

**The Role of Fathers in Reducing Socioeconomic Inequalities
in Adolescent Behavioral Outcomes**

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WORKING PAPER: PLEASE DO NOT CITE WITHOUT PERMISSION

Fragile Families Working Paper WP17-18-FF

Acknowledgements:

This research was supported by generous funding from the William T. Grant Foundation. We are also grateful to Sarah Gold for her assistance with the analyses, to the Fragile Families and Child Wellbeing Study data team for providing access to these data, and to the participants at various colloquia and conference sessions who provided advice and suggestions on these analyses.

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Abstract

Children in low-income families fare worse on numerous domains of well-being than their more affluent peers. A growing body of research suggests that involvement by low-income fathers can improve child outcomes; however, results differ across studies and no studies have considered whether such involvement can reduce socioeconomic (SES) gaps in these outcomes. We use panel data on children born in large US cities to investigate the extent to which father involvement over a 10-year period can reduce gaps in behavioral outcomes between 15-year old children in lower- and higher-SES families. First, we find that both resident and nonresident fathers' social involvement (engagement and time spent with children) and nonresident fathers' provision of in-kind support are associated with fewer internalizing, externalizing, and delinquent behavior problems at age 15. Evidence for the benefits of nonresident fathers' cash contributions (formal or informal) is much weaker. Second, we find that adolescents in low-SES families benefit just as much from father involvement as do their higher-SES peers. Finally, using a novel simulation approach to assess whether adolescents in low-SES families would benefit from high levels of father involvement, we find that such involvement can substantially reduce SES gaps in adolescent behavior problems.

Keywords: fragile families, father involvement, child behavior problems, inequality, nonresident fathers, resident fathers, child support, adolescents

Children in low-income families fare worse on numerous domains of well-being compared to children in higher-income families. They have more behavior problems (Duncan and Brooks-Gunn 1997; Qi and Kaiser 2003) and are more likely to engage in delinquent and risky behaviors (Agnew et al. 2008; Sampson and Laub 1994) than their higher-income peers, and these outcomes are important predictors of success in later life (Moffitt et al. 2011). Conceptual models strongly suggest that father involvement plays a key role in child well-being (Cabrera et al. 2007, 2014; Lamb 2010), but empirical evidence on the role of fathers' involvement, particularly among low-income families, is less conclusive (Carlson and Magnuson 2011).

Early research focused on the benefits of father involvement for children in two-parent, middle-class families, and highlighted the social and economic constraints to involvement for low-income fathers and those who live apart from their children (Carlson and Magnuson 2011; Marsiglio et al. 2000). More recent studies, which have expanded their focus to nonresident fathers and (to a much lesser extent) low-income, resident fathers, find that involvement among these fathers may also have benefits for child well-being (Cabrera et al. 2004; Choi 2010; Choi and Jackson 2011; Choi and Pyun 2014; Coley et al. 2011; Cook et al. 2011; McKelvey et al. 2011; Nepomnyaschy et al. 2012; Nepomnyaschy and Donnelly 2015; Pougnet et al. 2011). However, results differ substantially by the measures of involvement considered, by the rigor of methods employed, and by children's age.

Unfortunately, major social changes over the past several decades, including loss of manufacturing jobs, declines in union density, and tremendous increases in incarceration rates have had profound impacts on the social and economic prospects of lower-skilled men (Cherlin 2014; Mincy 2006; Sum et al. 2011; Western and Rosenfeld 2011; Western and Wildeman 2009;

Wilson 2011). These changes have been linked with declines in marriage and increases in divorce and non-marital childbearing (Cherlin 2014; Western and Wildeman 2009), such that half of all children in the U.S. are expected to live with a single parent at some point during childhood (most often their mother), with much higher rates among children of lower-SES parents (U.S Census Bureau 2016).

As a consequence of these trends many low-income men are in a limited position to provide support for and be engaged with their children (Bianchi and Milkie 2010; Edin and Nelson 2013; Mincy et al. 2014). Low wages inhibit resident fathers' ability to contribute to the financial stability of their households, and nonresident fathers' ability to provide child support. Incarceration, and the barriers to employment that come with having a criminal record, limit the accumulation of economic, human, and social capital, damaging men's prospects for re-entry into their communities (Pager 2003; Western and Pettit 2010). These constraints further reduce their ability to support and be involved with their children (Geller 2013; Geller et al. 2011; Swisher and Waller 2008; Turney and Wildeman 2013).

Given increasing, though still inconclusive, evidence about the potential benefits of involvement by both resident and nonresident low-income fathers, it is likely that socioeconomic disparities in father involvement have substantial and harmful impacts on children, and mirror similar disparities in child outcomes. In this study, we comprehensively examine whether resident and nonresident fathers' involvement is associated with behavior outcomes for adolescents in both low- and high-SES families, and then explicitly test whether such involvement can reduce SES-based gaps in behavioral outcomes. As a key determinant of child development, we hypothesize that consistent and positive involvement by fathers may offset some of the disadvantages low-income children experience relative to their higher income peers.

Father Involvement

Father involvement is a multi-faceted construct, including the provision of material support as well as social and physical involvement with children (Carlson and Magnuson 2011; Lamb 2010). Although some nonresident fathers have close ties to their children, they have more limited access to children than resident fathers, and thus on average have less contact, are less involved in their rearing, and their children have access to fewer material resources (Carlson and Magnuson 2011; Kennedy and Bumpass 2008; McLanahan and Sandefur 1994). Therefore, throughout the paper, we discuss and analyze the various elements of father involvement for nonresident and resident fathers separately.

Resident fathers provide material support through their contributions to the rearing of their children and the maintenance of the household through payments for things like rent, utilities, food, clothing and medical expenditures. However, because fathers make financial contributions to the household that may not necessarily be linked to children, and because of the joint nature of household finances, the provision of material support by resident fathers is all but impossible to disentangle and is not routinely measured in national surveys.

The material contributions of nonresident fathers are easier to conceptualize and measure, in part because the formal child support enforcement system often requires fathers to make regular monetary contributions to their nonresident children. In this system, a child support order is established that requires a father to provide a set level of support, most often through the automatic withholding of wages from his paycheck. Formal child support is an important source of income for custodial mothers, but only about one-third of all custodial mothers and 25% of poor custodial mothers receive any child support (Grall 2016). In addition to or in place of formal support, some fathers provide support informally by giving money directly to mothers or

contributing in-kind (non-cash) support by providing or paying for things like diapers, food, or doctors' visits. Nationally, nearly 60% of custodial mothers receive some type of in-kind support (Grall 2016). Evidence from qualitative studies of low-income parents suggests that informal and in-kind support may be more salient for the emotional bond between nonresident fathers and children, and may be more valued by both parents, than are formal child support payments (Hamer 2012; Kane et al. 2015; Roy 1999; Waller 2002). Low-income families' preference for informal support and low levels of formal support may be a result of policies in which states keep most of the child support paid on behalf of mothers receiving public assistance to recoup these costs (NCSL 2012; Sorensen and Hill 2004; Waller and Plotnick 2001).

Fathers' social and physical involvement with children is often conceptualized as the quantity and quality of time spent together. Quantity is typically measured by the amount of time spent together on a daily or weekly basis (Argys et al. 2006), while quality is often measured as hands-on caretaking and engagement in developmentally appropriate activities such as playing games, reading books, and helping with homework (Marsiglio et al. 2012).

Data from the Pew Research Center indicate that most fathers (63%) report not spending as much time as they would like with their children, with a fifth of this group indicating the major barrier was living apart from them. Though there is heterogeneity with respect to the patterns of fathers' time spent with children following separation from a child's mother, many children have only limited contact with their nonresident fathers (Cheadle et al. 2010). Recent analyses of national data reveal that 96% of resident fathers ate meals with their children; 98% played with them; and 90% bathed, diapered, or dressed their children at least several times per week, compared to just 30%, 39%, and 31% of nonresident fathers, respectively (Jones and Mosher 2013).

Conceptual Framework

Previous theoretical work points to two main hypotheses through which socioeconomic status may contribute to inequalities in child outcomes: family stress and resources (Duncan et al. 2014). The family stress hypothesis suggests that poverty increases parental stress, which affects interactions with children and the quality of parenting, creating a less nurturing and less intellectually enriching home environment (Duncan et al. 2014). The resource hypothesis suggests that low-income parents are less able to provide material goods for their children such as books, toys, activities, and good schools that may enrich and encourage their intellectual and academic growth. The resource hypothesis can be extended to non-economic resources, such as social and cultural capital, that provide children with social connections and the skills and knowledge to navigate schools and other institutions (Lareau 2011). These arguments are consistent with McLanahan's influential framework for understanding the "diverging destinies" of children born to women at higher and lower educational levels as a result of a widening gap in the parental resources of both time and money available to them (McLanahan 2004).

Using an ecological perspective of father involvement which builds on earlier foundational work (Lamb 2010; Lamb et al. 1987), Pleck (2007, 2010) illustrates how different domains of father involvement organize the transmission of various types of capital (e.g., financial, social) from the father to the child. Together with the family stress and resources hypotheses, this perspective suggests that low-SES fathers' contributions of financial and social capital (i.e., material contributions and social involvement) can help to reduce inequality in children's outcomes by reducing household stress and by providing resources like money, supplies, and social or cultural connections, which can mitigate the adverse effects of poverty on children.

All else equal, such contributions ought to work in comparable ways for both resident and nonresident fathers. For instance, resident fathers' direct contributions of cash to the household and nonresident fathers' provision of formal and informal child support should both reduce stress and increase resources that can either directly or indirectly promote positive outcomes for children. Likewise, the quantity and quality of nonresident and resident fathers' social interactions with children should promote well-being by more equally distributing co-parenting responsibilities (and alleviating mothers' stress), by helping to promote human capital development (e.g., reading books or promoting adaptive emotional regulation strategies), or by helping to build pro-social bonds to people or institutions.

For reasons described above and in prior work (Carlson and Magnuson 2011), we expect that the '*levels*' of material contributions and involvement among low-SES fathers will be lower than among those of higher-SES fathers. However, it is also possible that the '*effects*' of involvement on child outcomes among low-SES fathers will be different than those among high-SES fathers. On the one hand, family circumstances, such as poverty, low-skilled work, and lower levels of education, which are associated with parental stress and harsh parenting, may impede the transmission of whatever capital low-SES fathers are able to provide. Thus, the associations of involvement with child outcomes among low-SES fathers may be less beneficial for children than that of higher-SES fathers or may even be harmful in some cases. On the other hand, fathers' contributions and involvement among low-SES families may be more beneficial than for those in higher-SES families, since children in higher-SES families have numerous other advantages and resources to fall back on.

Empirical Evidence

The idea that father involvement might reduce inequality in child outcomes is supported by a growing body of empirical research that has investigated the effects of father involvement for children. In the broadest terms, fathers' involvement with children is associated with better child outcomes, including fewer behavior problems, higher cognitive skills, and lower delinquency; however, these results are less conclusive for low-income and nonresident fathers (Adamsons and Johnson 2013; Amato and Gilbreth 1999; Carlson 2006; Carlson and Magnuson 2011; Chang et al. 2007; Marsiglio et al. 2000; Sarkadi et al. 2008).

A meta-analysis of earlier studies, based primarily on divorced families, found that nonresident fathers' provision of economic support and the quality of their relationships with children were associated with lower externalizing behavior problems, but the quantity of time spent had little benefit (Amato and Gilbreth 1999). A more recent meta-analysis, including studies with more ethnically and racially diverse populations, also found that neither the quantity nor the frequency of nonresident father-child contact was protective for children, but fathers' engagement in activities and strong father-child relationships were associated with better behavioral, social, and emotional outcomes (Adamsons and Johnson 2013). Inconsistent with the older meta-analysis, this study found no evidence that financial contributions were associated with improved child outcomes. Another review of research focusing on both resident and nonresident fathers showed that fathers' engagement with children was associated with reduced behavior problems related to externalizing, internalizing, delinquent, and other risky behaviors, including among adolescents (Sarkadi et al. 2008). Several recent studies, focusing specifically on adolescents, found that both resident and nonresident fathers' closeness to and engagement with their children were associated with fewer internalizing and externalizing behaviors (Carlson 2006; Chang et al. 2007), less depression (Booth et al. 2010), less delinquency (Booth et al.

2010; Carlson 2006; Cobb-Clark and Tekin 2014; Coley and Medeiros 2007; Yoder et al. 2016), and lower alcohol use and other risky behaviors (Goncy and van Dulmen 2010). Based on evidence described above, father involvement may be one factor underlying disparities in outcomes between adolescents in low and higher-SES families. Our study is the first to explicitly explore this possibility. In addition, we address a number of limitations in prior studies, described below.

Current Study

The current study examines two related questions. First, we explore whether father involvement is associated with adolescent behavior outcomes, particularly among adolescents in low-SES families. Second, we explicitly examine the extent to which such involvement can reduce gaps in behavior problems between adolescents from low and high-SES families. To do so, we take a novel approach by simulating the benefits of high father involvement among low-SES fathers. We take advantage of six waves of national data from a panel study of children born in large urban areas in the US. We focus on externalizing, internalizing, and delinquent behaviors when children are 15 years old, as these are key indicators of adolescent well-being and future success (Bradshaw et al. 2010; McGue and Iacono 2005; Moffitt et al. 2011).

We address a number of limitations in prior studies. First, none of the prior studies account for how long children have had a nonresident father, which the Adamsons and Johnson (2013) meta-analysis identifies as a limitation. In previous work, the involvement of a father who separated from the child's mother one year ago is measured similarly to that of a father who has never lived with the mother. Second, and more problematic, in most cases fathers' involvement is measured in the prior year, contemporaneously with child outcomes, which fails to account for

the strong possibility that child behavior may affect father involvement (Coley et al. 2009; Coley and Medeiros 2007; Gault-Sherman 2012; Hawkins et al. 2007). We measure father involvement over the course of childhood, both to capture what fathers do with and for their children throughout this period and to address the potential bi-directionality of fathers' involvement and child well-being.

Third, most studies focus only on one or two indicators of father involvement at a time, without taking into consideration the interrelationship and simultaneity of these behaviors (Goldberg 2015; Nepomnyaschy 2007). In addition, none of these studies include detailed measures of the type of material contributions that nonresident fathers provide, though recent studies provide evidence for the importance of looking separately at formal and informal cash support and in-kind child support, particularly among low-income families, for whom these types of support may be especially important (Waller et al. 2018). For example, recent evidence suggests that material support from nonresident fathers provided through informal channels is associated with higher cognitive skills and lower food insecurity, while formal support does not appear to provide any benefits (Nepomnyaschy et al. 2012, 2014). In the current study, we consider several indicators of the two primary domains of father involvement: (1) material contributions (formal and informal cash support and in-kind support); and (2) social involvement (quantity of time and engagement in activities). And, importantly, we create indices of these types of involvement in order to capture the overall effects of these highly interrelated behaviors.

Additionally, we include a rich set of covariates capturing child, parent, and family characteristics and circumstances that may be associated with both fathers' involvement and child well-being. Finally, unlike many previous studies, we consider involvement by resident and nonresident fathers separately, as these groups of fathers differ substantially with respect to

characteristics, access to children, and the circumstances under which they are able to be involved.

Methods

Data

This study uses data from the Fragile Families and Child Well-being Study (FFCWS) which follows approximately 5,000 children born between 1998 and 2000 in 20 large cities in the United States. Children born to unmarried parents are oversampled, comprising 75% of the sample, yet, after adjusting for marital status at birth, data are representative of both marital and nonmarital births in U.S. cities with populations of at least 200,000 at that time. Families have been followed from the child's birth through age 15 with data collected at six time points: birth and ages 1, 3, 5, 9, and 15 with follow-up response rates of 89%, 86%, 85%, 72%, and 64%, respectively. Mothers were interviewed in person, in the hospital, at the time of the child's birth and then by phone at the five subsequent waves, and children were interviewed at both the 9 and 15-year waves. Though the FFCWS also includes interviews with fathers, we focus on mothers' reports of father involvement for two reasons. First, fathers were not interviewed at the 15-year follow-up. Second, and more importantly, nonresponse among fathers is much higher than among mothers, and those fathers who were interviewed, particularly nonresident fathers, are highly positively selected (Teitler et al. 2003). Thus, these data are the best available for answering our questions of interest for several reasons. First, because mothers provide extensive information about fathers, we are able to assess father involvement for the largest possible sample and with the richest amount of data. Second, the urban setting of the study as well as the oversample of births to unmarried parents provide the best opportunity to study a diverse group

of low-SES families. Finally, because of the panel design, we are able to measure involvement over the course of the child's lifetime.

Sample

Analyses are based on data collected at all waves of the study. Specifically, behavioral outcomes are measured in adolescence when children are 15 years old. Father involvement is averaged across three follow-up waves of data collection (from age 5 to 15) separately for resident and nonresident fathers. Most control variables are taken from the baseline survey, at the time of the child's birth. In order to capture the impact of fathers' long-term involvement on adolescent outcomes, we define the resident and nonresident father samples as those who have been in the same residential status (resident or nonresident) for at least 10 years (i.e. since the 5-year survey).

Of all families in which the parent caregiver was interviewed at the 15-year survey (n=3,154), we include only those in which the primary caregiver was the child's biological mother, the child was living with her, and the biological father was alive (n=2,685). Of these children, 67% (n=1,812) had a nonresident biological father and 33% (n=873) had a resident biological father. Based on the discussion above, we include only families in which the fathers' residential status was consistent since the 5-year survey, which reduces the sample to 1,366 and 782 children with consistently nonresident and resident fathers, respectively. We also excluded children who had missing information on the key study variables.¹ The final analysis sample for

¹ In order to prevent further sample loss due to missing information on some covariates, we included a missing dummy for categorical variables (fathers' work status, drug/alcohol problem, work-limiting disability, and incarceration history, and child's low birth weight) and performed simple regression imputation for continuous variables (child temperament and mothers' engagement with child). Missing information on these variables ranged from 1% for drug/alcohol problem to 9% for incarceration history.

externalizing and internalizing behavior outcomes consists of 1,205 15-year old children with consistently nonresident and 771 with consistently resident fathers. For the delinquent behavior outcome, which is self-reported by adolescents, the analysis sample is further limited to 1,151 and 749 children with nonresident and resident fathers, respectively.

Measures

Socioeconomic Status

Socioeconomic status (SES) is based on three variables measured at the time of the child's birth (baseline): the child's biological mother's years of education, an average of the maternal grandparents' years of education, and household income. These variables are standardized and then summed into a composite measure of SES. The composite SES indicator is our preferred measure because using income alone at childbirth (or subsequently) may be endogenous to fathers' residence and involvement with children.² This measure is then divided into three equal SES strata (terciles), representing low-, medium-, and high-SES, separately for the resident and nonresident father samples.

Not surprisingly, baseline household income (adjusted to \$2015) is much lower in the nonresident father sample compared to the resident father sample (\$33,600 vs. \$71,400). But, there is also substantial variation within these samples by SES tercile (not shown but available upon request). Average income in order of SES tercile is \$17,500, \$25,500, and \$58,200 in the nonresident father sample, and \$33,400, \$56,900, and \$125,500 for the resident father sample.

Adolescent Behavioral Outcomes

² For example, if a father is living with his child at baseline, the child's SES strata would be based on income which includes the fathers' earnings (e.g. family might be classified as high-income). After parents separate, the child may begin living in a low-income family, but that would not be reflected in the analyses. Maternal education, by itself, may also be problematic because younger mothers have not yet completed their education. Thus, a measure that takes into account the SES of the mothers' family of origin (maternal grandparents' education), baseline income, and her own education is conceptually preferable.

Behavioral outcomes are measured at the 15-year survey using mothers' reports of externalizing and internalizing behaviors from the Child Behavior Checklist (CBCL) (Achenbach and Rescorla 2001), and adolescents' self-reports of their delinquent behaviors. Externalizing behaviors are based on the aggressive and delinquent/rule-breaking behavior subscales; and internalizing behaviors are based on the anxious/depressed, withdrawn, and somatic complaints subscales. Mothers are asked whether a list of behaviors about their children are not/never true (0), somewhat/sometimes true (1), or very/often true (2). Items are averaged across scales, with higher scores (ranging from 0 to 2) indicating more behavior problems.

Adolescents' self-reports of delinquent behaviors at the 15-year survey are based on 13 items adapted from the National Longitudinal Study of Adolescent Health, including behaviors such as deliberately damaging property, getting into serious physical fights, or selling drugs. We construct a measure for any delinquent behavior if the adolescent reported participating in any one of these behaviors in the last 12 months.

Nonresident Fathers' Material and Social Involvement

Nonresident father involvement is measured as material contributions and social involvement with children averaged across three waves of follow-up interviews, when children were 5, 9, and 15-years old. Material support is based on mothers' reports of fathers' provision of formal cash child support, informal cash support, and in-kind (non-cash) support in the prior year at each wave. Formal support is the dollar amount of support provided by the father through a child support order. Informal cash support is any other monetary support that a father provided directly to the mother instead of, or in addition to, formal child support. Both types of support are adjusted for inflation (\$2015), and are summed to create a measure of total cash support in the past year. Fathers' provision of in-kind support reflects the frequency with which he provided a

number of developmentally appropriate items for the child, including clothes, toys, and food (when child was 5 and 9 years old), and personal items (at age 15). For each wave, we created an indicator for report of any in-kind support receipt, and then averaged across the available waves to create a variable equal to the percent of waves (0=no waves; 100=all waves) in which in-kind support was received.

We include three measures of fathers' social involvement. The first two measures are mothers' reports of the number of days per month the father saw the child and the frequency with which fathers spent an hour with the child in the past month (1=never; 5=every day). These were averaged over the 5, 9, and 15-year surveys. The third indicator measures fathers' engagement with the child and is based on mothers' reports in years 5 and 9, and adolescents' self-reports at age 15, and includes items such as feeding (for 5-year old children), playing outside (for 9-year olds), and helping with homework (for 15-year olds). Response choices varied across waves: 0-7 days per week in year 5; not once in past month, 1-2 times past month, at least once a week, several times a week, or every day in year 9; and often, sometimes, or never in year 15. This measure was standardized at each wave and then averaged across the three waves.

Because our interest is in measuring the overarching construct of nonresident father involvement and because these indicators are highly interrelated, we create a set of indices measuring different domains of involvement. First, we create a total social involvement index comprised of the average number of days seen in past month, the average frequency of spending an hour in past month, and the average frequency of engagement in activities. These variables were individually standardized, averaged, and standardized again, with an alpha level of .91. The second index, which we call informal involvement, includes the measures of social involvement above as well as informal material support (informal cash and in-kind support), because these

types of involvement are closely related ($\alpha=.87$). Finally, we created a comprehensive index of all father involvement measures, adding formal child support to the index above ($\alpha=.82$).

Resident Father Social Involvement

We measure resident fathers' social involvement with children, based on two indicators: the frequency of engagement in activities, and the frequency with which they spend an hour with the child, measured identically to those for nonresident fathers (described above). To construct a resident father social involvement index, these two variables were averaged across waves, individually standardized, averaged, and standardized again ($\alpha=.67$).

Covariates

We include child, parent, and family characteristics reported by the mother from the baseline survey at the time of the child's birth in all analyses. Child characteristics include sex, low birth weight (<2500g), and whether the child is the mother's firstborn. Mothers' characteristics include her age at the child's birth (<21, 21-26, >26), race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, other), and whether she was foreign-born, had an alcohol or drug problem, or was in excellent health, and her frequency of engaging in activities with the child (measured at year 1). Fathers' characteristics are reported by the mother and include his commitment to the mother and child prior to the birth (an average of five items ranging from 0-1 reflecting his level of support during the pregnancy and anticipated support after birth), and whether he had an alcohol or drug problem, was working in the week prior to the child's birth, had a work-limiting condition, or had spent any time in jail or prison prior to the 1-year survey (the first wave at which this was asked). At the family level, we control for whether the parents are of the same race/ethnicity, the parents' age difference, and parents' relationship at the birth of the child (married, cohabiting, other relationship). Finally, we control for the number of adults

and children in the mother's household at the 15-year survey, and the number of waves that parents ever cohabited, ranging from 0 to 3 for the nonresident father sample and from 2 to 6 for the resident father sample.

Analytic Strategy

We first present descriptive statistics for child outcomes, father involvement measures, and all covariates by SES tercile for the resident and nonresident father samples separately. To answer our first research question (whether father involvement is associated with adolescent behaviors), we estimate Ordinary Least Squares (OLS) regression models of each of the child behavior outcomes on the material and social involvement measures for adolescents with nonresident fathers and social involvement for adolescents with resident fathers, controlling for all covariates. Next, in order to understand whether these associations vary by family SES, we estimate models including an interaction term between each father involvement measure and the family's SES tercile. All analyses, including the dichotomous outcome of any delinquent behavior, are estimated using OLS models because results from these models are easier to interpret, easier to compare across samples, and are more flexible for estimating interaction effects. In supplementary analyses (available upon request), we also estimated logistic regression models, and results remained unchanged.

Our final and key question, is whether father involvement can close SES gaps in adolescent behavior outcomes. To answer this question, we conduct simulation analyses that involve the thought experiment: What if children in low-SES families experienced 'high' levels of father involvement? We estimate predicted levels of child outcomes for the low-SES group at these 'high' levels of involvement from the previously estimated regression models, using two

simulations: (1) father involvement for the average high-SES family; and (2) father involvement of a family at the 75th percentile across all SES terciles. We then compare these ‘simulated’ adolescent outcome values to those of adolescents in high-SES families (after adjusting for all covariates) to see what percentage of the covariate-adjusted gap in child outcomes between these families has been closed. Analyses are done separately for children with resident and nonresident fathers.

Results

Descriptive Results

Table 1 presents descriptive statistics for adolescent behavior outcomes at age 15 (top panel) and average father involvement from child’s age five to 15 (bottom panel) by SES tercile. Tests of statistical significance, based on bivariate OLS regressions, indicate significant differences between adolescents in the low-SES group and those in the two others. The left panel of the table is for children with consistently (at least 10 years) nonresident fathers (N=1,205). The right panel is for children with consistently (at least 10 years) resident fathers (N=771). Among adolescents with nonresident fathers, those in low-SES families fare worse on all three behavior outcomes compared to those in higher-SES families. They score 0.06 and 0.08 points higher on a 0-2 scale for the frequency of internalizing and externalizing behaviors, which translates to 0.17 and 0.30 standard deviations higher, respectively. Children in low-SES families are also 5 percentage points more likely to report participating in any delinquent behavior compared to those in the highest-SES families (54% vs. 49%), though this difference is not statistically significant.

Among adolescents with resident fathers, differences between those in low and high-SES families show somewhat different patterns. Children in low-SES families have slightly lower

scores on internalizing behaviors than their higher-SES peers (0.22 vs. 0.23), but these differences are not statistically significant. Like children with nonresident fathers, they score significantly higher on externalizing behaviors (0.18 vs. 0.14), which reflects 0.23 of a standard deviation difference. They are also 11 percentage points more likely to report engaging in any delinquent behaviors (39% vs. 28%).

The bottom panel of Table 1 further reveals that children in low-SES families have experienced lower levels of nonresident father involvement over the course of childhood than those in higher-SES families. Children in low-SES families receive less than half the average annual amount of formal child support (\$687 vs. \$1371), less informal cash support (\$306 vs. \$586), and consequently nearly half the amount of total yearly cash support averaged over the past ten years of their life compared to their higher-SES peers. They are also significantly less likely to receive in-kind support from fathers over this time period. Compared to adolescents in the top SES-tercile families, children in the bottom SES tercile have less contact with their nonresident fathers (average 1.4 days per month less) and spend less time with them engaged in activities.

Resident fathers of children in low-SES families are also less engaged with their children than those in high-SES families. However, there is no statistically significant difference in the frequency that fathers spend an hour with them. While the social involvement index is lower for children in low-SES families, it is not significantly different from high-SES families. Interestingly, for resident father families, it appears that the most involved fathers are actually those in the middle-SES tercile.

Table 2 presents descriptive statistics for all of the covariates included in our models for families in the bottom and top SES terciles and separately for the nonresident and resident father

samples.³ It is important to note the racial and ethnic diversity of the sample. Because of the urban setting of the study and its oversample of births to unmarried parents, the nonresident father sample predominantly includes men from minority racial and ethnic backgrounds. The resident father sample is more evenly distributed, though it is still majority non-white.

Children in low-SES families were disadvantaged on most characteristics compared to those in high-SES families in both nonresident and resident father families. They had a more difficult temperament at the year-1 survey, and their mothers were younger at their birth, were less likely to be married, were more likely to be foreign-born, were in worse health, and engaged with them in activities less frequently. Fathers in low-SES families were less committed to the child at birth, were less likely to have been working at the time, and were much more likely to have been incarcerated. Additionally, in the resident father sample (but not the nonresident father sample), low-SES fathers were more likely to have a drug or alcohol problem and to have a work-limiting health condition than higher-SES fathers.

Half of children in nonresident father families had never lived with their fathers, one quarter lived with them for only one wave, 16% for two, and a small group (8%) lived with children for at least the first three years of their lives. In contrast, nearly $\frac{3}{4}$ of children in resident father families had lived with them always (since birth – all six waves), 16% had lived with them for five waves, 7% for four waves, and a very small proportion (3%) only began living with them in the last 10 years. Children in low-SES families in both samples had lived with their fathers for fewer years than those in higher-SES families.

Multivariate Results

³ For purposes of parsimony, we do not include descriptive statistics for the middle-SES tercile, though these families are included in all the analyses.

Table 3 presents results from OLS regressions of internalizing, externalizing, and delinquent behaviors on measures of father involvement, for adolescents living with nonresident fathers (top panel) and resident fathers (bottom panel) over the past 10 years. Each cell is from a separate regression model that controls for all previously discussed covariates.

Among adolescents with nonresident fathers, fathers' monetary contributions (formal, informal, and total cash support) are not associated with behavior problems at conventional levels of statistical significance ($p < .05$). However, fathers' provision of informal cash support is associated with marginally significant ($p < .10$) reductions in internalizing and externalizing behaviors, and total cash support is associated with marginally significant reductions in all three behaviors. On the other hand, fathers' provision of in-kind support is associated with an approximate 20% reduction in all three problem behaviors. Fathers' social involvement is also important: one standard deviation increase in fathers' social involvement index is associated with an approximate 10% reduction in each behavior outcome (calculated as change off the sample mean)⁴.

Next, we consider combinations of these different measures of involvement. Coefficients for the informal index, which adds informal cash support and in-kind support to the social involvement index, are larger than for the social involvement index alone, suggesting that these types of voluntary contributions (particularly in-kind support) are associated with further reductions in externalizing and delinquent (but not internalizing) behaviors. Finally, coefficients for the total index, which adds formal child support to the informal index, are larger still for internalizing and delinquent (but not externalizing) behaviors, suggesting that formal child

⁴ For example, the mean for internalizing behavior problems for children with nonresident fathers (from Table 1) is 0.27. Thus, the social involvement index coefficient of -0.03 is equal to approximately a 10% reduction in this behavior.

support may also contribute to child well-being, though only in combination with social involvement and voluntary contributions. Each standard deviation increase in the total father involvement index is associated with a 15% reduction in all three problem behaviors. Overall, these results show that these measures of father involvement may be both complementary and simultaneous, and confirm the importance of considering them as an overall construct as well as individually.

Among adolescents with resident fathers, fathers' social involvement is also associated with lower internalizing, externalizing, and delinquent behaviors. A one standard deviation increase in fathers' social involvement index is associated with a 20% reduction in internalizing and externalizing behaviors and a 15% reduction in likelihood of reporting any delinquent behaviors.

Our next set of analyses focused on whether the associations of father involvement with adolescent outcomes differed by SES tercile within each sample, in which we interacted each father involvement measure with family SES tercile. We found no statistically significant interactions of any indicator of father involvement with any adolescent outcome for either resident or nonresident father families, and thus do not show these results (available upon request). This important finding indicates that associations between father involvement and adolescent outcomes do not differ by family SES, suggesting that involvement among low-SES fathers is just as relevant for adolescent outcomes as involvement among higher-SES fathers.⁵

Simulation Results

⁵ It is also possible that we do not find statistically significant interaction effects because of small sample sizes. We discuss this possibility in greater detail in the discussion section.

Table 4 presents results from a series of simulations in which we assign children in low-SES families to higher levels of father involvement to observe the extent to which gaps in outcomes between low and high-SES children are reduced. The left panel is for the nonresident father sample and the right panel is for the resident father sample. The first row presents the unadjusted (raw) gap (low-SES minus high-SES) from Table 1, and the second row shows the gap after adjusting for all covariates discussed previously. We then show the gap after simulating ‘high’ involvement for the total involvement index (for children with nonresident fathers) and the social involvement index (for children with resident fathers), at two levels of ‘high’ involvement: (1) average involvement for fathers of children in high-SES families; (2) and involvement of a father at the 75th percentile across all SES terciles. We compare these simulated differences to the covariate-adjusted differences and calculate the percent reduction in the gaps between children in the lowest and highest SES terciles.

We make two important preliminary observations with respect to these analyses. First, after adjusting for covariates, SES gaps in adolescent outcomes are reduced but not eliminated. Second, because children in low-SES families with resident fathers initially had lower internalizing behavior scores than their higher-SES peers, the simulation analyses increase their advantage.

Among children with nonresident fathers, when the total involvement index for low-SES fathers is increased to that of the average high-SES father, SES gaps are reduced by 17% and 66% for externalizing and delinquent behaviors, but are not at all reduced for internalizing behaviors. Putting these results in context, the average high-SES nonresident father contributed approximately \$2000 in total cash support per year (twice that of the average low-SES father), saw his child 5 days per month (1.5 more days than the average low-SES father), and engaged in

various activities with the child 0.69 days per week (0.14 more days than the average low-SES father) on average over the past 10 years⁶. When the total involvement index is increased to that of the father at the 75th percentile, SES gaps are reduced substantially more: by 50% and 33% for internalizing and externalizing behaviors, respectively, and are completely eliminated for delinquent behaviors. A nonresident father at the 75th percentile of involvement contributed approximately \$2100 in total cash support per year, saw his child 7 days per month, and engaged in various activities with the child 1 day per week (not shown in Table 1, but available). These amounts are a little higher than those of an average top-tercile father, but compared to the average bottom SES tercile father represent twice the size of total cash support, 3.2 more days of contact per month, and nearly twice the frequency of engagement in activities.

Among children with resident fathers, raising the level of involvement of low-SES fathers to that of an average high-SES father reduced the gap in externalizing behaviors by 33%, but did not reduce any of the gap in delinquent behaviors. Again, to contextualize these results, high-SES resident fathers engaged in activities with children approximately 3 days per week compared with 2.9 days per week for the average child in a low-SES family. However, simulating social involvement to that of a father at the 75th percentile fully eliminates the SES gap in externalizing behavior and reduces the delinquency gap by 75%. Resident fathers at the 75th percentile engage in activities with children 3.8 days per week (not shown), a rate that is about one-third higher than that of the average father in the bottom SES tercile.

In results not shown (but available), we conducted similar simulations for each of the individual indicators of nonresident father involvement, in order to understand which indicator is

⁶ The days per week of father engagement are only available for years 5 and 9 because at year 15 engagement questions were asked on a different metric, and thus these should be considered approximations. They are not displayed in Table 1.

contributing to the total involvement index. These analyses revealed that raising low-SES nonresident fathers to the 75th percentile for provision of in-kind support by itself reduced the gap by the same amount as the total involvement index for internalizing and delinquent behaviors, and reduced the gap even more (by 50%) than the total index for externalizing behaviors. In other words, increasing father involvement on all of the other measures does not contribute more than just increasing provision of in-kind support by itself. Increasing low-SES fathers' social involvement to the 75th percentile is also important, reducing the same gap as total involvement on externalizing and delinquent behaviors, but only 25% (half that) of the gap in internalizing behaviors. Increasing total cash support (to the 75th percentile) reduces each of the gaps by much smaller amounts: 25%, 17%, and 33%, for internalizing, externalizing, and delinquent behaviors, respectively.

Discussion

In this paper, we sought to comprehensively examine the associations between multiple domains of father involvement and adolescent behavior outcomes, especially among low-SES families, and to explore whether such involvement can close SES gaps in adolescent outcomes. Our analyses extend previous work in several important ways. First, we focus on long-term measures of father involvement, averaged over the child's life, from age 5 to 15. This approach is key as we believe that the well-being of adolescents should be affected not only by fathers' involvement over the last week, month, or year, but by fathers' involvement over their childhood. Further, this approach addresses the potential bi-directionality of fathers' involvement and child outcomes identified in previous studies (Coley et al. 2009; Coley and Medeiros 2007; Gault-Sherman 2012; Hawkins et al. 2007). Second, we create composite indices of involvement

because individual indicators of involvement are highly correlated and thus should not be considered independently (Nepomnyaschy 2007) and together represent various forms of fathers' commitment to and engagement with the child. Finally, we measure SES as a composite index of the mothers' education, maternal parents' education, and household income at the time of the child's birth. This comprehensive measure captures the key elements of children's early environments that set them on trajectories of development and well-being, while reducing potential endogeneity or measurement error introduced by using any one indicator alone (Duncan et al. 2012; Magnuson and Votruba-Drzal 2009).

In answer to our first question, we find that all fathers' social involvement and nonresident fathers' in-kind support provision are associated with substantial decreases in adolescent behavior problems. Cash support among nonresident fathers, provided either formally or informally, was not associated with problem behaviors by itself, but only in combination with indicators of social involvement. Further, we found that these associations did not differ by family SES, suggesting that children in low-SES families benefit just as much from father involvement as do children in higher-SES families. In answer to our second question, our novel simulation analyses suggest that father involvement can substantially reduce SES gaps in adolescent behavior outcomes among children with both resident and nonresident fathers.

Among children with nonresident fathers, raising the total involvement index for low-SES fathers to that of a father at the 75th percentile reduces 50% and 33% of the gaps in internalizing and externalizing behaviors, respectively, and completely eliminates the gap in delinquent behaviors. Importantly, our results suggest that nonresident fathers' in-kind support and social involvement with children over the course of childhood seem to matter more for behaviors at age 15 than provision of cash support. Further, fathers' provision of in-kind support

appears to decrease SES-based-gaps on its own to the same degree or even more in some cases than all other indicators combined. This result suggests that while in-kind support is likely correlated with fathers' social involvement, it may also be an independent determinant of child well-being (Waller et al. 2018). This findings adds to a small but growing body of evidence that in-kind support (over and above other types of involvement) is beneficial for children (Nepomnyaschy et al. 2014).

Among children with resident fathers, our simulation (of high involvement at the 75th percentile father) reduces the gap in delinquent behaviors by 75% and completely eliminates the gap in externalizing behaviors. However, simulations of involvement at a lower level (average high-SES father) were much less effective, because high-SES resident fathers were not significantly more involved than low-SES fathers in this sample.

These results should be interpreted in the context of the limitations of our study. First, as with all observational studies, there are certainly unmeasured differences between children with involved and uninvolved fathers that could also be associated with child behaviors. We are less concerned with these selection processes as we are not modelling causal effects, but are more interested in the thought experiment of 'what if' low-SES fathers were as involved as high-SES fathers. Second, we believe that our conceptualization of father involvement as average involvement over a child's life is a strength of our analyses. However, these analyses do not explore the associations of fathers' involvement with child behaviors at different points in a child's life. It is possible that fathers' provision of child support is associated with child behaviors when children are younger, but those effects wear off by the time children are adolescents. Future research should consider both the importance of the timing of father

involvement as well as the associations of this involvement with child behaviors at different time points.

Another strength of these analyses is our focus on consistently resident and nonresident fathers. Because transitions from residence to nonresidence are common, measuring the involvement of a currently nonresident father could mask his very recent high level of involvement as a resident father, leading to substantial measurement error of our key variables. The limitation of this approach is that our resident and nonresident father samples are smaller than they might otherwise be. Sample size may be particularly a problem for the analyses in which we interact father involvement with SES terciles to observe if the ‘effects’ of involvement differ by SES. The lack of statistically significant interactions leads us to conclude that father involvement is equally protective for children across the SES distribution; however, the sample sizes in our study may not give us enough power to detect such interactions, as suggested by recent discussions among prominent social statisticians (Gelman 2018). In supplementary analyses, we re-estimated our simulation analyses based on these interacted models – allowing the ‘effects’ of involvement to differ by SES. Results from these models are very similar to the non-interacted models, giving us greater confidence that the observed SES gaps in child outcomes are due to differences in the ‘levels’ of father involvement rather than to the ‘effects’ of involvement.

Finally, due to its urban setting and oversample of births to unmarried parents, the racial and ethnic diversity of our sample is both a strength and a limitation of these analyses. On the one hand, this sample focuses on the population of greatest interest, because urban and minority families are overrepresented among low-SES families. On the other hand, our results may not be

generalizable to other populations in other settings, particularly for high-SES families who are more likely to be non-Hispanic white and Asian outside of urban areas.

Despite these limitations, these findings contribute to a large and growing body of research pointing to the importance of resident and nonresident fathers' involvement in children's lives, and particularly for children in low-income families. This is the first study that examined whether fathers can play a role in reducing inequalities in outcomes between adolescents in low and high-SES families. The results here point to the possibility for new and innovative policy avenues that can be pursued to close such gaps. Policies that address the ability of low-income men to be involved with their children in holistic and multi-dimensional ways, including by spending time and engaging in activities with children, and providing in-kind support, can be used as levers to reduce inequality in adolescent outcomes. Thus, a focus on policies that increase low-income men's wages, improve their opportunities in the labor market, and reduce barriers to employment and to participation in civic life for men who have been incarcerated, may be new and fruitful pathways to improve child well-being.

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Table 1: Descriptive Statistics of Behavior Outcomes and Father Involvement Measures by SES Tercile Among Adolescents with Nonresident and Resident Fathers

	Nonresident Fathers				Resident Fathers				
	All	Bottom Tercile	Middle Tercile	Top Tercile	All	Bottom Tercile	Middle Tercile	Top Tercile	
<u>Adolescent Behavioral Outcomes at Age 15</u>									
Internalizing (scale, 0-2)	0.27	0.30	0.27	0.24 *	0.22	0.22	0.20	0.23	
Internalizing (std)	0.00	0.08	0.00	-0.09	0.00	0.02	-0.06	0.04	
Externalizing (scale, 0-2)	0.27	0.30	0.29	0.22 ***	0.16	0.18	0.16	0.14 **	
Externalizing (std)	0.00	0.12	0.06	-0.18	0.00	0.11	0.01	-0.12	
Any delinquent behaviors ^a	0.51	0.54	0.52	0.49	0.35	0.39	0.38	0.28 *	
<u>Father Involvement Measures, Averaged from Age 5 to 15</u>									
Material support									
Formal cash support (\$)	1015	687	993 **	1371 ***					
Informal cash support (\$)	429	306	399	586 **					
Total cash support (\$)	1484	1024	1436 **	1999 ***					
In-Kind support (pr.)	0.36	0.32	0.36	0.39 **					
Social involvement									
Days seen past month	4.47	3.81	4.41	5.21 **					
Engagement (std)	0.00	-0.12	0.06 **	0.06 *	0.00	-0.15	0.13 **	0.03 *	
Frequency spends hour (0-5)	1.94	1.81	1.95 *	2.07 ***	4.59	4.54	4.63	4.59	
Combined indices (std)									
Social involvement index	0.00	-0.13	0.02 *	0.11 **	0.00	-0.14	0.12 **	0.02	
Informal involvement index	0.00	-0.11	0.01 *	0.11 ***					
Total involvement index	0.00	-0.12	0.004 **	0.12 ***					
N (% of sample)	1205	402 (33%)	408 (34%)	396 (33%)	771	257 (33%)	259 (34%)	255 (33%)	

+ p<.10; *p<.05; **p<.01; ***p<.001; Tests of statistical significance, based on bivariate regressions, identify significant differences between the lowest SES tercile and the other two.

^a Sample sizes for delinquent behaviors are smaller because they are based on adolescent self-reports (nonresident father sample: N=1155; resident father sample: N = 759)

Table 2: Description of Covariates by SES Tercile for the Resident and Nonresident Father Samples

	Nonresident Father Families (% or mean)				Resident Father Families (% or mean)			
	All Families	By SES Tercile			All Families	By SES Tercile		
		Bottom Tercile	Top Tercile			Bottom Tercile	Top Tercile	
Child Characteristics								
Female	49	49	48		45	42	47	
Born low birthweight (<2500 g)	11	10	11		6	7	4	
Mother's first born	42	36	51	*	36	30	45	*
Difficult temperament at 1-yr (1-5)	2.7	2.8	2.5	*	2.5	2.6	2.3	*
Child's age at 15-year survey (yrs)	15.5	15.5	15.4	*	15.4	15.5	15.3	*
Parents' Characteristics at Baseline								
Parents' relationship at birth				*				*
Married at birth	8	4	13		56	34	89	
Cohabited at birth	32	32	31		32	49	7	
Other relationship	60	64	56		11	17	3	
Mother's age at birth				*				*
<21	35	40	28		13	20	2	
21-26	42	39	42		30	37	13	
>=27	23	21	30		58	43	85	
Difference in parents' ages (years)	2.4	2.3	2.5		2.4	2.9	2.2	
Mother's race/ethnicity				*				*
White, non-Hispanic	13	9	20		36	9	66	
Black, non-Hispanic	65	57	64		26	23	18	
Hispanic	20	32	13		32	64	7	
Other	2	2	3		6	4	9	
Parents of same race/ethnicity	83	84	80		89	90	91	
Mother is foreign-born	6	10	5	*	27	49	14	*
Mother had alcohol or drug problem	3	3	3		1	1	0	
Mother in excellent health	31	30	37	*	34	18	49	*
Mothers' engagement w/child (0-7 days/wk)	5.0	4.9	5.1	*	5.0	4.6	5.3	*
Father's commitment to child (scale, 0-1)	81	77	82	*	97	96	100	*
Father had alcohol or drug problem	8	9	7		2	3	0	*
Father worked week prior to birth	67	60	76	*	89	83	96	*
Father had work-limiting condition	6	6	5		4	8	0	*
Father had been in jail/prison by year 1	39	47	29	*	11	16	3	*
Household Characteristics at 15-year								
Number of children in HH	2.8	2.9	2.5	*	2.4	2.6	2.1	*
Number of adults in HH	2.0	2.0	2.0		2.5	2.7	2.4	*
Number of waves father lived in HH				*				*
Zero	0.50	0.56	0.46		0	0	0	
One	0.26	0.23	0.26		0	0	0	
Two	0.16	0.13	0.17		0	0	0	
Three	0.08	0.07	0.12		0.03	0.07	0.00	
Four	0	0	0		0.07	0.12	0.03	
Five	0	0	0		0.16	0.20	0.06	
Six	0	0	0		0.73	0.60	0.90	
N	1205	401	396		771	257	259	

* p<.05

Tests of statistical significance, based on bivariate regressions, identify significant differences between the lowest and highest SES tercile. The middle tercile has been omitted for parsimony, but is included in all analyses.

Table 3: Associations of Father Involvement Measures with Behavior Outcomes among Adolescents with Nonresident and Resident Fathers

	Internalizing Behaviors	Externalizing Behaviors	Any Delinquent Behaviors
Nonresident Father Families			
Formal cash support (\$000's)	-0.01 (-1.21)	-0.01 (-1.10)	-0.01 (-1.29)
Informal cash support (\$000's)	-0.01 + (-1.67)	-0.01 + (-1.69)	-0.02 (-1.53)
Total cash support (\$000's)	-0.01 + (-1.92)	-0.01 + (-1.90)	-0.01 + (-1.81)
In-kind support (percent of waves)	-0.06* (-2.32)	-0.07*** (-3.37)	-0.09** (-2.11)
Social involvement index (std)	-0.03** (-2.68)	-0.03** (-3.07)	-0.05** (-3.29)
Informal index (std)	-0.03** (-2.88)	-0.04*** (-3.42)	-0.06** (-3.21)
Total index (std)	-0.04** (-2.98)	-0.04*** (-3.47)	-0.07*** (-3.31)
<i>N</i>	1,205	1,205	1,151
Resident Father Families			
Social involvement index (std)	-0.04*** (-4.24)	-0.03*** (-5.37)	-0.05* (-2.49)
<i>N</i>	771	771	749

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Each cell is from a separate regression model which includes all of the covariates from Table 2, including SES tercile.

Table 4: Explaining SES-Gaps in Adolescent Behavior Outcomes by Simulating High Involvement among Nonresident and Resident Fathers in Low-SES Families

	Nonresident Father Sample			Resident Father Sample		
	Internalizing Behaviors (scale, 0-2)	Externalizing Behaviors (scale, 0-2)	Any Delinquent Behaviors	Internalizing Behaviors (scale, 0-2)	Externalizing Behaviors (scale, 0-2)	Any Delinquent Behaviors
Unadjusted SES Gaps in Adolescent Outcomes: Bottom Tercile minus Top Tercile						
	0.06	0.08	0.05	-0.01	0.04	0.11
Covariate-Adjusted SES Gaps in Adolescent Outcomes						
	0.04	0.06	0.03	-0.04	0.03	0.04
Simulated SES Gaps in Adolescent Outcomes: Simulating High Levels of Involvement for Low-SES Families						
Simulating Father Involvement of Average Top SES-Tercile Family						
Social involvement index				-0.04	0.02	0.04
<i>% of gap closed</i>				<i>NA</i>	<i>33%</i>	<i>0%</i>
Total involvement index	0.04	0.05	0.01			
<i>% of gap closed</i>	<i>0%</i>	<i>17%</i>	<i>66%</i>			
Simulating Father Involvement of 75th Percentile Family						
Social involvement index				-0.07	0.00	0.01
<i>% of gap closed</i>				<i>NA</i>	<i>100%</i>	<i>75%</i>
Total involvement index	0.02	0.04	-0.01			
<i>% of gap closed</i>	<i>50%</i>	<i>33%</i>	<i>>100%</i>			

Simulations estimated using margins command substituting high involvement values for low-SES fathers after regression models estimating main effects of father involvement on child outcomes controlling for SES and all covariates