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Partnership Instability, School Readiness, and Gender Disparities

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Abstract

Trends in family formation during the past several decades have increased children's exposure to mothers' partnership instability, defined as an entrance into or exit from a coresidential union or a dating partnership. Instability, in turn, is associated with negative outcomes for children and adolescents. This study uses data from the Fragile Families and Child Wellbeing Study to examine associations between mothers' partnership instability and children's school readiness, differences between coresidential and dating transitions, and the moderating role of child gender. Mothers' partnership transitions are negatively associated with children's verbal ability and positively associated with boys' behavioral problems at age five. In general, coresidential and dating transitions have similar effects on school readiness. The findings have important implications for our understanding of the growing gender gap in educational attainment.

Keywords

school readiness; partnership instability; gender disparities; Fragile Families; early education

Increases in divorce, cohabitation, and nonmarital childbearing during the past few decades have increased children's exposure to partnership instability, defined as a parent's entrance into or exit from a coresidential union (i.e., marriage or cohabitation) or a dating partnership. In turn, exposure to partnership instability has been shown to increase behavioral problems in children and adolescents, which interfere with school commitment and success (Cavanagh, Crissey, and Raley 2008; Cavanagh and Huston 2006; Fomby and Cherlin 2007; Osborne and McLanahan 2007; Wu and Thomson 2001). Partnership instability is especially pronounced among low-income populations and racial/ethnic minorities (Ventura and Bachrach 2000), suggesting that recent changes in family experiences may be exacerbating race/ethnic and class disparities in children's educational and life chances (McLanahan and Percheski 2008).

Partnership instability may also be contributing to the growing gender gap in education. Whereas prior to the 1980s, boys obtained more schooling than girls did, today's boys are less likely than their female peers to finish high school, enter college, and graduate from college (Buchman, DiPrete, and McDaniel 2008). Importantly, the widening education gap between boys and girls occurred during the same period as the increase in mothers' partnership instability, suggesting that the two trends may be related. Although we would

expect boys and girls to have similar levels of exposure to family instability,[1] there is some evidence that boys are more negatively affected by instability than girls are (Biller 1981; Cavanagh et al. 2008; Hetherington, Cox, and Cox 1985). This implies that the increase in family instability during the past few decades may have disadvantaged boys relative to girls.

Prior research on instability and child outcomes has focused largely on older children and adolescents, ignoring the link between early instability and child development at the time children enter school. How children are doing at school entry is important because a successful transition to formal schooling sets the stage for subsequent development and achievement. Inequalities in behavioral and cognitive abilities at the start of school are strikingly persistent across the life course (Entwisle, Alexander, and Olson 2005). Moreover, there is growing evidence that gender gaps in cognitive and behavioral skills exist at school entry (DiPrete and Jennings 2008; Zill 1999).

This article examines three questions involving the link between partnership instability and children's school readiness: (1) Is early exposure to partnership instability associated with lower cognitive ability and more behavior problems for children at school entry? (2) Is the association similar for coresidential and dating transitions? and (3) Is the association between partnership instability and school readiness stronger for boys than for girls? We address these questions using a valuable data set for research on partnership instability: the Fragile Families and Child Wellbeing Study. The Fragile Families Study is a national, longitudinal survey that follows approximately 5,000 parents and their children from birth to age five. These data include a large oversample of children born to unmarried parents who are at increased risk for experiencing multiple partnership transitions. More importantly, the data provide information on mothers' cohabiting and dating relationships as well as marital unions, which allows us to construct a more comprehensive picture of children's exposure to partnership instability than typically has been provided in prior research.

BACKGROUND

Children's School Readiness

The start of formal schooling represents a major life transition during early childhood. Children must adapt to a new environment, establish relationships with new authority figures and peers, and conform to a new set of expectations. In the literature, children's "readiness" for this transition is typically measured as cognitive skills (e.g., math, reading, and verbal ability) as well as social, emotional, and behavioral skills. Although there is considerable debate regarding which of these skills is most important and the extent to which they influence one another (DiPrete and Jennings 2008; Duncan et al. 2007), both cognitive and behavioral readiness have important and lasting implications for children's ability to successfully transition into and through the early years of schooling (Pianta, Cox, and Snow 2007).

The majority of children in the United States are prepared for the intellectual and behavioral demands of school (Pianta et al. 2007), but a growing body of research suggests that boys are at a disadvantage compared to their female peers (DiPrete and Jennings 2008; Zill 1999). This may be especially true among low-income and racial/ethnic minority children (Hinshaw 1992; Moiduddin 2008; but see DiPrete and Jennings 2008 for conflicting evidence). Family characteristics are also associated with school adjustment problems, including low parental education, poverty, single parenthood, and family disruption, the

[1]Earlier research suggested that the presence of a male child reduces the likelihood of divorce, but recent research finds no gender difference (Lundberg, McLanahan, and Rose 2007).

focus of the present study (Crosnoe and Cooper 2010; Entwisle, Alexander, and Olson 1997; Magnuson and Waldfogel 2008; Stipek and Ryan 1997; Zill 1999).

Mothers' Partnership Instability and Child Well-being

A wealth of empirical evidence links parental divorce or separation with poor child outcomes, including internalizing problems (e.g., depression and anxiety), externalizing problems (e.g., antisocial behavior), and academic problems (e.g., low grades and low scores on achievement measures; Amato 2006; McLanahan and Sandefur 1994). Remarriage is also found to be associated with poor child outcomes (Hetherington et al. 1985). Although some of the association between divorce or remarriage and child outcomes is likely due to selection, there is considerable evidence that at least part of the association is causal (Amato 2006).

In recent years, the field has responded to the increasingly diverse and fluid nature of American families by studying trajectories or histories of family structure change and by incorporating cohabiting (Cavanagh, Schiller, and Riegle-Crumb 2006; Cooper et al. 2009; Fomby and Cherlin 2007; Meadows, McLanahan, and Brooks-Gunn 2008) and dating (Beck et al. 2010; Osborne and McLanahan 2007) relationships into investigations of family instability. Research on elementary schoolchildren, in particular, indicates that coresidential instability (i.e., changes in marital or cohabiting unions) predicts parent- and teacher-reported behavioral problems (Ackerman et al. 2002; Ackerman et al. 2001; Ackerman et al. 1999; Cavanagh and Huston 2006). The association between coresidential transitions and cognitive outcomes during early childhood is less clear, with some research reporting a significant, negative association (Kurdek, Fine, and Sinclair 1995) and other research finding no association (Ackerman et al. 2002). The impact of changes in mothers' *dating* relationships on child well-being has not been explicitly tested, although dating transitions are common among single mothers (especially single, black mothers; Osborne and McLanahan 2007) and have been shown to reduce the quality of mothers' parenting (Beck et al. 2010).

To a large extent, explanations for the association between marital and cohabiting transitions and poor child outcomes draw on social stress theory. According to this theory, changes in economic, social, and health resources, brought on by changes in family structure, induce stress and diminish mothers' capacity for positive parenting, which, in turn, adversely affect children's development (George 1993; Waters and Cummings 2000). Social stress theory also points to the cumulative nature of stressful experiences, suggesting that parents who undergo one family structure change may be more likely to experience subsequent changes (Wu and Martinson 1993), with the effects accumulating over time (Rutter 1983).

The impact of mothers' dating transitions on children may also be filtered through maternal resources and parenting. Indeed, a recent study finds that higher levels of dating transitions are associated with higher levels of parenting stress and harsh parenting behaviors among mothers of young children (Beck et al. 2010). This may occur because dating reduces time spent with children or disrupts family rules and routines, although research has not directly tested this hypothesis.

The observed link between partnership instability and poor child outcomes also has been attributed to selection processes. Parents who undergo partnership transitions differ from those in stable relationships in ways that are unobserved (by the researcher), and these differences, rather than instability per se, may be the source of poor child outcomes. For example, a woman with poor relationship skills may experience more partnership transitions and have children with more academic problems. In this case, the true cause of a child's academic problems is the mother's relationship skills rather than partnership instability.

Moderating Role of Child Gender

There are several theoretical reasons for expecting boys to respond more negatively to family disruptions than girls do. The presence of a male role model may be more important for boys' identity, boys may be harder to manage than girls, and/or mothers may treat sons differently than daughters because of negative emotions toward the father or because of concerns about their children's safety (Allison and Furstenberg 1989; Hetherington and Arasteh 1988; Rosen and Aneshensel 1978). The empirical literature also suggests that boys may be more negatively affected than girls by disruption in the home (Biller 1981; Hetherington et al. 1985). Following a divorce, mother–son relationships are generally more strained than mother–daughter relationships (Hetherington et al. 1985), and boys exhibit more short- and long-term externalizing problems than girls do (Demo and Acock 1988; Entwisle et al. 1997).[2] Gender differences in behavior and achievement may be even more pronounced for children exposed to multiple partnership transitions. Insofar as boys take longer than girls to adjust to a family transition, multiple transitions may be particularly problematic for boys (Cavanagh et al. 2008).

In summary, this study extends prior research in several ways. First, we include mothers' dating transitions as part of children's experience of family instability and, importantly, compare the strength of the associations between types of transitions and children's school readiness. Gaining a better understanding of the role of mothers' dating relationships is important because young children are more likely to be exposed to nonresidential dating transitions than to transitions that involve coresidence (Osborne and McLanahan 2007). Second, we examine gender differences in exposure and response to mothers' partnership instability. Whereas some research finds that boys are more negatively affected by family disruption than girls are, the results of these studies are inconsistent and have not focused on child outcomes at school entry. Moreover, identifying factors that potentially contribute to gender differences in school readiness is a timely goal, given the growing gender gap in education. Finally, researchers argue that unobserved variables or processes may account for associations between partnership instability and child outcomes (Amato 2006; Sigle-Rushton and McLanahan 2004), yet few studies attempt to assess the role of selection (see Beck et al. 2010 as a notable exception). In this study, we employ multiple techniques to gauge the robustness of hypothesized patterns in relation to important selection processes.

METHOD

Data Source

The Fragile Families Study is a longitudinal, birth cohort survey that follows 4,898 children, including 3,712 born to unmarried parents and 1,186 born to married parents (for a complete description of the sample and design, see Reichman et al. 2001). Baseline interviews were conducted between 1998 and 2000 in 20 American cities with populations of 200,000 or more. Mothers were interviewed in the hospital within 48 hours of their children's births, and fathers were interviewed shortly thereafter (Wave 1). Follow-up phone interviews were conducted with both parents when the children were one (Wave 2), three (Wave 3), and five (Wave 4) years old, and supplemental assessments of mothers and children were conducted at ages three and five that gathered information on children's cognitive and socioemotional outcomes.

Our analysis uses data from all four waves of the Fragile Families Study. Of the 4,898 mothers in the original sample, we exclude mothers who lived less than half time with their

[2]Other studies find no gender differences in response to parental divorce (Sun and Li 2002), and some research shows that girls exhibit more internalizing problems than boys do (Furstenberg 1990).

children at some point in the study (n = 150). Also, because children's behavioral problems were assessed when mothers participated in the supplemental survey either at home or on the phone but children's verbal ability was assessed when mothers participated in the supplemental survey at home only, we use two separate samples. For children's verbal ability, we exclude mothers who did not participate in the supplemental survey at home, resulting in a sample size of 2,295. For children's behavioral problems, we exclude mothers who did not participate in the supplemental survey, either at home or on the phone, resulting in a sample size of 2,936.

To maximize the use of available information and minimize bias, we use the multiple imputation procedure in SAS to impute missing data for these mothers. Although multiple imputation is a valuable strategy for handling missing data with longitudinal data, imputing data that are not missing at random can produce biased estimates of coefficients and standard errors (Allison 2001). Because mothers who left the study are not missing at random, we take a conservative approach to data imputation by imputing predictor variables only. Our final, imputed, analytic samples have observed characteristics that are very similar to the baseline sample (see Table 1 for detailed information on sample characteristics).

Measures

Children's school readiness—Children's *verbal ability* at age 5 (Wave 4) is measured with age-standardized scores on the Peabody Picture Vocabulary Test–Revised (PPVT-R). The PPVT-R, a measure of receptive vocabulary, was administered to children during the five-year supplemental survey and assesses the size and range of words that children understand. Descriptive statistics for verbal ability and all other study variables are presented for the full sample in Table 2.

Behavioral problems at age five (Wave 4) are measured using subscales derived from the Child Behavioral Checklist. For each subscale, mothers report the extent to which statements about the child's behavior are true of the child (0 = *not true*, 1 = *sometimes or somewhat true*, 2 = *often or very true*). *Externalizing problems* are the sum of mother-reported responses to the aggression and rule-breaking behavior subscales (α = .84). The aggression subscale is composed of 14 statements about aggressive behavior, including attacks others, screams, sulks, is suspicious, teases, argues, bullies, is disobedient at school, is disobedient at home, destroys others' things, destroys own things, fights, threatens, and is unusually loud. The rulebreaking subscale assesses whether children engage in nine types of rule-breaking behavior: prefers being with older children, runs away from home, sets fires, steals at home, steals outside of home, swears, hangs around with others who get in trouble, lies or cheats, and vandalizes.

Internalizing problems are the sum of children's scores on the anxious/depressive and withdrawn behavior subscales (α = .68). The anxious/depressive subscale assesses whether children feel overly guilty, self-conscious, worried that no one loves them, worried they might think or do something bad, worried that they have to be perfect, and worried in general. The withdrawn subscale asks mothers whether children are uninvolved in social activities, are secretive, are shy, are underactive, prefer to be alone, and refuse to talk.

Attention problems include five items that assess whether children do poor school work, stare blankly, are confused, daydream, and act without thinking (α = .57). Finally, *social problems* are measured by asking mothers whether children are poorly coordinated, are accident prone, are not liked by other children, prefer being with younger children, get jealous easily, get teased a lot, and feel others are out to get them. We retained this composite, despite its low reliability (α = .47), because the items are designed to be used together.

Partnership instability

Coresidential transitions are measured by summing the number of times mothers transition in and out of coresidential relationships with cohabiting or marital partners during the first five years following the focal child's birth.[3] At each wave, mothers reported whether they were involved in a romantic relationship; whether they were living with a partner; and whether, if applicable, the current partner was the same partner identified in the previous wave. Based on this information, a coresidential exit or entrance between two waves is coded as one coresidential transition, while experiencing both (in either order) is coded as two coresidential transitions. At Wave 4, mothers were also asked how many romantic relationships lasting at least one month they had experienced since the last interview and whether they lived with any of these partners. Responses to these questions allow us to determine whether mothers were involved in relationships between Waves 3 and 4 that could not be identified based on reports of current status. Because mothers were not asked about their between-wave romantic relationships in earlier years, we are likely undercounting coresidential transitions between Waves 1 and 3. Note also that our measure of coresidential transitions does not examine whether mothers are changing residences, only whether they are transitioning into or out of a relationship that is coresidential in nature.

Dating transitions are counted similarly but are limited to transitions that do not involve a change in coresidence. We follow the measurement strategy of Osborne and McLanahan (2007) and Beck and colleagues (2010) by coding mothers who reported a pregnancy between two interviews as having entered and exited a dating relationship if they reported not having a partner at either time points. Importantly, we do not count changes in relationship status with the same partner (e.g., from cohabitation to marriage) as a partnership transition. Our final measure of partnership transitions sums coresidential and dating transitions to create a measure of the total number of transitions between Waves 1 and 4.

Controls

To minimize the possibility that the associations between family instability and child outcomes are spurious, all models control for the following demographic characteristics: marital status at Wave 1 (dummy variables for married, cohabiting, and living alone), maternal age in years at Wave 1, age in years at birth of first child, race/ethnicity (dummy variables for black, Hispanic, white, and other), immigrant status (1 = *not born in United States*), education (0 = *high school degree* or less, 1 = *some college or more*), poverty (dummy variables for poor or below 100 percent of the federal poverty line, almost poor or between 100 and 200 percent of the federal poverty line, and nonpoor or above 200 percent of the federal poverty line), parity (1 = *first born*), child gender (1 = *male*), child low birth weight (1 = *below 2,500 grams*), and child age in months at the inhome interview. We also control for an additional set of characteristics that are typically not available in other data sets, including mothers' cognitive ability (measured with the Weschler Adult Intelligence Scale–Revised), nonjoint births (whether she has children by another partner), partnership instability prior to focal child's birth (number of relationships lasting at least one month prior to relationship with focal child's biological father), and maternal grandmother's mental health (whether she suffered from depression or anxiety).

[3]The vast majority of coresidential transitions are into and out of cohabiting unions rather than marital unions. Preliminary analyses revealed that associations between partnership instability and the child outcomes are similar for married and unmarried mothers at Wave 1; thus, these two groups were collapsed for the results presented here.

Analytic Techniques

Ordinary least squares (OLS) regression techniques are employed to address each of our research questions. We begin by regressing the child outcomes on the total number of partnership transitions and the full set of controls. Then, we replace total number of transitions with separate indicators of coresidential and dating transitions to test whether the coefficients are significantly different from one another. Next, we add interactions for child's gender and the two types of transitions to the previous model to examine whether associations between partnership transitions and outcomes vary by child gender.

Finally, because our data are observational, we must consider the possibility that partnership instability is picking up the effect of a third (omitted) variable that is affecting both partnership instability and child outcomes. To investigate this possibility, we conduct three additional sets of analyses. First, we estimate lagged dependent variable models that include measures of child outcomes at Wave 3. The lagged models control for unmeasured variables that are associated with child well-being at age three. Second, we estimate fixed effects models that examine the association between changes in partnership instability and changes in child outcomes. The fixed effects models are based on within-child changes in instability and well-being, and they control for unmeasured characteristics of the child that do not change over time. Third, we estimate models that regress child outcomes at age three (Wave 3) on future partnership instability (measured between Waves 3 and 4). The logic behind this "falsification test" (Rothstein 2007) is that future instability cannot affect current child outcomes, and thus, a positive coefficient would suggest that selection is a problem.

RESULTS

Table 2 presents the distribution of the study variables for boys (n = 1,531) and girls (n = 1,405) at age five. Beginning with the child outcomes, we find that boys have significantly lower scores on our measure of verbal ability compared to the scores of their female peers. They also experience more externalizing and attention problems but have fewer social problems than girls do. Boys and girls have similar levels of internalizing problems. With regard to mothers' partnership transitions, we find that boys and girls are exposed to similar levels of partnership instability between birth and age five, and dating transitions account for a majority of transitions for both boys and girls. Finally, boys and girls do not differ on the maternal and child control variables, with the exception of marital status at baseline. Boys and girls are equally likely to be born to married parents, but girls are more likely to be born to cohabiting parents than boys are.

Our first research question asks whether partnership transitions are associated with children's cognitive and behavioral readiness for school. Table 3 presents the results of OLS models predicting child outcomes at age five. We find that the total number of partnership transitions experienced between birth and age five is negatively associated with children's verbal ability ($\beta = -.45$, $p \leq .01$), after controlling for maternal and child characteristics. Each partnership transition is associated with about one half of a point decrease in verbal ability, which represents 6 percent of a standard deviation. Children exposed to a higher number of partnership transitions are also more likely to experience externalizing problems at age five than children exposed to fewer transitions ($\beta = .18$, $p \leq .001$). Exposure to one additional partnership transition results in about one fifth of a point increase in the externalizing behavior index, which is equivalent to 7 percent of a standard deviation. Partnership transitions are also associated with attention problems ($\beta = .03$, $p \leq .05$) and social problems ($\beta = .04$, $p \leq .05$) such that each partnership transition is associated with about 5 percent of a standard deviation increase in these problems. Contrary to expectations, we find that partnership transitions are not associated with child internalizing problems, and this finding holds when measures of anxiety/depression and withdrawal are examined

separately. Overall, these results suggest that each partnership transition is associated with a small reduction in school readiness. Yet, given that about half of children born to unmarried parents experience three or more changes by age five (results available upon request), these findings suggest that children born into alternative family forms are at a significantly higher risk for both academic and behavioral problems at school entry.

Second, we examine whether the *type* of transition matters by examining coresidential and dating transitions separately. In Model 1 of Table 4, we find that coresidential instability is associated with lower verbal ability ($\beta = -.79$, $p \leq .01$) and more externalizing problems ($\beta = .25$, $p \leq .01$), attention problems ($\beta = .05$, $p \leq .10$), and social problems ($\beta = .11$, $p \leq .01$). Dating transitions are also associated with lower verbal ability ($\beta = -.36$, $p \leq .05$) and more externalizing problems ($\beta = .17$, $p \leq .01$) and attention problems ($\beta = .02$, $p \leq .10$). Consistent with the findings for total number of transitions, neither coresidential nor dating transitions predict internalizing problems. Although the coefficients for coresidential transitions are larger in magnitude than those for dating transitions, Wald tests indicate that the difference between the two types of transitions is significant for social problems only. Overall, these findings suggest that both coresidential and dating transitions decrease cognitive and behavioral readiness for school.[4]

Our third research question asks whether the associations between partnership transitions and child outcomes at school entry vary by child gender (see Model 2 of Table 4). We find that associations between coresidential transitions and child behavioral problems differ by gender, with boys responding more negatively than girls. Interactions between coresidential transitions and child gender are statistically significant for externalizing problems ($\beta = .35$, $p \leq .05$), attention problems ($\beta = .08$, $p \leq .10$), and social problems ($\beta = .14$, $p \leq .05$). An interpretation of each of these interactions suggests that an increase in exposure to transitions is significantly associated with increases in these three forms of behavioral problems for boys only.[5] In contrast, increased exposure to maternal partnership transitions is significantly associated with decreases in verbal ability for boys and girls alike.

Robustness Checks

Table 5 presents results from the robustness checks that assess the extent to which observed associations between partnership instability and children's school readiness are robust to omitted variable bias. The robustness tests are limited to outcomes measured at child ages three and five: verbal ability, aggression (a subscale of externalizing problems), and attention problems. Rule breaking (a subscale of externalizing problems) and social problems were not asked at age three. Internalizing problems were not examined because they were not associated with instability.

For verbal ability, the lagged model shows significant coefficients for all partnership transitions and dating transitions and a marginally significant coefficient for coresidential transitions. The fixed effects coefficient for coresidential instability is also marginally significant. Finally, the falsification test indicates that transitions between child ages three and five are not significantly associated with verbal ability at age three. Yet, the coefficient for coresidential transitions is large, suggesting that omitted variable bias may be a concern.

[4]Because black children are especially likely to experience nonresidential, dating transitions compared to their non-black peers (Osborne and McLanahan 2007), we examined the hypothesized associations by race/ethnicity and found that racial/ethnic differences were neither substantial nor statistically significant.

[5]Similar to the results for the full sample, we find that the difference between the effects of coresidential and dating transitions on boys' behavior is significant for social problems only (results available uponrequest).

For children's behavioral problems, we find significant coefficients for all three measures of instability in the lagged aggression models. The size of the coefficients in the fixed effects models is similar to those in the lagged models, but they are not significant because of large standard errors, which suggests that the point estimates are robust but perhaps not precisely measured. In the falsification models, we find that later transitions are not associated with child aggression at age three. Overall, these results provide some support for the argument that partnership instability has a causal effect on boys' aggression problems. The results for associations between coresidential transitions and attention problems are similar to the results for aggression. In contrast, the results for associations between dating transitions and attention problems suggest that we may be picking up the effect of an omitted variable.

We should point out that our robustness tests are based on the assumption that the measures of child well-being at age three are not picking up the effect of a pending separation or partnership change. This is a strong assumption, which, if incorrect, could lead us to overcontrol for predisruption conditions. For example, child behavior problems have been found to increase during the period leading up to divorce (Sun and Li 2002). Thus, whereas passing the robustness tests should be viewed as strong evidence in favor of a causal effect, failure to pass a test should not be taken as definitive evidence of no causal effect.

DISCUSSION

This article investigated the association between maternal partnership instability and children's cognitive and behavioral preparation for school entry. Importantly, we extended prior work by comparing coresidential and dating transitions, examining gender differences in associations between instability and school readiness, and assessing the robustness of our findings to omitted variable bias. Differentiating the type of transition is important because children are more likely to experience maternal dating transitions than marital or cohabiting transitions. Differentiating the effects of instability by child gender is important because if boys are more negatively affected by partnership instability than girls are, then increasing family instability may be contributing to the gender gap in school readiness and, ultimately, to the gender gap in educational attainment. Finally, examining vulnerability to unobserved variables is important for addressing issues of selection and causation.

We found that both types of partnership instability (coresidential and dating) are associated with lower verbal ability, more externalizing problems, and more social problems and that coresidential instability is associated with attention problems. Our study is the first to provide empirical evidence that dating transitions may be similar to marital and cohabiting transitions in terms of their association with children's school readiness. We interpret these findings with caution, however, given the substantial heterogeneity in mothers' definitions of what constitutes cohabiting (Brown and Manning 2009; Knab and McLanahan 2006). The fuzzy line between cohabiting and dating may explain why we detect significant differences between the two types of transitions for social problems only. Regardless, our results point to the importance of dating relationships and suggest that prior work underestimates the level of instability in children's lives, especially for black children.

We also found that the association between partnership instability and behavioral problems is stronger for boys than for girls. If boys respond more negatively than girls do to partnership transitions, then trends in family formation may be contributing to the gender gap in school attainment by reducing boys' readiness to learn at the time they enter formal schooling. Interestingly, although in this sample boys at age five have lower verbal ability than girls do, there were no gender differences in the effects of instability on verbal ability. Robustness tests lend support to the argument that both coresidential and dating instability have causal effects on boys' externalizing behavior and that coresidential instability has a

causal effect on boys' attention problems. The evidence for a causal effect of instability on verbal ability is more ambiguous.

Our study has several limitations. First, because our data are observational, we cannot rule out the possibility that unmeasured variables led both to mothers' partnership instability and to poor child outcomes. Although we attempted to minimize this possibility by including a rich set of control variables and by conducting several robustness checks, we recognize that omitted variable bias may still exist. In particular, our robustness checks did not control for omitted variables that change over time. Second, we are unable to accurately measure the proportion of time spent in singleparent homes between transitions. Controlling for family structure at birth helps address this issue, but to the extent that time spent in a single-parent home predicts school readiness, we may still be overestimating instability effects. Third, mothers were asked at the five-year interview about partnerships that began and ended within the preceding two-year time period, but this question was not asked in earlier waves. Thus, we are likely undercounting instability between birth and age three. Fourth, we treat each relationship change as equally important when in fact some changes may be more important than others (Cooper et al. 2009). Finally, our data are representative of children living in urban areas, and so the results may not generalize to children in suburban or rural areas. Yet, our findings for coresidential instability are similar to those from nationally representative research on older children (Cavanagh and Huston 2006; Fomby and Cherlin 2007), suggesting that the urban sample may not present a problem.

The findings from this study contain a number of implications for future research. First, future research should move beyond a focus on marital unions to include dating as well as cohabiting unions. Second, researchers need to pay close attention to gender differences in the effects of instability on children's behavioral problems. Several studies indicate that early behavioral problems are strong predictors not only of future behavior but also of educational and labor market success (Farkus et al. 1990; Heckman, Stixrud, and Urzua 2006). Indeed, much of the success attributed to early childhood education programs such as Head Start is due to reductions in behavioral problems and improvements in social skills (Barnett 1996). Insofar as family instability has differential effects on boys and girls and insofar as family instability is more common among disadvantaged populations, the increase in instability during the past few decades may account for the growing gender disparity in school achievement, especially among minority populations. Finally, our findings have implications for policies aimed at strengthening families and improving child well-being. Current initiatives, originally funded by the Bush administration, seek to promote marriage by providing parents with training in relationships skills (Dion 2005). Our results suggest that a stronger emphasis on relationship stability, regardless of the type of union, is important for promoting children's school readiness, especially among boys. In addition, policy makers and program providers should more seriously consider the impact that dating relationships have on the resources and well-being of household members. These relationships are often not the focus of policies, but our results point to the potential risk of all forms of partnership instability to young children's academic well-being.

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Table 1

Selected Characteristics of Various Fragile Families Samples

	Sample 1[a] (*n* = 4,898)	Sample 2[b] (*n* = 759)	Sample 3[c] (*n* = 1,116)	Sample 4[d] (*n* = 150)	Sample 5[e] (*n* = 2,295)	Sample 6[f] (*n* = 2,936)
Maternal characteristics						
Relationship status at birth						
Married to biological father (%)	24.23	23.06	27.87	5.33	21.44	23.67
Cohabiting with biological father (%)	36.42	39.00	36.47	42.00	36.30	35.63
Living alone (%)	39.34	37.94	35.66	52.67	42.27	40.70
Age at baseline	25.28	25.77	25.46	25.61	24.91	25.09
Race/ethnicity						
Black (%)	47.62	40.29	42.86	58.39	53.64	50.75
Hispanic (%)	27.34	32.50	30.64	22.15	24.23	25.10
White (%)	21.08	20.74	21.11	16.78	19.35	21.29
First-generation immigrant (%)	17.03	28.76	19.77	5.33	12.18	13.33
Education at baseline	1.11	1.02	1.13	0.59	1.10	1.14
Child characteristics						
Gender(% male)	52.44	51.65	53.76	54.67	51.81	52.15
First born (%)	38.28	37.30	38.61	20.27	38.52	38.66
Low birth weight (%)	10.74	12.25	9.41	26.00	10.02	10.42

[a] Original Fragile Families Study sample.

[b] Mothers who did not participate in the five-year core survey.

[c] Mothers who participated in the five-year core survey but not in the five-year supplemental survey.

[d] Mothers who lived with focal child half time or less during one or more waves.

[e] Analytic sample for verbal ability.

[f] Analytic sample for behavioral problems.

Table 2

Descriptive Statistics by Child Gender

	Total[a] *n* = 2,936		Boys *n* = 1,531		Girls *n* = 1,405	
	M	***SD***	***M***	***SD***	***M***	***SD***
Child outcomes						
Verbal ability[b]	93.23	15.41	92.17[d]	16.48	94.36	14.83
Externalizing problems	6.73	5.28	7.21[d]	5.54	6.22	4.94
Internalizing problems	3.56	2.92	3.55	2.94	3.57	2.89
Attention problems	1.07	1.34	1.17[d]	1.41	0.96	1.25
Social problems	2.52	1.92	2.45[d]	1.91	2.59	1.93
Partnership transitions						
All partnership transitions	2.11	2.12	2.15	2.10	2.07	2.15
Coresidential transitions	0.91	1.05	0.91	1.06	0.91	1.04
Dating transitions	1.20	1.87	1.24	1.84	1.16	1.89
Maternal controls						
Married at baseline	23.67		24.30		22.99	
Cohabiting at baseline	35.63		33.39[d]		38.08	
Living alone at baseline	40.70		42.31		38.93	
Age at baseline	25.09	6.02	25.02	6.02	25.16	6.02
Age at first birth	21.52	5.25	21.59	5.21	21.45	5.29
Black (%)	50.75		51.61		49.81	
Hispanic (%)	25.10		23.79		26.49	
Other (%)	2.85		3.08		2.63	
White (%)	21.30		21.52		21.07	
First-generation immigrant (%)	13.33		13.06		13.59	
Education	1.14	0.99	1.15	1.00	1.12	0.99
Poor at baseline (%)	36.17		36.19		36.16	
Almost poor at baseline (%)	25.51		25.54		25.48	
Nonpoor at baseline (%)	38.32		38.28		38.36	

	Total[a] *n* = 2,936		Boys *n* = 1,531		Girls *n* = 1,405	
	M	***SD***	***M***	***SD***	***M***	***SD***
Cognitive ability	6.76	2.65	6.78	2.68	6.73	2.62
Nonjoint births (%)	35.81		35.13		36.55	
Parents' mental health (%)	38.81		40.16		37.33	
Relationship history[c]	2.05	2.32	2.02	2.25	2.09	2.39
Child controls						
First born (%)	38.66		39.77		37.47	
Low birth weight (%)	10.42		9.60		11.32	
Age in months at Wave 4	63.83	3.04	63.86	3.10	63.80	2.99

Source: Fragile Families and Child Wellbeing Study.

[a]Based on analytic sample for behavioral problems (*n* = 2,936).

[b]Based on analytic sample for verbal ability (*n* = 2,295).

[c]Number of relationships lasting at least one month prior to relationship with father.

[d]Indicates difference between boys and girls is statistically significant at $p \leq .05$.

Table 3

Results of Ordinary Least Squares Models Predicting Child Outcomes at Age Five by Partnership Transitions

	Verbal Ability[a]	*SE*	External Problems[b]	*SE*	Internal Problems[b]	*SE*	Attention Problems[b]	*SE*	Social Problems[b]	*SE*
All partnership transitions	−.45**	.16	.18***	.05	−.02	.03	.03*	.01	.04*	.02
Maternal characteristics										
Cohabiting at baseline	.24	.89	.10	.30	.26	.17	−.03	.08	.22*	.11
Living alone at baseline	1.37	.96	.52	.33	.39*	.18	.08	.08	.36**	.12
Age at baseline	−.07	.08	−.09***	.03	.004	.02	−.02*	.01	.003	.01
Education at baseline	1.82***	.39	−.33*	.13	−.09	.07	−.06†	.03	−.12**	.05
Poor at baseline	−5.43***	.79	.77**	.27	.48***	.15	.13†	.07	.18†	.10
Almost poor at baseline	−3.87***	.77	.53*	.26	.26†	.15	.05	.07	.10	.10
Black	−6.67***	.85	−.04	.28	−.27†	.16	−.33***	.07	.02	.10
Hispanic	−6.93***	.99	.02	.33	.64***	.18	−.15†	.08	.29*	.12
Other	−.59	1.86	1.14†	.62	.27	.34	−.06	.16	.43†	.23
First generation immigrant	−5.47***	1.02	−.60†	.34	.74***	.19	−.13	.09	.09	.12
Cognitive ability	.75***	.12	.02	.04	−.07**	.02	−.01	.01	−.02	.01
Age at first birth	.27**	.10	.02	.03	−.01	.02	.001	.01	−.02	.01
Nonjoint births	−1.04	.82	.20	.29	−.09	.15	−.07	.07	−.03	.10
Relationship history [c]	.42***	.13	.13**	.04	.02	.02	.01	.01	.02	.02
Parents' mental health	.15	.61	1.35***	.20	.71***	.11	.36***	.05	.42***	.07
Child characteristics										
Gender (male)	−2.39***	.52	.96***	.19	−.01	.10	.19***	.05	−.14*	.07
First born	−.74	.79	−.99***	.27	.07	.15	−.02	.07	.03	.10
Low birth weight	−2.26**	.94	.73*	.31	−.02	.17	.23**	.08	.06	.12
Age in months at Wave 4	.22*	.09	−.08†	.04	.001	.02	.001	.01	−.01	.01

Note: Unstandardized coefficients presented. Some or more college is the reference category for education, nonpoor is the reference category for poverty status, and White is the reference category for race/ethnicity.

[a] n = 2,295.

[b] $n = 2,936$.

[c] Number of relationships lasting at least one month prior to relationship with father.

† $p \leq .10$.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.

Table 4

Results of Ordinary Least Squares Models Predicting Child Outcomes at Age Five by Partnership Transitions and Interactions with Child Gender

Model	Variable	Verbal Ability[a]	*SE*	External Problems[b]	*SE*	Internal Problems[b]	*SE*	Attention Problems[b]	*SE*	Social Problems[b]	*SE*
1	Coresidential transitions	−.79**	.29	.25**	.10	.01	.05	.05†	.03	.11** [c]	.04
	Dating transitions	−.36*	.16	.17**	.06	−.03	.03	.02†	.01	.02 [c]	.02
	Child male	−2.38***	.56	.96***	.19	−.01	.10	.19***	.05	−.14*	.07
2	Coresidential transitions	−.92*	.42	.07	.14	−.03	.08	.003	.04	.03	.05
	Dating transitions	−.34	.22	.14†	.07	−.03	.04	.02	.02	.001	.03
	Child male	−2.56***	.85	.56*	.28	−.09	.16	.10	.07	−.32***	.10
	Child Male × coresidential transitions	.24	.56	.35*	.17	.08	.10	.08†	.05	.14*	.07
	Child Male × dating transitions	−.04	.30	.07	.10	.01	.06	.02	.03	.04	.04

Note: Unstandardized coefficients presented. Models include the full set of controls.

[a] n = 2,295.

[b] n = 2,936.

[c] The difference between coresidential and dating transitions is statistically significant at $p \leq .05$.

† $p \leq .10$.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.

Table 5

Robustness Checks

Model	Variable	Verbal Ability[a]	*SE*	Aggression Problems[b]	*SE*	Attention Problems[b]	*SE*
Lagged	All partnership transitions	−.36**	.14	.11**	.04	.03*	.01
	Coresidential transitions	−.45†	.27	.22**	.07	.05†	.02
	Dating transitions	−.34*	.15	.09*	.04	.02	.01
Fixed	All partnership transitions	−.10	.24	.08	.08	−.000	.02
	Coresidential transitions	−.75†	.43	.21	.14	.06†	.04
	Dating transitions	.02	.25	.06	.08	−.01	.03
Falsification	All partnership transitions	−.26	.23	.04	.10	.03	.02
	Coresidential transitions	−.91	.59	−.25	.24	−.02	.05
	Dating transitions	−.14	.27	.10	.11	.03	.03

Note: Unstandardized coefficients presented.

[a] Results for full sample (n = 2,295).

[b] Results for boys (n = 1,531).

† $p \leq .10$.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.