently incarcerated at Y9, mother criminal justice contact, father impulsivity, mother impulsivity, father substance abuse, mother violence victimization by father, mother married or cohabiting with father at child's birth, mother-father relationship quality, mother reads to child at one-year survey, father reads to child at one-year survey, father-child contact, either parent not a citizen, father age, mother lived with both parents at age 15, father lived with both parents at age 15, mother education, father education, mother cognitive ability, father cognitive ability, mother religious attendance, father religious attendance, mother depression, father depression, mother unemployment, father unemployment, father military service, mother-father income-to-poverty ratio, mother-father hardship, mother-father neighborhood disadvantage, father unsafe neighborhood, mother unsafe neighborhood, mother parenting stress, children in household, mother multipartner fertility, mother spansks child, child race, child gender, low birth weight, child poor health, and sample city category. Results based on 25 multiply imputed datasets. Models of father self-reported school-based involvement exclude fathers with current or unknown incarceration status at Y9 ($n = 88$).

*** $p < .001$ (two-tailed tests)

Table 4.

Regression Models Representing the Association between Paternal Incarceration and Parental Involvement in School by Type of Involvement: Higher-Order Incarceration between Years 1 and 9 Compared to Incarceration Only Prior to or by Year 1 ($N = 1,140$)

	Primary Caregiver Self-reports					
	Linear Regression Coefficients			Father Self-reports Log Odds Coefficients		
	Incarceration		Add Controls	Incarceration		Add Controls
<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>	
School-based	-.066	(.065)	-.106	(.077)	-.902	(.143) ***
Home-based	.014	(.068)	.033	(.079)	-1.361	(.149) ***
					-.567	(.184) **
					-.854	(.199) ***

Note: Fragile Families and Child Wellbeing Study. Observations with missing data on all parental involvement variables or that have a deceased or unknown father at any wave are excluded. Control variables include whether the father is currently incarcerated at Y9, mother criminal justice contact, father impulsivity, mother impulsivity, father substance abuse, mother violence victimization by father, mother married or cohabiting with father at child's birth, mother-father relationship quality, mother reads to child at one-year survey, father reads to child at one-year survey, father-child contact, either parent not a citizen, father age, mother lived with both parents at age 15, father lived with both parents at age 15, mother education, father education, mother cognitive ability, father cognitive ability, mother religious attendance, father religious attendance, mother depression, father depression, mother unemployment, father unemployment, father military service, mother-father income-to-poverty ratio, mother-father hardship, mother-father neighborhood disadvantage, father unsafe neighborhood, mother unsafe neighborhood, mother parenting stress, children in household, mother multipartner fertility, mother spansks child, child race, child gender, low birth weight, child poor health, and sample city category. Results based on 25 multiply imputed datasets. Models of father self-reported school-based involvement exclude fathers with current or unknown incarceration status at Y9 ($n = 189$).

** $p < .01$

*** $p < .001$ (two-tailed tests).

Table 5.

Logistic Regression Models for the Association between Paternal Incarceration and Teacher-Reported School-Based Parental Involvement in School by Type of Involvement and Incarceration Status

	Parent Attended Conference			Parent Volunteered at School			Father Attended Conference or Meeting							
	<u>Incarceration</u>		<i>N</i>	<u>Incarceration</u>		<i>N</i>	<u>Incarceration</u>		<i>N</i>					
	<i>b</i>	<i>se</i>		<i>b</i>	<i>se</i>		<i>b</i>	<i>se</i>						
Father Incarceration Status														
Ever incarcerated compared to never	-.793	(.114) ***	-247	(.140)	-883	(.098) ***	-.306	(.126) *	2,147	-.919	(.100) ***	-.440	(.123) ***	1,977
Incarcerated first time Y1-Y9 compared to never	-.663	(.155) ***	-.239	(.180)	-.788	(.144) ***	-.299	(.168)	1,422	-.898	(.147) ***	-.489	(.165) **	1,379
Higher-order incarceration compared to by Y1	-.478	-(.478) *	-.306	(.266)	-.375	(.203)	-.276	(.276)	673	-.803	(.209) ***	-.764	(.288) **	556

Note: Fragile Families and Child Wellbeing Study. Sample limited to eligible children whose child's teacher participated in a mail-in survey at Year 9. Observations with missing data on all parental involvement variables or that have a deceased or unknown father at any wave are excluded. Control variables include mother criminal justice contact, father impulsivity, mother impulsivity, father substance abuse, mother violence victimization by father, mother married or cohabiting with father at child's birth, mother-father relationship quality, mother reads to child at one-year survey, father reads to child at one-year survey, father-child contact, either parent not a citizen, father age, mother lived with both parents at age 15, father lived with both parents at age 15, mother education, father education, mother cognitive ability, father cognitive ability, mother religious attendance, father religious attendance, mother depression, father depression, mother unemployment, father unemployment, father military service, mother-father income-to-poverty ratio, mother-father hardship, mother-father neighborhood disadvantage, father depression, mother unemployment, father unemployment, mother military service, household, mother multipartner fertility, mother spansks child, child race, child gender, low birth weight, child poor health, and sample city category. Fathers with current or unknown incarceration status at Y9 are excluded from models of teacher-reported father involvement in schooling. Results based on 25 multiply imputed datasets.

* $p < .05$
 ** $p < .01$
 *** $p < .001$ (two-tailed tests)

Table 6.

Log Odds Representing the Association between Paternal Incarceration and Fathers' School-Based Involvement, Based on Self-Reports and Teacher-Reports of Involvement; Examining the Mediating Effect of System Avoidance

Father Incarceration Status	No Bank Account			No Work or School			Needed but Did Not Apply, TANF/Welfare			Needed but Did Not Apply, Food Stamps/EBT			Needed but No Treatment			All System Avoidance Measures			N
	b	se		b	se		b	se		b	se		b	se		b	se		
Father Involvement Self-Reports																			
Ever incarcerated by Y9 (vs. never)	-.266	(.097)	**	-.309	(.095)	**	-.318	(.095)	**	-.304	(.095)	**	-.323	(.095)	**	-.251	(.097)	*	3,261
Incarcerated first time Y1-Y9 (vs. never)	-.529	(.128)	***	-.578	(.127)	***	-.580	(.126)	***	-.575	(.126)	***	-.587	(.126)	***	-.527	(.129)	***	2,239
Incarcerated again Y1-Y9 (vs. prior to Y1 only)	-.510	(.188)	**	-.549	(.186)	**	-.567	(.185)	**	-.564	(.184)	**	-.542	(.185)	**	-.520	(.191)	**	951
Father Involvement Teacher-Reports																			
Ever incarcerated by Y9 (vs. never)	-.389	(.125)	**	-.452	(.124)	***	-.437	(.123)	***	-.427	(.123)	**	-.444	(.123)	***	-.407	(.127)	**	1,977
Incarcerated first time Y1-Y9 (vs. never)	-.454	(.168)	**	-.498	(.166)	**	-.495	(.165)	**	-.485	(.165)	**	-.493	(.165)	**	-.473	(.170)	**	1,379
Incarcerated again Y1-Y9 (vs. prior to Y1 only)	-.677	(.294)	*	-.773	(.289)	**	-.754	(.291)	*	-.766	(.295)	*	-.697	(.292)	*	-.662	(.305)	*	556

Note: Fragile Families and Child Wellbeing Study. Sample limited to eligible children whose child's teacher participated in a mail-in survey at Year 9. Observations with missing data on all parental involvement variables or that have a deceased or unknown father at any wave are excluded. Fathers with current or unknown incarceration status at Y9 are also excluded. Control variables include mother criminal justice contact, father impulsivity, mother impulsivity, father substance abuse, mother violence victimization by father, mother married or cohabiting with father at child's birth, mother-father relationship quality, mother reads to child at one-year survey, father reads to child at one-year survey, father-child contact, either parent not a citizen, father age, mother lived with both parents at age 15, father lived with both parents at age 15, mother education, father education, mother cognitive ability, father cognitive ability, mother religious attendance, father religious attendance, mother depression, father depression, mother unemployment, father unemployment, father military service, mother-father income-to-poverty ratio, mother-father hardship, mother-father neighborhood disadvantage, father unsafe neighborhood, mother unsafe neighborhood, mother parenting stress, children in household, mother multipartner fertility, mother spansks child, child race, child gender, low birth weight, child poor health, and sample city category. Results based on 25 multiply imputed datasets.

* $p < .05$

** $p < .01$

$p < .000$ (two-tailed tests).

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