Published in final edited form as:

J Marriage Fam. 2016 October ; 78(5): 1300–1314. doi:10.1111/jomf.12343.

Father Absence and Adolescent Depression and Delinquency: A Comparison of Siblings Approach

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Abstract

Associations between having a nonresident father and increased internalizing and externalizing behaviors in adolescence have been well established, however, research has yet to establish the plausible causality of these links or identify the mechanisms that may underlie them. Using data from the National Longitudinal Survey of Youth 1979 – the Young Adult survey (CNLSY-YA), the present study addresses these questions by comparing the behavior of siblings discordant for age at father departure across two outcomes, depressive symptoms ($N=5108$) and delinquent behavior ($N=4882$). Findings indicate that father departure later in childhood is associated with increased delinquency in adolescence but not with greater depressive symptoms. Moreover, father departure in early childhood was not associated with problematic behavior in adolescence. Both findings suggest that parental monitoring rather than disrupted socialization or emotional distress may account for links between having a nonresident father and adolescent delinquency.

Keywords

Development/outcomes; Antisocial behavior; National Longitudinal Study of Youth; Single-parent families; Fatherhood

A substantial literature has documented links between father absence from the home and a host of negative outcomes in adolescence, including depressive symptoms and delinquency (Carlson & Corcoran, 2001; D'Onofrio et al., 2005; 2006; Hao & Xie, 2002). Because nearly half of all children in the United States will live apart from their father at some point (U.S. Census Bureau, 2006; Ventura, 2009), these links, if causal, have serious implications. Indeed, the rise in nonresident fatherhood has garnered substantial political attention, including the now billion-dollar Healthy Marriage and Responsible Fatherhood initiatives (Hawkins, Amato, & Kinghorn, 2013). Policies like these assume father absence from the home causes suboptimal outcomes in adolescence. However, much of the research examining the association between nonresident fatherhood and adolescent outcomes compares adolescents from different families, leaving open the possibility that unmeasured family and child characteristics that covary with nonresident fatherhood and adolescent well-being may drive the associations. Even assuming these associations are plausibly causal, research is still needed to identify the mechanisms linking father absence to adolescent outcomes in order to identify levers for intervention.

The present study uses a rigorous, quasi-experimental method to assess whether observed associations between father absence from the home and adolescent internalizing and externalizing behavior are plausibly causal, and if so, the mechanisms that may account for this link. We address the issue of causality by comparing siblings discordant in their experience of nonresident fatherhood, reducing the influence of many potential unmeasured genetic and environmental confounds. We investigate mechanisms by comparing associations by child age at father departure from the home and across internalizing versus externalizing behaviors. The study's findings will help clarify the consequences of the rise in nonresident fatherhood and illuminate the wisdom of policies and programs aimed at reducing the impact of nonresident fatherhood on adolescent behavior.

Father Absence and Adolescent Behavior: Strategies for Assessing Causality

Many studies have identified links between father absence from the home, as the result of parental divorce and separation, remarriage and repartnering, and nonmarital childbirth, and socioemotional problems in adolescence. Those looking specifically at the effects of parental divorce have found that having divorced versus stably married parents predicts higher levels of behavior problems, greater internalizing symptoms, and greater substance use among teens (Cherlin et al., 1991; D'Onofrio et al., 2005; 2006). Likewise, studies comparing adolescents in two biological parent families to those in a range of other family types, including single mother and stepparent families, have found teenagers living with both biological parents have lower levels of delinquency and depressive symptoms (Hao & Xie, 2002; Morrison & Coiro, 1999; Sun & Li, 2002). That these other family types include stepparent families in which a father figure is present in the home (Hofferth, 2006; Kerr & Michalski, 2007) highlights the possible salience of the biological father's coresidence to adolescent adjustment.

Though robust, the associations between father absence and adolescent internalizing and externalizing behaviors remain subject to causal scrutiny. First, both depressive symptoms and delinquent behavior are partially heritable (Jocklin, McGue, & Lykken, 1996) and both predict later relationship instability (Amato, 2000; Emery, Waldron, Kitzmann, & Aaron, 1999). Youth of parents experiencing relationship instability may thus inherit genes from their parents that precipitate both instability and internalizing and externalizing behaviors. Second, environmental factors such as low income (Agnew, Matthews, Bucher, Welcher, & Keyes, 2008; McLoyd, 1998) and neighborhood disadvantage (Leventhal & Brooks-Gunn, 2011; Sampson, Morenoff, & Gannon-Rowley, 2002; Sampson, Raudenbush, & Earls, 1997) covary with both father absence and adolescent depression and delinquency. Thus family factors, both genetic and environmental, if unmeasured, could result in the identification of spurious associations between father absence from the home and adolescent adjustment.

To account for the influence of genetics and rearing environment two main approaches have been used. Most research attempts to address selection into father absence by controlling statistically for several family and child-level factors that predict father absence and adolescent outcomes. This strategy, however, leaves open the possibility that unmeasured

environmental factors still confound nonresident fatherhood -- adolescent outcome associations. Moreover, it does nothing to minimize the influence of genetic predispositions toward socioemotional problems passed from parent to child. More recently, researchers have used quasi-experimental designs in which the outcomes of genetically-related rather than unrelated youth are compared (Lahey & D'Onofrio, 2010). For example, the Children of Siblings (COS) design compares the outcomes of cousins who are discordant for marital dissolution (e.g. Coyne, Langstrom, Rickert, Lichtenstein, D'Onofrio, 2013; D'Onofrio et al., 2005; 2006). This design reduces the influence of genetic risks that could bias associations between nonresident fatherhood and outcomes because cousins share up to 25% of their genetic makeup (if their parents were monozygotic twins; 12.5% if full siblings or dizygotic twins). It also assumes that cousins experience more similar home environments than non-cousins because of their sibling parents.

Both methodological strategies have revealed a link between father absence and adolescent internalizing and externalizing behavior (McLanahan, Tach, & Schneider, 2013). For example, regression analyses using rich covariate information identified strong links between marital dissolution and psychological distress and problem behavior (Amato, 1991; Morrison & Coiro, 1999; Sun, 2001). Growth curve strategies, which examine within-child changes in behavior, have shown that although behavior problems exist prior to divorce, children who experience divorce or separation report even higher levels of internalizing and externalizing behavior after marital dissolution (Cherlin et al., 1991; 1998; Lansford et al., 2006; Sun & Li, 2002). Finally, using a rigorous COS design in which cousins of twin mothers—both monozygotic and dizygotic—were compared, D'Onofrio and colleagues (2005; 2006) found that divorce was linked with depressive symptoms and problem behaviors in young adulthood.

Though compelling, even the most rigorous COS design leaves open the possibility that genetic and environmental differences between non-twin siblings or dizygotic twins, and between cousins' unrelated fathers, may confound the association between nonresident fatherhood and adolescent outcomes. An alternate approach, the differential sibling-exposure design (Ryan, 2015; Tither & Ellis, 2008), compares outcomes of siblings discordant for age at father departure. When full siblings are compared, this approach eliminates the influence of genetic risk because genetic differences between siblings are effectively randomized during meiosis (Lahey & D'Onofrio, 2010; Ellis, Schlomer, Tilley, & Butler, 2012). It also eliminates the influence of environmental confounds that differ between families of both full siblings and twins. When half siblings are compared, the sibling comparison approach allows for fathers' genetic differences to potentially bias associations, although this comparison still permits less genetic confounding than standard COS designs (although not less than twin-based COS designs) because half siblings share 25% of their genetic makeup rather than the typical 12.5% among cousins. Moreover, although the home environments of half siblings differ more than those of full siblings, their home environments are still more similar than those of cousins raised by different mothers, even mothers who are monozygotic twins. To our knowledge, no study has yet used the differential sibling-exposure method to address the question of father absence and adolescent depression and delinquency.

Father Absence and Adolescent Behavior: Mechanisms

If the association between father absence and adolescent outcomes *is* causal, it is important to understand the mechanisms underlying this influence to design appropriate interventions. Three pathways have been proposed to explain links between father absence and elevated levels of internalizing and externalizing behavior. First, socialization theory suggests that father absence influences adolescent behavior through adverse behavioral modeling. Specifically, father absence, and the parental conflict that often precedes it, may expose children to maladaptive emotional coping strategies or impulsive behaviors that they emulate in adolescence (Amato & DeBoer, 2001; Hetherington, Bridges, & Insabella, 1998; Sigle-Rushton & McLanahan, 2002). Second, youth may act out in response to the emotional disruption engendered by high levels of familial conflict that can both precede and succeed a union dissolution (Amato, 2000). Youth experiencing father absence may also struggle with the disruption of family life and exposure to parental distress brought about by family dissolution, resulting in internalizing or acting out behavior (Amato, 2000; Hetherington et al., 1998; Lansford, 2009). Finally, in families with nonresident fathers, youth may experience reduced parental supervision, providing youth with greater opportunity to engage in risky or delinquent behavior (Hetherington et al., 1998; Lansford, 2009).

One way to adjudicate among these pathways is to compare associations with adolescent outcomes by timing of father departure. More specifically, the salience of each pathway likely depends on when the disruption occurs. If nonresident fatherhood influences adolescent behavior through socialization practices, early father departure is likely to exert the strongest influence on adolescent behavior—both internalizing and externalizing—because early father absence results in the longest period of disrupted socialization. In this scenario, it is not timing per se that matters, but simply length of time spent living apart from one's biological father, with earlier departures predicting worse outcomes than later departures in a linear or at least monotonic pattern. Conversely, if nonresident fatherhood influences behavior through emotional disruption, late father departure is likely to exert the strongest influence on adolescent internalizing and externalizing behavior due to the recency of the disruption. Indeed, longitudinal studies show that adolescent anxiety and depression increase as divorce approaches and continue to rise post-divorce (Strohschein, 2005). Finally, if nonresident fatherhood influences adolescent behavior through reductions in parental monitoring, no time trend should be observed because youth whose fathers left their homes at any time prior to adolescence will be equally likely to enter adolescence without a resident biological father monitoring their behavior.

Comparing associations across socio-emotional outcomes may also illuminate mechanisms. Although emotional disruption is most likely to manifest as elevated internalizing *and* externalizing behavior, if father absence were associated with externalizing behavior only, it would suggest that monitoring (or socialization), rather than emotional disruption, explains the association. That is, low monitoring would provide youth with opportunities to engage in risky, delinquent behavior, but would not theoretically trigger internalizing symptoms. The emotional disruption associated with parental conflict, parental distress or family disruption, however, could theoretically elevate levels depressive symptoms as well as externalizing symptoms such as delinquency.

Moderation by Gender

Both research and theory suggest that the link between father absence and adolescent behavior may differ by child gender. Girls and boys tend towards different types of behavior problems; internalizing symptoms are far more prevalent in girls than boys (Nolen-Hoeksema, 2001), whereas boys exhibit higher levels of externalizing behavior problems (Moffitt, Caspi, Rutter, & Silva, 2001). Whether father absence influences behavior through socialization, emotional distress, or parental monitoring, behavioral responses to that experience are likely to reflect and amplify existing tendencies.

Research examining the role of gender differences is mixed, however (Amato, 2000; Lansford, 2009; McLanahan Tach, & Schneider, 2013). For example, Malone and colleagues (2004) find that for girls parental divorce is unrelated to externalizing behavior, but that for boys divorce is related to externalizing behavior in elementary and middle school. Conversely, Allison and Furstenberg (1989) report larger impacts of family dissolution on delinquent behavior for girls than boys. Similarly, Cherlin et al. (1991) suggest that while previous problem behaviors account for most of the impact of divorce on externalizing symptoms for boys, for girls a divorce has a greater impact, a finding echoed by D'Onofrio et al. (2007) using a COS design.

Present Study

The present study uses a rigorous, within-family comparison to address: (1) whether observed associations between father absence and adolescent behavior, as indexed by depressive symptoms and delinquency, are plausibly causal, and (2) what mechanisms may explain these links. Additionally, the study tests whether links between father absence and adolescent behavior vary by gender. Data are drawn from a diverse, prospective national dataset that offers a large sample of related pairs, allowing for the first examination of within-sibling effects of father absence on adolescent internalizing and externalizing behavior. The question of mechanism is addressed by comparing impacts of father absence by timing and across behavioral outcomes, and special attention is paid to differences in associations by child gender. By addressing both *how* having a nonresident father may impact adolescent behavior, as well as *whether* it does, the study aims to illuminate both the unique role fathers may play in children's social and emotional development and approaches to alleviating the potential effects of their nonresidence.

Method

Data and Sample

Data are drawn from the Children of the National Longitudinal Survey of Youth 1979 – the Young Adult survey (CNLSY-YA). The NLSY79 is a nationally representative sample of 12,686 young men and women who were 14-22 years old when they were first surveyed in 1979 and are currently interviewed on a biennial basis. Since 1986, the biological children of the NLSY79 mothers have been independently followed. Starting in 1994, children who reached the age of 15 by the end of the survey year, called “Young Adults (YA)”, were given complete personal interviews akin to those given to their mothers during late adolescence

and into adulthood. The most recent data used in the present study was collected in 2008 when YA respondents were between 15- and 37-years-old (Center for Human Resource Research, 2009). Because most female respondents had more than one child, the CNLSY-YA contains a large number of sibling pairs, making it ideal for a within-family approach. The analytic sample was limited to all youth with at least one YA interview between 1988 and 2008, at least one interviewed sibling, and data on age at father departure from the home ($N = 6141$ individual YAs drawn from 2330 nuclear families). The sample was further limited to young adults with valid data on depressive symptoms and delinquency (see below).

Descriptive statistics for all dependent variables and all covariates by age at father departure from the home are presented in Table 1, using the sample with valid data on delinquency ($N = 4882$; descriptive statistics did not vary substantively in the analytic sample for depression). The analytic sample is disadvantaged relative to national norms because the CNLSY began with mothers who had children by 1986. As a result, the youth in the YA study were disproportionately born to young mothers (although this concern is less pronounced with the inclusion of 2008 data than in past years). Moreover, the original NLSY oversampled poor and minority households. As a result, unweighted statistics indicate that over a third of young adults in the analytic sample were African American, over a third had half siblings, and over a third of mothers had less than a high school degree at the time of their first birth.

Measures

Age at father departure—Information on timing of father departure from the home was gathered from various sources in the NLSY79 and CNLSY-YA. Youth were asked during their YA interview if they lived with their biological father and, if not, when they last lived with him. If youth reported on age at father departure in multiple interviews, responses were drawn from the earliest wave. Mothers also reported whether the child lived with his or her biological father in each CNLSY mother interview prior to the youth entering the YA study. Finally, in the mothers' main NLSY79 interview, she was asked about her marriage and cohabitation history. This information was used to create complete marriage and cohabitation histories for mothers.

Information from these three sources on age at father departure was combined in the following way. First, for each report, youth were divided into four exclusive groups: father always present (coresiding with both parents through age 14; father never present (father left before child was born/father and mother never lived together); father left between birth and age 5, and father left between ages 6 and 14. Although these groupings are less precise than a continuous measure of age at father departure, they allow for non-monotonic patterns in the association between father departure and behavioral outcomes to emerge, which could illuminate the potential mechanism underlying associations. Specifically, a non-monotonic pattern in which father absence later in childhood predicts worse outcomes than earlier father absence or father presence would support the emotional disruption mechanism. A non-monotonic pattern in which father departure at any age, relative to father presence, predicted equally poor outcomes would support the monitoring mechanism. A monotonic

pattern, by contrast, would suggest that it is not timing per se but duration of father absence that impacts adolescents via socialization.

Those whose fathers departed after age 14 were categorized as father always present to ensure that father departure preceded measurement of the dependent variables, which began when youth entered the YA study at age 15. Next, the youth and mother report from the CNLSY-YA and CNLSY interviews were compared. If the youth and mother reported the same age period for father departure, which they did in 75% of cases, that age period was used. For all remaining cases, information based on the mothers' marriage and cohabitation history was used. These resulting four-level variable was recoded into three indicator variables for father always absent, father left between birth and age 5, and father left between ages 6 and 14, with father always present as the reference. We note that by using the term father absence we do not mean to suggest that fathers who departed from the child's home are absent from their children's lives; many nonresident fathers are highly involved in their children's daily lives, and in this paper the term father absence does not imply otherwise.

Within-family deviation in age at father departure—In order to estimate the within-family effect of father departure at different child ages, a child-level deviation from the family's average for each father absence indicator was computed. First, within-family averages on each father absence indicator were generated. For example, if there were two children in a family and the parents separated when one child was 2 and the other was 6-years-old, the family average for father left between birth and age 5 would be .5 and the family average for father left between ages 6 and 14 would be .5. Second, child-level deviations from the family average were calculated by subtracting the average from each child's score on each indicator. So, the 2-year-old would have a deviation score of .5 for father left between birth and age 5, whereas the 6-year-old would have a deviation score of -.5. For father left between ages 6 and 14, the deviation scores would be reversed. In this way, the child-level deviations for each father absence category operate as within-family dummy variables. Siblings concordant for age at father departure, including those who never experienced father departure, receive "0"s for all child-level deviations. In this formulation, the within-family deviations represent manual constructions of family-level "fixed effects" commonly used in econometrics (e.g., Geronimus et al., 1994); it is a standard coding scheme used for estimating within-family effects in developmental research (see Mendle et al., 2009).

Although most siblings in the analytic sample had the same nonresident fatherhood experience, there was adequate discordance among siblings to estimate within-family effects. The child-level deviations are calculated to reflect whether the child differs from any siblings on each father absence category. However, because the reference group in models is father always present, siblings who experienced father departure at each age are compared to siblings who had fathers always present. Thus it is most important to consider the number of siblings who differ in this way. Among the 4822 in the delinquency analyses, 171 of the youth who had their fathers always present had a sibling whose father left between ages 6 and 15, 115 had a sibling whose father who left between birth and age 5, and 124 had a sibling whose father was always absent. Not surprisingly, families in the latter group had the

largest proportion of half siblings (88% had a half sibling in the family versus 20% for those with a sibling whose father left after age 6). Appendix A displays numbers of adolescents in each father departure category with a sibling in a different father departure category overall: for example, of those with data on delinquency, 365 of youth with father always present had a sibling with a father who departed before age 14; of the youth whose fathers were always absent 438 had a sibling whose father was present for some or all of their childhood.

Dependent variables

Depressive Symptoms—Depressive symptoms were coded using 7 items from the Center for Epidemiologic Studies Depression scale (CESD, Radloff, 1991) measured consistently across years. Respondents rated each item from 1-3, where 1 indicates that the depressive symptom happens rarely, and 3 indicates that the symptom occurs daily. These items were summed to create a scale ranging from 7-21. The dependent variable was created using each respondent's latest report of depressive symptoms (ages 15-19), and included a control for the age at which the dependent variable was assessed.

Delinquency—Delinquency was coded using the three items that were consistent across waves in both young adult and child report surveys. Items assessed whether in the past year respondents had hurt someone badly enough to need a doctor, skipped a day of school or work, or had stolen from a store, and were coded such that 1 indicates that the respondent had engaged in the behavior, 0 otherwise. The scale ranged from 0-3. As with depressive symptoms, the dependent variable was coded using the latest available report and including a control for the age at which the dependent variable was assessed. Unlike depressive symptoms, if young adult report was not available, child report was used.

Half sibling status—Youth were first asked about their relatedness to siblings in the YA study in 2006. They were asked whether they shared a father, did not share a father, or did not know if they shared a father with each interviewed sibling. For youth missing data on sibling relatedness, older siblings' valid responses were used (or younger siblings' if the youth had no older sibling or older siblings were missing data). If two or more siblings had valid responses, but those responses conflicted (one sibling reported they were half siblings, whereas the other reported they were full siblings), the older siblings' data was used for the family. This information was then used to determine if the youth had any half siblings in his or her family, with those who reported not knowing their relatedness to a sibling coded as having a half sibling. Six percent of youth in the analytic sample had missing data on youth reported half sibling status. In these cases, relatedness was deduced from mothers' report of biological father coresidence in the following way: if a mother reported that one sibling coresided with his or her biological father but another sibling did not in a single year, the siblings were coded as half siblings; if a mother reported that two siblings both coresided with their biological father in a single year, they were coded as full siblings. Finally, siblings were coded as twins if they had the same birth month and year (as all siblings shared a biological mother), and all twin pairs were coded as full siblings.

Covariates—Child and family-level covariates exogenous to father absence were included in all models. Child-level covariates were characteristics that could vary across related

children and confound within-family associations: child gender, child's birth year (to control for cohort effects and birth order), birth order, and race/ethnicity. Nuclear-family covariates were parent characteristics that could vary across nuclear families, including age at mothers' first birth, mothers' education level at first birth, and the presence of half siblings (see above). Although family income is potentially endogenous to father absence, the mother's household income averaged across all interview years was entered as a measure of permanent income to control for large differences in families' socioeconomic status across nuclear families (the measure was log transformed for analyses to reduce positive skew).

Analytic Strategy

A 2-level hierarchical linear model (HLM) was fit for each outcome, with child-level variance at level 1 and family-level variance at level 2, using STATA 12.0. These multilevel models essentially allow us to distinguish the proportion of the covariation between the outcomes and timing of father departure that exists within-families from the variation between-families with standard errors adjusted to account for the nesting of YAs within families. Each child's father departure status, measured as his or her deviation from the family average for father always absent, father left between birth and age 5, and father left between ages 6 and 14, and child-level covariates were entered at level 1. At level 2, family-level averages on each father absence indicator were entered along with mother-level covariates. The combined level 1 and 2 model takes the following form:

$$\begin{aligned}
 Y_{ij} = & \gamma_{00} + \beta_{1j} \text{allab_cdev}_{ij} \\
 & + \gamma_{01} \text{allab_fav}_j \\
 & + \beta_{2j} \text{earab_cdev}_{ij} \\
 & + \gamma_{02} \text{earab_fav}_j \\
 & + \beta_{3j} \text{latab_cdev}_{ij} \\
 & + \gamma_{03} \text{latab_fav}_j \\
 & + \sum \beta_{qj} (\text{ChildVars})_{ij} \\
 & + \sum \gamma_{0q} (\text{MotherVars})_j + u_{0j} + r_{ij}
 \end{aligned}$$

The variables allab_cdev_{ij} , earab_cdev_{ij} , and latab_cdev_{ij} reflect the child-level deviations from the family average; the variables with the suffix _fav_j are the analogous family-level averages. These family level averages are similar but not identical to the typically estimated between family effect. The typical between-family estimates are a comparison of the conditional means of children whose father left as compared to children whose father never left. In these models, the estimate is taken at the family level, such that each child's score represents the entire family's father departure experience, again contrasted with youth in families with no experience of father absence. With these family-level averages held constant, the associated coefficients for the child-level deviations (β_{1-3j}) estimate the within-family effect of father departure at different ages (Rabe-Hesketh & Skrondal, 2012). These estimates will illuminate whether associations between father absence and each outcome are plausibly causal because they are less biased than the between family estimates by environmental and genetic differences across families. Moreover, comparing across within-

and between-family estimates can illuminate the degree of bias genetic and environmental confounds introduce into father absence–behavior associations. This modeling strategy has been used in other, similar studies to estimate within-family effects of father absence (e.g., Mendle et al., 2009). Note, these models are run without survey weights because our estimates of interest capture within- rather than between-family variation.

Results

Bivariate Comparisons by Age at Father Departure

Means and standard deviations, or percentages, for all dependent variables by youth's age at father departure are reported in Table 1. Youth with fathers always present reported significantly lower levels of depressive symptoms and delinquency than youth in all other family types, whereas youth with fathers always absent reported higher levels of depressive symptoms than youth in all other groups.

Appendix B reports means differences for the subsample of families with discordant siblings. Among these families, the overall patterns of mean differences were similar to those for the full sample, however, only differences for delinquency by age at father departure were significant, not differences for depressive symptoms. This distinction suggests that within-families differences in delinquency by father departure are stronger than within-family differences in depressive symptoms.

Between versus Within Family Estimates

Depressive symptoms—Table 2 displays random intercept HLM models predicting all behavioral outcomes. The between-family estimates for each age at father departure group reflect average differences between families with father always absent, father left between birth and age 5, and father left between ages 6 and 14 relative to those with father always present, controlling for child and family-level demographic differences. Between family estimates reveal that experiencing father departure, either early or late, was associated with higher levels of depressive symptoms relative to youth whose father is always present. These associations were similar in magnitude ($b = 0.48$ and $b = 0.71$, respectively). Within family estimates, however, yielded no statistically significant findings, and negative point estimates, suggesting that father absence may not be causally related to elevated depressive symptoms.

Delinquency—Results from random intercept regression models predicting delinquent behavior are also displayed in Table 2. Between family estimates reveal that relative to youth for whom their father is present, youth who experience father absence reported higher levels of delinquent behavior. Estimated associations were similar in magnitude for youth whose father is always absent, and youth who experience late father departure (between 6 and 14), $b = 0.17$, $p < 0.05$ for both.

Within family estimates indicated that siblings who had a father leave late (ages 6 to 14 years) reported higher levels of delinquent behavior ($b = 0.13$, $p < 0.05$) than their siblings whose fathers were always present. This significant association emerged only for later father departure, and was robust to variations in timing of outcome measurement (available upon request).

Sensitivity Analyses

The late father departure group includes YAs whose fathers left between ages 6 and 14, but the dependent variable is measured anytime between age 14 and 19. Thus, it is possible that a small portion of youth experienced father departure prior to the measurement of the dependent variable, but were coded as having a father always present (for example, if a father left at age 17, and the dependent variable was assessed at age 19). By potentially including youth who recently experienced father departure in the father always present group, results may be biased towards zero. To address this concern, a sensitivity test was conducted in which YAs whose latest report of delinquency or depression was taken prior to age 16 were removed from the sample, and the coding of father departure was changed such that youth whose fathers left up to age 16 are included in the late father departure group. Results from this analysis are presented in Table 3, and do not differ from the main findings presented in Table 2; that is, there was no within-family association between father departure and depressive symptoms, and the association between late father departure and delinquent behavior persisted in size and significance.

Differences by Gender

To explore whether associations between father absence and adolescent internalizing and externalizing behaviors differed by gender, models were run separately for boys and girls. Models did not differ substantially by gender (available upon request).

Discussion

Approximately half of children in the U.S. today will experience father absence from the home before they reach age 18 (U.S. Census Bureau, 2006; Ventura, 2009). There is public and policy concern over this trend because having a nonresident father has been associated with a range of negative behavioral outcomes in adolescence and young adulthood. Although the links between father absence and adolescent behaviors are well established, two primary questions remain unanswered: (1) are the links between father absence and adolescent well-being plausibly causal; and (2) what mechanisms explain associations between father absence and adolescent well-being? The present study addressed these questions using family fixed effects models, which assess within-sibling differences in depressive symptoms and delinquent behavior as predicted by differential timing of father departure. This technique partially accounts for potential family-linked genetic and environmental confounds. Our approach offers insight into *how* father departure may influence outcomes by examining timing effects and comparing associations across outcomes.

With regard to the question of causality, we found that nonresident fatherhood was unassociated with depressive symptoms in adolescence within families and that only late father departure was associated with higher levels of delinquency. This finding stands in contrast with previous work suggesting that father departure is associated with depressive symptoms (Allison & Furstenberg, 1989; Amato, 1991; Cherlin et al., 1998; D'Onofrio et al., 2005; Lansford et al., 2006). There are two possible reasons for this discrepancy. First, previous links may have been biased by uncontrolled environmental or genetic factors; even

in studies that use COS designs (D'Onofrio et al., 2005) cousins are compared, who share fewer genes and fewer environmental risks than full siblings. Second, effects on internalizing symptoms may not emerge until young adulthood when chronic depression tends to emerge, thus we may have been examining that outcome at too young an age (Richards, 2011). Overall, though, the lack of association with depressive symptoms undermines the hypothesis that parental separation and divorce are associated with psychopathology in youth (Amato, 2000; Hetherington et al., 1998; Lansford, 2009). Rather, it supports the perspective advanced by Laumann-Billings and Emery (2000) that child who experience parental divorce do not experience higher levels of clinical depression or anxiety but often deal with subclinical levels of psychological pain.

The only significant within-family link between father departure and adolescent behavior emerged for delinquency among those whose fathers left the home later in childhood. This association suggests recent family disruption does precipitate an increase in problem behavior, as other research has found (Allison & Furstenberg, 1989; Cherlin et al., 1991; D'Onofrio et al., 2005; Lansford et al., 2006; Ryan & Claessens, 2013; Ryan, Claessens, & Markowitz, 2015; Strohschein, 2005). A singular link between parental absence and externalizing symptoms, and only at later ages of departure, suggests that either low parental monitoring or emotional disruption rather than socialization plays a key role. The impact of later departure suggests that a mechanism such as socialization, which should become more potent with longer exposure, is unlikely to mediate the link between father absence and adolescent behavior, whereas mechanisms such as emotional distress or reduced parental monitoring that immediately impact behavior are more likely candidates. However, emotional distress should theoretically elevate depressive symptoms as well as delinquency, whereas parental monitoring should theoretically impact externalizing behavior only. Although it is possible that the emotional distress of a recent disruption, as late father departure implies, manifests only as externalizing behavior, we feel the null finding for depressive symptoms points to parental monitoring as the most plausible mechanism linking later father departure to adolescent behavior.

Though within-family estimates provide stronger evidence of a causal effect of father absence, the effect of later father departure on delinquency was small, $d = 0.20$. This modest effect size suggests that father absence is a likely risk factor for adolescent-limited delinquent behavior, rather than more serious life course delinquency. Future research should explore outcomes in young adulthood to assess the magnitude and trajectory of this effect.

Though there are theoretical and empirical reasons to explore potential gender differences in the influence of father absence (Lansford, 2009; McLanahan Tach, & Schneider, 2013), we did not find that responses reflected gender-typed tendencies. Both boys and girls showed higher levels of delinquency in response to later father departure. Importantly, this suggests that effects on externalizing behavior are not reserved for boys: girls too act out after a serious family disruption.

Though the within-family design is a rigorous quasi-experimental method, this approach has several limitations one must consider before drawing theoretical implications. First, half

siblings were included in the comparisons reported. Comparing half siblings does not eliminate environmental or genetic differences that could confound associations between father absence and adolescent outcomes. However, full siblings who differ substantially on age at father departure are rare, thus it is unclear to what extent within-family estimates based solely on that comparison would be generalizable to a broader population. It is also possible that the results partially reflect the impact of having a sibling with a very different experience of father involvement and the influence of that filial comparison on behavior. In that way, within-family comparisons may not estimate the pure effect of father absence.

A second limitation of the within-family design is that it accounts only for family experiences that are identical between siblings. Specifically, they do not account for time-varying family processes or processes that differ between siblings. For example siblings who are discordant for the timing of father departure may have different neighborhood, school, and maternal parenting experiences. To the extent that these within-family differences in experiences are similar the families contributing to the within-family estimate, these differences may also explain observed within-family effects of the timing of father absence.

Second, this study does not consider father involvement or stepfather involvement. Many biological fathers make substantial time and money investments in their noncustodial children (Cabrera et al., 2004; Kalil, Ryan, & Chor, 2014; Ryan, Tolani, & Brooks-Gunn, 2009). To the extent that father absence influences delinquent behavior through lower levels of father involvement—the mechanism implied by the present findings—average associations may obscure variation in effects by level of father involvement. Moreover, the singular effect of later father departure on adolescent delinquency may reflect the fact that youth whose fathers depart early in childhood may be more likely to have a resident stepfather by adolescence than those whose fathers recently departed. Examining the role of nonresident and stepfather involvement was beyond the scope of the present study, however, future research should explore whether the effects observed are smaller, or disappear, in families in which fathers have frequent contact or close relationships with their noncustodial children or in which stepfathers form long-term, positive relationships with non-biological children.

Finally, because fathers were coded “always present” if they left after YAs were 14-years-old, it is possible that a small number of youth in the always present category had fathers who departed prior to the measurement of delinquency or depressive symptoms. This coding could deflate the estimated relationship between father departure and adolescent outcomes if youth who experienced recent father departure in the always present group had elevated delinquency or depressive symptoms. We prefer this downward bias, however, to the ambiguity introduced by measuring the dependent variable prior to the independent variable. Moreover, the sensitivity test presented in Table 3 suggests this bias, if it exists, did not substantively alter our findings.

Summary

Our findings suggest that policies and programs aimed at reducing the impact of father absence from the home on adolescent behavior—including federally-funded Responsible Fatherhood programming—should be aware of the impact of family disruption on parental

monitoring and focus on maintaining high levels of involvement throughout the separation period. Additionally, this study suggests efforts to reduce the prevalence of delinquency among adolescents should consider the role father absence plays in its emergence.

Acknowledgments

This research was funded by a grant to the second author from the National Institute of Child Health and Human Development (#1R03HD069740-01A1). The author would like thank Zipeng Zhou and Dylan Thibault for their invaluable research assistance. Thanks also go to two anonymous reviewers for their excellent critiques and comments.

Appendix A

Number of observations in each father departure group.

<i>Timing of Father Absence</i>	Families with Discordance	
	Depressive Symptoms	Delinquency
Father always present	382	365
Father always absent	456	438
Father absent early	692	643
Father absent late	635	598
Total	2615	2044

Note. Data are drawn from the Maternal and Child Supplement to the National Longitudinal Survey of Youth.

Appendix B

Means and standard deviations of socio-emotional outcomes by timing of father departure and within-family discordance for timing of father departure.

<i>Timing of Father Absence</i>	Full Sample		Families with Discordance Only	
	Depressive Sympt.	Delinquency	Depressive Sympt.	Delinquency
Father always present	4.17 (3.36)	0.45 (0.71)	4.89 (3.55)	0.61 (0.80)
Father always absent	4.87 (3.50)	0.70 (0.84)	5.20 (3.58)	0.73 (0.85)
Father absent early	4.83 (3.64)	0.58 (0.76)	4.96 (3.66)	0.57 (0.76)
Father absent late	4.80 (3.70)	0.67 (0.82)	4.94 (3.79)	0.72 (0.84)

Note. Data are drawn from the Maternal and Child Supplement to the National Longitudinal Survey of Youth.

References

- Agnew R, Matthews SK, Bucher J, Welcher AN, Keyes C. Socioeconomic status, economic problems, and delinquency. *Youth & Society*. 2008; 40(2):159–181. DOI: 10.1177/0044118X08318119
- Allison PD, Furstenberg FF. How marital dissolution affects children: Variations by age and sex. *Developmental Psychology*. 1989; 25(4):540–549. DOI: 10.1037/0012-1649.25.4.540
- Amato PR. Parental absence during childhood and depression in later life. *The Sociological Quarterly*. 1991; 32(4):543–556. DOI: 10.1111/j.1533-8525.1991.tb00153.x
- Amato PR. The consequences of divorce for adults and children. *Journal of Marriage and the Family*. 2000; 62(4):1269–1287. DOI: 10.1111/j.1741-3737.2000.01269.x

- Amato PR, DeBoer DD. The transmission of marital instability across generations: Relationship skills or commitment to marriage? *Journal of Marriage and Family*. 2001; 63:1038–1051. DOI: 10.1111/j.1741-3737.2001.01038.x
- Cabrera NJ, Ryan RM, Shannon JD, Brooks-Gunn J, Vogel C, Raikes H, Tamis-LeMonda CS, Cohen R. Fathers in the Early Head Start National Research and Evaluation Study: How involved are they with their children? *Fathering: A Journal of Theory, Research, and Practice about Men as Fathers*. 2004; 2:5–30.
- Carlson M, Corcoran M. Family structure and children's behavioral and cognitive outcomes. *Journal of Marriage and Family*. 2001; 63:779–792. DOI: 10.1111/j.1741-3737.2001.00779.x
- Center for Human Resource Research. A guide to the 1986 – 2006 child data, 1994 – 2006 young adult data, the National Longitudinal Survey of Youth 1979 Children and Young Adults. Columbus, Ohio: The Ohio State University; 2009 Jun.
- Cherlin AJ, Chase-Lansdale PL, McRae C. Effects of parental divorce on mental health throughout the life course. *American Sociological Review*. 1998; 63(2):239–249. DOI: 10.2307/2657325
- Cherlin AJ, Furstenberg FF, Chase-Lansdale PL, Kiernan KE, Robins PK, Morrison DR, Teitler JO. Longitudinal studies of effects of divorce on children in Great Britain and the United States. *Science*. 1991; 252(5011):1386–1389. DOI: 10.1126/science.2047851 [PubMed: 2047851]
- Coyne CA, Langstrom N, Rickert ME, Lichtenstein, D'Onofrio BM. Maternal age at first birth and offspring criminality: Using the children of twins design to test causal hypothesis. *Development and Psychopathology*. 2013; 25:17–35. DOI: 10.1017/S0954579412000879 [PubMed: 23398750]
- D'Onofrio BM, Slutske WS, Turkheimer E, Emery RE, Harden KP, Heath AC, Madden PAF, Martin NG. Intergenerational transmission of childhood conduct problems. A children of twins study. *Archives of General Psychiatry*. 2007; 64(7):820–829. DOI: 10.1001/archpsyc.64.7.820 [PubMed: 17606816]
- D'Onofrio BM, Turkheimer E, Emery RE, Maes HH, Silberg J, Eaves LJ. A children of twins study of parental divorce and offspring psychopathology. *Journal of Child Psychology and Psychiatry*. 2007; 48(7):667–675. DOI: 10.1111/j.1469-7610.2007.01741.x [PubMed: 17593147]
- D'Onofrio BM, Turkheimer E, Emery R, Slutske WS, Heath A, Madden PA, Martin NG. A genetically informed study of the process underlying the association between marital instability and offspring adjustment. *Developmental Psychology*. 2006; 42:486–499. DOI: 10.1037/0012-1649.42.3.486 [PubMed: 16756440]
- D'Onofrio BM, Turkheimer E, Emery RE, Slutske WS, Heath AC, Madden PA, Martin NG. A genetically informed study of marital instability and its association with offspring psychopathology. *Journal of Abnormal Psychology*. 2005; 114(4):570. doi: 10.1037/0021-843X.114.4.570 [PubMed: 16351381]
- Ellis BJ, Scholmer GL, Tilley EH, Butler EA. Impact of fathers on risky sexual behavior in daughters: A genetically and environmentally controlled sibling study. *Development and Psychopathology*. 2012; 24:317–332. DOI: 10.1017/S095457941100085X [PubMed: 22293012]
- Emery RE, Waldron M, Kitzmann KM, Aaron J. *Journal of Family Psychology*. 1999; 13(4):568–579. DOI: 10.1037/0893-3200.13.4.568
- Geronimus AT, Korenman S, Hillemeier MM. Does young maternal age adversely affect child development? Evidence from cousin comparisons in the United States. *Population and Development Review*. 1994; :585–609. DOI: 10.2307/2137602
- Hao L, Xie G. The complexity and endogeneity of family structure in explaining children's misbehavior. *Social Science Research*. 2002; 31:1–28. DOI: 10.1006/ssre.2001.0715
- Hawkins AJ, Amato PR, Kinghorn A. Are government supported healthy marriage initiatives affecting family demographics? A state-level analysis. *Family Relations*. 2013; 62:501–513. DOI: 10.1111/fare.12009
- Hetherington EM, Bridges M, Insabella GM. What matters? What does not? Five perspectives on the association between marital transitions and children's adjustment. *American Psychologist*. 1998; 53(2):167–184. DOI: 10.1037/0003-066X.53.2.167 [PubMed: 9491746]
- Hofferth SL. Residential father family type and child well-being: Investment versus selection. *Demography*. 2006; 43:53–77. [PubMed: 16579208]

- Jocklin V, McGue M, Lykken DT. Personality and divorce: a genetic analysis. *Journal of Personality and Social Psychology*. 1996; 71(2):288.doi: 10.1037/0022-3514.71.2.288 [PubMed: 8765483]
- Kalil A, Ryan R, Chor E. Time investments in children across family structures. *The ANNALS of the American Academy of Political and Social Science*. 2014; 654(1):150–168. DOI: 10.1177/0002716214528276
- Kerr DW, Michalski JH. Family structure and children's hyperactivity problems: A longitudinal analysis. *Canadian Journal of Sociology*. 2007; 32:85–112.
- Lahey BB, D'Onofrio BM. All in the family: Comparing siblings to test causal hypotheses regarding environmental influences on behavior. *Current Directions in Psychological Science*. 2010; 19(5): 319–323. DOI: 10.1177/0963721410383977 [PubMed: 23645975]
- Lansford JE. Parental divorce and children's adjustment. *Perspectives on Psychological Science*. 2009; 4(2):140–152. DOI: 10.1111/j.1745-6924.2009.01114.x [PubMed: 26158941]
- Lansford JE, Malone PS, Castellino DR, Dodge KA, Pettit GS, Bates JE. Trajectories of internalizing, externalizing, and grades for children who have and have not experienced their parents' divorce or separation. *Journal of Family Psychology*. 2006; 20(2):292–301. DOI: 10.1037/0893-3200.20.2.292 [PubMed: 16756405]
- Laumann-Billings L, Emery RE. Distress among young adults from divorced families. *Journal of Family Psychology*. 2000; 14:671–687. DOI: 10.1037/0893-3200.14.4.671 [PubMed: 11132488]
- Leventhal T, Brooks-Gunn J. Changes in neighborhood poverty from 1990 to 2000 and youth's problem behavior. *Developmental Psychology*. 2011; 47(6):1680–1698. DOI: 10.1037/a0025314 [PubMed: 21910537]
- Malone PS, Lansford JE, Castellino DR, Berlin LJ, Dodge KA, Bates JE, Pettit GS. Divorce and child behavior problems: Applying latent change score models to life event data. *Structural Equation Modeling*. 2004; 11(3):401–423. DOI: 10.1207/s15328007sem1103_6 [PubMed: 20209039]
- McLanahan S, Tach L, Schneider D. The causal effects of father absence. *Annual Review of Sociology*. 2013; 39:399–427. DOI: 10.1146/annurev-soc-071312-145704
- McLoyd VC. Socioeconomic disadvantage and child development. *American Psychologist*. 1998; 53(2):185–204. DOI: 10.1037/0003-066X.53.2.185 [PubMed: 9491747]
- Mendle, Hardin KP, Turkheimer E, Van Hulle CA, D'Onofrio B, Brooks-Gunn J, et al. Associations between father absence and age at first sexual intercourse. *Child Development*. 2009; 80:1463–1480. DOI: 10.1111/j.1467-8624.2009.01345.x [PubMed: 19765012]
- Moffitt, TE.; Caspi, A.; Rutter, M.; Silva, PA. Sex differences in antisocial behaviour: Conduct disorder, delinquency, and violence in the Dunedin Longitudinal Study. Cambridge University Press; 2001.
- Morrison DR, Coiro MJ. Parental conflict and marital disruption: Do children benefit when high conflict marriages are dissolved? *Journal of Marriage and Family*. 1999; 61:626–637.
- Nolen-Hoeksema S. Gender differences in depression. *Current Directions in Psychological Science*. 2001; 10(5):173–176. DOI: 10.1111/1467-8721.00142
- Rabe-Hesketh, S.; Skrondal, A. Continuous Responses. Third. Vol. I. College Station, TX: Stata Press; 2012. Multilevel and Longitudinal Modeling Using Stata.
- Radloff L. The use of the Center for Epidemiologic Studies Depression Scale in adolescents and young adults. *Journal of Youth and Adolescence*. 1991; 20:149–166. DOI: 10.1007/BF01537606 [PubMed: 24265004]
- Richards D. Prevalence and clinical course of depression: A review. *Clinical Psychology Review*. 2011; 31(7):1117–1125. DOI: 10.1016/j.cpr.2011.07.004 [PubMed: 21820991]
- Ryan RM. Nonresident fatherhood and adolescent sexual behavior: A comparison of siblings approach. *Developmental Psychology*. 2015; 51:211–223. DOI: 10.1037/a0038562 [PubMed: 25621757]
- Ryan RM, Claessens A. Associations between family structure changes and children's behavior problems: The moderating effects of timing and marital birth. *Developmental Psychology*. 2013; 49(7):1219.doi: 10.1037/a0029397 [PubMed: 22866830]
- Ryan RM, Claessens A, Markowitz AJ. Associations between family structure changes and children's behavioral trajectories: The moderating effect of family income. *Child Development*. 2015; 86:112–127. DOI: 10.1111/cdev.12283 [PubMed: 25209138]

- Ryan RM, Tolani N, Brooks-Gunn J. Relationship trajectories, parenting stress, and unwed mothers' transition to a new baby. *Parenting: Science and Practice*. 2009; 9(1-2):160–177. DOI: 10.1080/15295190802656844
- Sampson RJ, Morenoff JD, Gannon-Rowley T. Assessing “neighborhood effects”: Social processes and new directions in research. *Annual Review of Sociology*. 2002; 28:443–478.
- Sampson RJ, Raudenbush SW, Earls F. Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*. 1997; 277(5328):918–924. doi:10/1126/science.277.5328.918. [PubMed: 9252316]
- Single-Rushton, W.; McLanahan, S. working paper #02-20. Center for Research on Child Well Being; 2002. Father absence and child well being: A critical review.
- Strohschein L. Parental divorce and child mental health trajectories. *Journal of Marriage and Family*. 2005; 67:1286–1300. DOI: 10.1111/j.1741-3737.2005.00217.x
- Sun Y. Family environment and adolescents' well-being before and after parents' marital disruption: A longitudinal analysis. *Journal of Marriage and Family*. 2001; 63:697–713. DOI: 10.1111/j.1741-3737.2001.00697.x
- Sun Y, Li Y. Children's well-being during parents' marital disruption process: A pooled time-series analysis. *Journal of Marriage and Family*. 2002; 64(2):472–488. DOI: 10.1111/j.1741-3737.2002.00472.x
- Tither JT, Ellis BJ. Impact of fathers on daughters' age at menarche: A genetically and environmentally controlled sibling study. *Developmental Psychology*. 2008; 44:1409–1420. DOI: 10.1037/a0013065 [PubMed: 18793072]
- U.S. Census Bureau. Statistical abstract of the United States. 126th. Washington DC: U.S. Government Printing Office; 2006.
- Ventura SJ. Changing patterns of nonmarital childbearing in the United States. *NCHS Data Brief*. 2009; (18):1–8.

Table 1

Descriptive statistics by age at father departure

	Full Sample	Father always Absent	Father left early (0-5)	Father left late (6-13)	Father always present
Average depressive symptoms	4.51 (3.49)	4.86 (3.49) _b	4.79 (3.57) _b	4.78 (3.67) _b	4.17 (3.36) _a
Average delinquency	0.56 (0.77)	0.70 (0.84) _b	0.58 (0.76) _c	0.67 (0.82) _{bc}	0.45 (0.71) _a
Male (%)	49.08	51.49	49.53	50.00	47.64
Family has half siblings (%)	34.72	83.39	56.18	28.87	11.02
Mother's education level (%)					
<i>Less than high school</i>	36.19	59.74	41.72	40.20	23.80
<i>High school degree</i>	36.38	29.27	39.39	36.06	37.99
<i>Some college</i>	18.56	10.63	15.73	18.63	22.52
<i>College graduate</i>	8.87	0.36	3.15	5.12	15.69
Race of child (%)					
<i>Non Hispanic/Non African American</i>	43.79	11.71	36.25	43.46	58.62
<i>African American</i>	33.47	74.19	40.79	29.63	17.23
<i>Hispanic</i>	22.74	14.10	22.96	26.91	24.15
Mother's age at first birth	21.24 (3.84)	18.98 (2.92)	20.28 (3.37)	20.78 (3.52)	22.61 (3.88)
Average household income (ln)	9.89 (0.69)	9.31 (0.58)	9.66 (0.59)	9.79 (0.61)	10.22 (0.60)

Note. $N = 5108$ for depressive symptoms; $N = 4882$ for delinquency, descriptive statistics calculated on smaller sample. Means for outcomes with different subscripted letters are significantly different at $p < .05$.

Table 2

Associations between timing of father departure and adolescent behavior.

	Depressive Symptoms		Delinquency	
	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>
<i>Within family differences (ref= father always present)</i>				
Father always absent	0.03	0.31	0.10	0.07
Father absent early	-0.23	0.28	0.04	0.06
Father absent late	-0.39	0.28	0.13	0.06 [*]
<i>Between family differences (ref= father always present)</i>				
Father always absent	0.16	0.25	0.17	0.06 ^{**}
Father absent early	0.48	0.20 [*]	0.05	0.05
Father absent late	0.71	0.18 ^{**}	0.17	0.04 ^{**}
Female	0.92	0.10 ^{**}	-0.20	0.02 ^{**}
Birth order	0.09	0.06	0.03	0.01 [*]
Age at report	0.01	0.04	0.03	0.01 [*]
Child's birth year	0.06	0.02 ^{**}	0.03	0.00 ^{**}
Mother's age at first birth	0.01	0.02	0.00	0.01
Half-sibling	0.24	0.15	0.05	0.03
Ln(income)	-0.07	0.10	0.02	0.02
<i>Child race (ref= white, non-Hispanic)</i>				
Black	-0.09	0.14	-0.05	0.03
Hispanic	-0.13	0.14	0.12	0.03 ^{**}
<i>Mother's education (ref= BA+)</i>				
HS grad	-0.12	0.14	-0.05	0.03
Some college	-0.22	0.18	-0.01	0.04
College or more	-0.34	0.27	-0.21	0.06 ^{**}
Constant	4.05	1.37 ^{**}	-0.04	0.31
<i>N</i>	5108		4882	

Note. Data are drawn from the Maternal and Child Supplement to the National Longitudinal Survey of Youth.

^{**}
 $p < 0.01$,

^{*}
 $p < 0.05$.

Table 3

Associations between timing of father departure and adolescent behavior, sample reduced to young adults whose latest report was prior to age sixteen, $N \approx 3600$ -3800.

	Depressive Symptoms		Delinquency	
	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>
<i>Within family differences (ref= father always present)</i>				
Father always absent	-0.12	0.36	0.09	0.08
Father absent early	-0.39	0.33	0.09	0.07
Father absent late	-0.53	0.33	0.16	0.07*
<i>Between family differences (ref= father always present)</i>				
Father always absent	0.07	0.27	0.15	0.06*
Father absent early	0.50	0.23*	0.07	0.05
Father absent late	0.70	0.19**	0.21	0.04**
Female	0.90	0.11**	-0.22	0.02**
Birth order	0.12	0.07 +	0.02	0.02
Age at report	0.09	0.07	0.02	0.02
Child's birth year	0.07	0.02**	0.03	0.00**
Mother's age at first birth	0.01	0.03	0.00	0.01
Half-sibling	0.25	0.16	0.07	0.04 +
Ln(income)	0.02	0.11	0.04	0.03
<i>Child race (ref= white, non-Hispanic)</i>				
Black	0.08	0.16	-0.03	0.04
Hispanic	-0.16	0.16	0.13	0.04**
<i>Mother's education (ref= BA+)</i>				
HS grad	-0.10	0.16	-0.06	0.04
Some college	-0.25	0.21	-0.05	0.05
College or more	-0.37	0.30	-0.26	0.07**
Constant	1.72	1.85	-0.13	0.45
<i>N</i>	3811		3615	

Note. Data are drawn from the Maternal and Child Supplement to the National Longitudinal Survey of Youth.

**
 $p < 0.01$,

*
 $p < 0.05$.