Published in final edited form as:

Fathering. 2013 ; 11(3): 306–326. doi:10.3149/fth.1103.306.

Involvement with Children and Low-Income Fathers' Psychological Well-Being

Letitia E. Kotila^{1,*} and Claire M. Kamp Dush¹

¹The Ohio State University

Abstract

Low income men are at risk for depressive symptoms and reduced father involvement. Using the Fragile Families and Child Wellbeing Study ($n = 2,703$), we examined reciprocal associations between father involvement and depressive symptoms, and the moderating effect of relationship quality, for resident and nonresident fathers. Higher father involvement was associated with lower depressive symptoms two years later across the full sample of fathers. However, nonresidence functioned as a risk; higher nonresident father involvement with toddlers was associated with greater depressive symptoms two years later. Greater resident father involvement with toddlers was associated with fewer depressive symptoms two years later in low quality couple relationships. Across the full sample, the association between depressive symptoms and lower involvement was weak.

Keywords

father involvement; depressive symptoms; low income; generativity; nonresident

The benefits of father involvement for children are widely acknowledged; involved fathers enhance academic success and protect children from behavioral maladjustment with benefits that extend far beyond the childhood years (Lamb, 2010). Numerous studies document the deleterious consequences of maternal depressive symptoms for maternal involvement (e.g., Lovejoy, Graczyk, O'Hare, & Neuman, 2000), but there are mixed findings in the literature on fathers' depressive symptoms and involvement (Cabrera, Hofferth, & Chae, 2011; Eggebeen & Knoester, 2001; Knoester, Petts, & Eggebeen, 2007; Sotomayor-Peterson, Wilhelm, & Card, 2009). Partly due to systematic underrepresentation of low income fathers in family research (Coley, 2001), previous work primarily focused on resident fathers (for exceptions see Knoester et al., 2007; Lyons-Ruth, Wolfe, Lyubchik & Steingard, 2002; Paulson, Dauber, & Leiferman, 2011) despite the fact that nonresident fathers are at increased risk for depressive symptoms (Anderson, Kohler, & Letiecq, 2005) and low father involvement (Cheadle et al., 2010). In addition, most research documenting associations between father involvement and depressive symptoms have examined depressive symptoms as a predictor of father involvement, neglecting to test the potential mental health benefits of father involvement. This is an oversight given that involved, resident fathers experience increases in wellbeing (Eggebeen & Knoester, 2001; Schindler, 2010).

*1787 Neil Ave., 135 Campbell Hall, Columbus, OH 43123.

To our knowledge, only two previous studies have employed complex modeling strategies to test reciprocal associations between father involvement and depressive symptoms. Schindler (2010) and Knoester et al. (2007) used semidifference models to examine within-person change in psychological wellbeing and depressive symptoms while accounting for within-person change in father involvement. In a sample of resident fathers, Schindler (2010) found that increases in father engagement during middle childhood were associated with increases in wellbeing. In contrast, Knoester et al. (2007) found no association between changes in father involvement and changes in depressive symptoms from birth to age 1 after controlling for father residence in the Fragile Families and Child Wellbeing Study.

Theoretical frameworks highlight the importance of contextual factors to father involvement (e.g., Belsky, 1984) and supporting research indicates that resident status and relationship quality play key roles in father involvement (e.g., Carlson, Pilkauskas, McLanahan, & Brooks-Gunn, 2011; Fagan & Palkovitz, 2007, 2011) as well as depressive symptoms (Paulson et al., 2011). To our knowledge, no study has explored whether resident status and relationship quality may function as sources of stress or support, exacerbating the deleterious consequences of depressive symptoms, or enhancing the potential mental health benefits of father involvement. We examined reciprocal associations between father involvement and depressive symptoms among primarily low-income, resident and nonresident fathers when children were one, three, and five years of age. Using a multiple groups structural equation modeling approach, we tested whether father resident status and relationship quality functioned as sources of stress or support. Our study extends the literature on low-income fatherhood and the potential health benefits of involved fathering.

Why Should Father Involvement Improve Psychological Health?

Fatherhood is Generative

Erikson (1982) described generative care for others as an integral aspect of adult development that contributes to healthy psychological functioning. Generativity, an interest in caring for and developing the next generation, is primarily accomplished through the nurturing of one's own children, and failure to develop generativity may result in self-indulgence and "stagnation" of development (Erikson). Despite misconceptions that low income and nonresident fathers are minimally involved with their children, mounting evidence suggests otherwise (Cabrera, Ryan, Mitchell, Shannon, & Tamis-LeMonda, 2008; Tach, Mincy, & Edin, 2010). These fathers place a high premium on the generative aspect of fatherhood, valuing stability, mentoring, engagement, and emotional support in their relationships with their children, characteristics encompassing their understanding of what it takes to be a "good father" (Summers, Boller, Schiffman, & Raikes, 2006). Notwithstanding, limited existing research regarding the benefits of involved fathering is inconsistent; age ranges of children vary widely (Eggebeen & Knoester, 2001) and measures of involvement change over time (Knoester et al., 2007). Schindler (2010) provided strong evidence for the benefits of involved fathering, finding in reciprocal models of the association between father involvement and wellbeing that changes in interaction frequency with children during middle childhood were associated with increases in wellbeing, as measured by self-esteem, self-efficacy, and psychological distress.

Fathers who embrace the generative aspect of fatherhood maintain close relationships with their children in an effort to foster their children's personal and social development. The positive child outcomes that are often facilitated by a fathers' involvement may act as "social, symbolic, and self-evaluative" incentives (Bandura, 1977) for fathers that help to increase their wellbeing. Dependent toddlers may spark in fathers a sense of care and responsibility for others; indeed, qualitative work suggests that fathers may be motivated by their involvement to lead healthier lives and reduce risk taking behaviors (Palkovitz, 2002), potentially improving the wellbeing of low income men who may not have control over socioeconomic factors that make them more susceptible to mental health declines (Turner, Wheaton, & Lloyd, 1995). Further, Knoester et al. (2007) proposed that the benefits of increased father involvement may extend to children and mothers. A family systems perspective suggests that these changes in family functioning may spark a positive feedback loop, with greater father involvement leading to increased mother and child wellbeing, and increased mother and child wellbeing fostering further benefits for fathers (Minuchin, 1985).

Fulfillment of the "Involved Father" Identity

Fatherhood has changed for men. An ideology of the "involved" father now shapes social constructions of fatherhood (e.g., Coltrane, 1996), but low income and nonresident fathers face challenges in remaining involved with their children. Low income fathers' lives are often characterized by multiple sources of stress, such as under-or unemployment, unreliable transportation, and no permanent housing, that exacerbate the frequency and intensity of depressive symptoms (Anderson et al., 2005). With fewer opportunities for personal achievement, low income fathers may be especially invested in the parental role (Edin, Nelson, & Reed, 2011). In a qualitative study of African American nonresident fathers, Edin et al. found that fatherhood played an integral role in fathers' perceptions of self. Indeed, a fathers' public involvement with his children expresses to others his commitment to social standards regarding the father's role (Ihinger-Tallman, Pasley, & Buehler, 1993), and he may garner respect and admiration from others as he successfully fulfills this expectation, leading to increases in psychological wellbeing. Moreover, combining multiple roles of father, worker, and (potentially) partner, enhances the wellbeing of fathers through more positive self-evaluations, increased happiness, and greater self-worth (Simon, 1995).

Why Should Poor Psychological Health Limit Father Involvement?

Scholars widely agree that parental involvement is multiply determined. Belsky's (1984) process model of parenting has been widely used to explore multiple determinants of parental involvement, including individual psychological characteristics, child characteristics, and contextual sources of stress and support. Our study focuses on two main determinants: Individual psychological characteristics and contextual sources of stress and support.

Individual Psychological Characteristics

For the most part, findings indicate that depressive symptoms reduce father involvement regardless of father residence (Cabrera et al., 2011; Lyons-Ruth et al., 2002, Paulson et al., 2011). Depressive symptoms may manifest as poor mood, lack of energy, irritability, anger,

or difficulty concentrating (Costello, 1993), likely making interactions with young children especially challenging. In a study of resident fathers of 9-month old infants, Cabrera et al. found that depressive symptoms were not associated with concurrent father involvement, measured as verbal stimulation, caregiving, and physical play, although negative associations were present for caregiving and physical play among minority fathers (Cabrera et al.). In a sample of resident and nonresident fathers with 3-year-old children, Lyons-Ruth et al. found that depressive symptoms were associated with reductions in play, reading, and displays of affection, and increases in negative parenting behaviors such as aggravation, yelling, and negative discipline techniques. Paulson et al. reported similar findings among nonresident fathers with 9-month old infants; depressive symptoms were associated with lower involvement, measured as parental investment in the child and financial support.

Other scholars have noted no association between psychological wellbeing and father involvement for resident fathers (Schindler, 2010; Sotomayor-Peterson et al., 2009). Schindler found no association between changes in resident father's financial contributions or interaction frequency and changes in wellbeing during middle childhood; however this study did not directly measure depressive symptoms. Similarly, in their study of married, resident fathers with infants, Sotomayor-Peterson et al. found no direct association between depressive symptoms and fathers' cognitive stimulation. Thus, the evidence is inconsistent and the extent to which associations may vary based on the resident status of the father is unknown.

Sources of Stress and Contextual Support

Father resident status and relationship quality may function as contextual sources of stress or support. With regard to residency, nonresident fathers are at risk for increased depressive symptoms (Anderson et al., 2005) and low father involvement (Cheadle et al., 2010), and mothers may exacerbate involvement declines by limiting father contact when fathers are depressed. Likewise, maintaining involvement with young children in the period closely following relationship dissolution may be psychologically stressful. Thus, father involvement for nonresident fathers may come at a cost, via increased depressive symptoms.

Relationship quality and father involvement are intertwined for resident (e.g., Carlson et al., 2011) and nonresident fathers (e.g., Fagan & Palkovitz, 2011). However, the extent to which relationship quality may function as a source of contextual stress or support is unknown. Fathers with higher quality relationships report greater father involvement (Carlson et al.; Fagan & Palkovitz), thus relationship quality may function as a source of support that enhances wellbeing for resident fathers and protects fathers from potential declines in involvement associated with depressive symptoms. Resident fathers' interactions with children may promote a sense of family when couple relationships are strong, and resident mothers may provide support for fathers to keep them engaged. In contrast, poor relationship quality may function as a source of risk for resident and nonresident father involvement, exacerbating the potential deleterious consequences of depressive symptoms. When relationships are tense, mothers may be highly reactive toward displays of parenting incompetence, limiting fathers' involvement with small children at the earliest signs of mental distress.

The Present Study

Drawing on data from the Fragile Families and Child Wellbeing Study, a nationally representative sample of births to low income mothers (Reichman, Teitler, Garfinkel, & McLanahan, 2001), we used autoregressive, cross-lagged path analysis (Curran & Bollen, 2001) to examine reciprocal associations between father involvement and depressive symptoms when children were one, three, and five years of age. Fathers may be involved with children in a variety of ways. In their widely used model, Lamb, Pleck, Charnov, and Levine (1987) identified three main types of involvement – engagement, responsibility, and accessibility. Engaged fathers directly interact with their children, from changing diapers when children are young to helping with homework or playing sports as children grow. Responsible fathers are invested in meeting the needs of their children. These fathers take their children to daycare or medical appointments and provide children with things they may need. Accessible fathers are present; these fathers spend time with their children often and remain available for engagement. Our standardized composite measure of father involvement incorporates each aspect of the Lamb et al. model of involvement as well as father and mother reports of involvement.

We anticipated reciprocal associations between father involvement and a father's depressive symptoms, such that higher initial involvement would be associated with reduced depressive symptoms over time. In contrast, we hypothesized higher initial levels of depressive symptoms to be associated with reduced involvement over time. We expected resident status and relationship quality to be moderators. We conceptualized high quality relationships as potential sources of support, thus we expected a weaker association between depressive symptoms and father involvement when relationship quality was high. In contrast, we expected low quality relationships to be a high risk context for family relationships, thus we expected that the negative association between depressive symptoms and father involvement would be exacerbated in the context of a low quality relationship. We also conceptualized father nonresidence as a risk, hence we expected stronger negative associations between depressive symptoms and father involvement when fathers were nonresident. Because maintaining involvement with young children in the period closely following relationship dissolution may be psychologically stressful, we anticipated father nonresidence to function as a risk, reversing potential positive associations between involvement and depressive symptoms over time.

Method

We used data from the Fragile Families and Child Wellbeing Study, a nationally-representative study of approximately 5,000 children born to unmarried parents ($n = 3,712$) and married ($n = 1,186$) parents between 1998 and 2000 in 75 hospitals located within 20 cities. Interviews were conducted with mothers and fathers (when available) separately following their child's birth. Parents were interviewed again when their children were one, three, five, and nine years old. Approximately 85% of mothers and 76% of fathers completed interviews at the second panel (Year 1; Reichman et al., 2001). Father involvement was measured consistently across the first four panels but the measure of father engagement at Year 9 was a frequency measure of engagement within the past month, rather

than in the past week. This measurement inconsistency and the lag time between Year 5 and 9 resulted in the exclusion of Year 9 data.

At Year 1, 3,830 fathers were interviewed. Sample attrition was relatively high: 543 (14.17%), 665 (17.36%), and 827 (21.59%) fathers were lost at Years 1, 3, and 5, respectively. We selected our sample of fathers based on the following characteristics: 1) interviewed at Year 1, and 2) reported valid responses for the depressive symptoms measure at Year 1. We used Full Information Maximum Likelihood estimation (FIML) to account for attrition, a best practice for handling missing data (Johnson & Young, 2011). Our resident and nonresident father samples included 1,872 and 831 fathers, respectively. Father residency was defined as the father living with the child all or most of the time at Years 1, 3, and 5. Attrition for the selected sample was moderate at each time point; 310 fathers (151 resident and 159 nonresident) at Year 3 and 537 fathers (320 resident and 217 nonresident) at Year 5.

Logistic regression analyses predicting sample attrition from demographic characteristics and resident/nonresident status at Year 1 indicated that resident fathers had 53% lower odds of attrition at Year 3 than nonresident fathers, whereas Hispanic fathers had 82% greater odds of attrition at Year 3 than White fathers. At Year 5, resident fathers had 42% lower odds of attrition than nonresident fathers. Compared to White fathers, those who identified as “Other” had 70% greater odds of attrition at Year 5, and fathers who were employed at Year 1 had 27% lower odds of attrition at Year 5 compared to fathers who were unemployed at the Year 1 interview.

Measures

Depressive symptoms—A continuous measure of depressive symptoms at each year following birth was constructed using 10-items from the Composite International Diagnostic Interview – Short Form (CITI-SF; Kessler et al., 1998). Fathers were asked whether they 1) were sad, blue, or depressed, or 2) experienced loss of interest in hobbies, work, or pleasurable activities, for at least two weeks in the past year. Affirmative responses were followed by more specific questions about co-occurring symptoms: 3) feeling tired, 4) changes in weight, 5) trouble sleeping, 6) difficulties concentrating, 7) feelings of worthlessness, 8) thoughts about death, 9) felt worried, tense, or anxious, and 10) complete loss of interest. Fathers who answered “yes” to each question received a value of 1 on each indicator. Fathers who responded “no” to the first two screener questions received a value of “0” on the depressive symptoms measure. All items were summed, with higher values reflecting a greater number of depressive symptoms. Scale alphas for our sample were .89 at Year 1 and .90 at Years 3 and 5.

Father involvement—Following the Lamb et al. (1987) model of involvement and previous research (Fagan & Palkovitz, 2011), we constructed a standardized composite measure of father involvement at each Year by combining two scales and a single-item measure that measured each father involvement domain: engagement, responsibility, and accessibility (measures described below). As expected, the father involvement indicators were highly correlated (correlations ranged from .41 to .67). Each involvement indicator was

standardized and all indicators were averaged together to produce the composite father involvement score. This measure was only created for fathers who reported all non-missing values on each father involvement indicator. For example, the standardized father involvement measure was not created for fathers who reported valid responses on the engagement and accessibility indicators but who were missing on the responsibility indicator. Internal consistency for the composite was high; alpha was .76, .79, and .79 for Years 1, 3, and 5, respectively.

Engagement: At Years 1, 3, and 5, participation in developmentally appropriate engagement activities and routine childcare activities was measured from fathers using an 8-item scale. At Year 1, fathers were asked how often in the past month (0 to 7 *days per week*) they participated in the following activities: 1) play games like “peek-a-boo” or “gotcha”, 2) sing songs or nursery rhymes, 3) read stories, 4) tell stories, 5) play inside with toys such as blocks or legos, 6) visit relatives, 7) hug or show physical affection, and 8) put child to bed. Certain items were adjusted across interviews according to children’s developmental capabilities, thus some items were not identical across panels. At each Year, fathers who had not seen their child within the past 30 days skipped engagement questions and thus were assigned a score of 0 for the scale. Items were averaged and the scale ranged from 0–8. Internal consistency for the sample was high; $\alpha = .87, .86, \text{ and } .87$ at Years 1, 3, and 5 respectively.

Responsibility: At Years 1, 3, and 5, mothers who reported that the focal child’s father saw his child at least once in the past year responded to questions relating to the responsibility domain of father involvement. Mothers were asked: “How often does [the father] 1) look after child when you need to do things, and 2) take child places he/she needs to go, such as to school or the doctor?”, and whether they could “count on the father to look after child for a few hours.” Response options ranged from 0 = *Never/NA* to 4 = *Always* and items were averaged. Sample alphas were .76, .84, and .87 at Years 1, 3, and 5 respectively.

Accessibility: At Years 1, 3, and 5, father-child contact in the previous month was measured from fathers to reflect his accessibility to his child, ranging from 0 to 30 *days*. Fathers who reported living with the focal child either all or most of the time were not asked the number of days and were given the highest value, i.e., 30. Fathers who lived with the child half, or less than half, of the time reported the number of nights the focal child spent the night in their home in the previous month in addition to the number of days they saw their child. These fathers who reported two numbers were assigned the higher of the two estimates. Fathers who lived with the focal child at least half of the time were given a value of 15 unless they reported spending the night with the focal child for more than 15 nights per month.

Relationship quality—Relationship quality for resident fathers consisted of a 6-item scale that measured the quality of the romantic relationship with the mother of the focal child during the previous month. Items included: “The mother 1) is fair and willing to compromise when you have a disagreement, 2) expresses affection or love for you, 3) insults or criticizes you or your ideas, 4) encourages or helps you do things that are important to

you, 5) listens to you when you need someone to talk to, and 6) really understands your hurts and joys.” Response options ranged from 1 = *Often* to 3 = *Never* and were reverse coded so higher values reflected higher quality relationships. Items were summed and the total measure ranged from 0 to 18. Scale alphas were .70, .73, and .79 for Years 1, 3, and 5, respectively.

Relationship quality for nonresident fathers was measured using a single item: “In general, would you say that your relationship with [mother] is excellent, very good, good, fair, or poor?” Responses ranged from 1 = *Excellent* to 5 = *Poor* and were reverse coded so higher values reflected higher quality relationships. This item has been used in previous research examining relationship quality and nonresident father involvement (Fagan, Palkovitz, Roy, & Farrie, 2009; Fagan, Schmitz, & Lloyd, 2007; Ryan, Kalil, & Ziolo-G 2008).

Some family scholars have argued that relationship quality closely resembles a dichotomy, where approximately 80% of couples are moderately to highly satisfied, and about 20% of couples have low levels of satisfaction (Beach, Fincham, Amir, & Leonard, 2005; Kamp Dush, Taylor, & Kroeger, 2008). Thus we created a dichotomous indicator of resident father relationship quality by examining the sample distribution and creating cutoff values where 1 = *moderate to high quality* and 0 = *low quality* from the continuous relationship quality measures. The cutoff value for moderate to high quality was 12 for Year 1 and 14 for Years 3 and 5. For nonresident fathers, we categorized fathers as 1 = *moderate to high quality* when they reported no less than *good* (3) on the general relationship quality measure, and 0 = *low quality* when they reported *fair* (2) or *poor* (1).

Time-invariant covariates—Father education, race, and employment status at birth were included as time-invariant controls. Father education was measured as *less than high school*, *high school*, and *some college*. Father race was self-identified as *non-Hispanic White*, *non-Hispanic Black*, *Hispanic*, and *Other*. Employment status was measured as *not employed or in school*, and *employed or in school*.

Analytic Plan

All analyses were performed using Stata12 and missing data were estimated using Full Information Maximum Likelihood estimation (FIML). We present additional model fit statistics such as the Comparative Fit Index (CFI; Bentler, 1990) and Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) since the χ^2 fit statistic is often significant with samples of more than 400 individuals. CFI values range from 0 to 1.00 and should be above .90 to provide adequate model fit. RMSEA values range from 0 to 1.00, and values below .05, and between .06 and .08, indicate good and adequate model fit, respectively.

We used autoregressive cross-lagged path analysis, which uses a cross-lagged design to investigate bidirectional influences, or reciprocal associations, between one variable and another, in our case, father involvement and depressive symptoms (Curran & Bollen, 2001). This method is particularly useful when the independent variable could predict the dependent variable and the dependent variable could predict the independent variable. In our case, father involvement could predict future depressive symptoms, but depressive symptoms could also predict future father involvement. Specifically, the autoregressive

cross-lagged path analysis simultaneously modeled associations between father involvement at Year 1 and depressive symptoms at Year 3 while at the same time accounting for associations between depressive symptoms at Year 1 and father involvement at Year 3. These models also account for the initial and concurrent correlation between father involvement and depressive symptoms at each time point. Further, these models also represent a kind of a “semi-difference” model in that the initial levels of each variable are accounted for (Johnson, 2005). That is, the model tests the association between father involvement at Year 1 and depressive symptoms at Year 3 while controlling for depressive symptoms at Year 1. Our conceptual model is presented in Figure 1.

We used multiple group analysis to test whether associations in the full model were significantly different for resident and nonresident fathers. For relationship quality, we used the dichotomous indicators to conduct two tests of the sensitivity of our results to the specification of relationship quality. First, we entered the dichotomous indicators of relationship quality as time-varying controls, then we conducted a multiple group analysis to test relationship quality as a moderator by comparing fathers with moderate to high relationship quality at Year 1 to those with low relationship quality at Year 1.

Results

Sample characteristics

Table 1 reports sample characteristics for depressive symptoms, relationship quality, and control variables. On average, resident fathers were in their late 20s, one-third self-identified as Black (33%), and slightly over a quarter had less than a high school diploma at Year 1. Fathers in the resident and nonresident samples differed significantly on all demographic characteristics. Compared to resident fathers, nonresident fathers were younger, disproportionately Black (60%), had lower levels of educational attainment, and a greater proportion were unemployed at Year 1 (28%). Nonresident fathers reported significantly more depressive symptoms and lower relationship quality (continuous measure) at each time point. This is consistent with previous research on incidence rates of major depressive episodes of fathers in the Fragile Families and Child Wellbeing survey; the incidence rate of major depressive episodes for married and cohabiting fathers was 13.3% and 14.7%, respectively, whereas the rate for nonresident fathers was 18% at Year 1 (DeKlyen, Brooks-Gunn, McLanahan, & Knab, 2006).

Table 2 reports sample characteristics for our standardized composite of father involvement along with the unstandardized data for each father involvement indicator. Resident fathers reported more involvement than nonresident fathers, both overall and for each involvement indicator. Overall fathers were very involved with their children; resident fathers spent an average of over four days per week engaging in a variety of positive engagement activities with their children at Year 1 and were accessible to their children most days of the month (28.89 days, 4.40 *sd*) at Year 1. In comparison, nonresident fathers were engaged over three days per week and were accessible for 18 days at Year 1, decreasing to 10 days by Year 5. On average, mothers reported that resident fathers were responsible most of the time, and nonresident fathers some of the time.

Involvement decreased over time for each indicator (Table 2) with the exception of resident fathers' accessibility. Compared to resident fathers, nonresident fathers were significantly less involved in each domain, with the most striking difference in the domain of accessibility. Whereas resident fathers were accessible to their children nearly every day of the month at each Year, nonresident fathers were accessible for slightly more than half of the month at Year 1 and decreased to nearly 10 days by Year 5.

Between group analysis

First, we discuss the results of the autoregressive cross-lagged model for the full sample of fathers (see Table 3). The initial model fit the data well ($\chi^2(36) = 311.63, p < 0.001$; CFI = .94; RMSEA = .05). Greater depressive symptoms at Year 1 were significantly associated with a 0.08 day reduction in involvement at Year 3 for all fathers. Higher involvement at both years was significantly associated with subsequent lower depressive symptoms for all fathers; higher involvement at Year 1 was associated with a 0.05 point decrease in depressive symptoms at Year 3, and greater involvement at Year 3 was associated with a 0.15 point reduction in depressive symptoms at Year 5.

To test whether nonresident status was a contextual source of stress, we fit identical models for both nonresident and resident fathers simultaneously without constraints to ensure adequate conceptual fit for both groups of fathers. This model provided adequate fit to the data; $\chi^2(72) = 295.04, p < 0.001$; CFI = 0.88; RMSEA = .05. We next applied equality constraints to each main path separately, using χ^2 difference tests to calculate changes in model fit based on the overall model. For example, we first tested whether associations between father involvement at Year 1 and father involvement at Year 2 were equivalent between resident and nonresident fathers, moving on to test each direct and cross-lagged association for equivalence between the resident and nonresident groups. In these models, no significant loss in model fit after an applied constraint would suggest that the applied constraints was valid (i.e. no moderation), whereas a significant loss in model fit following the applied constraint would suggest the paths were not equivalent between groups, or that resident status moderated the associations.

All applied constraints were equivalent between resident and nonresident fathers, with the exception of associations between involvement at Year 1 and depressive symptoms at Year 3. The final model provided adequate fit to the data; $\chi^2(79) = 299.25, p < 0.001$; CFI = 0.88; RMSEA = .05. This suggests that, on the whole, associations between father involvement and depressive symptoms were very similar for resident and nonresident fathers. The final column of Table 3 presents findings from the final resident status moderation model. Overall, higher father involvement at Year 3 was associated with a 0.21 point reduction in depressive symptoms at Year 5 for all fathers. Similar associations were found for resident fathers between Years 1 and 3; greater involvement at Year 1 was associated with a 0.23 point reduction in depressive symptoms at Year 3 for resident fathers. The one applied constraint that was significantly different between resident and nonresident fathers was between father involvement and depressive symptoms in early toddlerhood. Higher involvement at Year 1 was associated with a 0.22 point increase in depressive symptoms from Years 1 to 3 for nonresident fathers only; thus, nonresident status was a moderator in

this association. Nonresident status functioned as a risk for involved fathers during children's early years by reversing the expected mental health benefits of involved fathering.

Resident fathers

Table 4 presents findings for resident fathers. To test the sensitivity of our models to relationship quality, we first entered the continuous measures at each Year as control variables. This model provided good fit to the data; $\chi^2(56) = 248.98, p < 0.001$; CFI = .89; RMSEA = .04. At each Year, higher relationship quality was significantly associated with lower depressive symptoms and greater father involvement. However, even after controlling for relationship quality, higher father involvement at Year 1 was associated with a 0.22 point decrease in depressive symptoms at Year 3. The second column of Table 4 presents results using the dichotomous measure of relationship quality as a control measure at each Year. Associations between relationship quality and father involvement and depression increased in magnitude, but the significant association between father involvement at Year 1 and depressive symptoms at Year 3 was robust; greater father involvement at Year 1 was associated with a 0.23 point reduction in depressive symptoms at Year 3 for resident fathers.

Consistent with a multiple groups approach, we simultaneously fit identical models for two groups of fathers, those with moderate to high and low relationship quality, using the dichotomous measure of relationship quality at Year 1 as our moderating variable. The initial model provided excellent fit to the data; $\chi^2(88) = 227.63, p < 0.001$; CFI = .90; RMSEA = .04. Next, we tested the equality of all main and cross-lagged paths between the moderate to high and low relationship quality groups, constraining paths independently and calculating χ^2 differences. The final model fit the data well; $\chi^2(94) = 236.43, p < 0.001$; CFI = .90; RMSEA = .04. Two path coefficients were not equivalent between the moderate to high and low relationship quality groups; associations between involvement at Year 1 and involvement at Year 3 were significantly lower in magnitude ($p < 0.05$) for fathers in low quality relationships, suggesting that low relationship quality functioned as a risk factor for father involvement when children were young. We also found evidence that low relationship quality enhanced the benefits of involved fathering for resident fathers; greater involvement at Year 1 was associated with a 0.91 point decrease in depressive symptoms at Year 3, but only for fathers who were in low quality relationships at Year 1. This finding suggests that when fathers were less satisfied with their relationship, they benefited the most, in terms of their mental health, from interactions with their children.

Nonresident fathers

Nonresident father models are shown in Table 5. The first column reports results using the continuous measure of relationship quality as a control. Model fit was acceptable; $\chi^2(56) = 152.58, p < 0.001$; CFI = .87; RMSEA = .05. As expected, relationship quality was significantly positively associated with father involvement and negatively associated with depressive symptoms at each Year. After the addition of relationship quality to the model, depressive symptoms at Year 1 were only marginally associated with a 0.02 point reduction in involvement at Year 3 for nonresident fathers. Further, greater involvement at Year 1 was associated with a 0.23 point increase in depressive symptoms at Year 3, a finding consistent with our conceptualization of nonresident status as a risk.

The addition of the dichotomous version of the relationship quality measure yielded some changes; associations between relationship quality and involvement slightly increased in magnitude, whereas associations between relationship quality and depressive symptoms were reduced to nonsignificance. Model fit remained adequate; $\chi^2(56) = 149.22, p < 0.001$; CFI = .86; RMSEA = .05, and significant and marginally significant associations between involvement and depressive symptoms were robust. Greater depressive symptoms at Year 1 were significantly associated with a 0.02 point reduction in involvement at Year 3 (marginal), and greater involvement at Year 1 was significantly associated with a 0.22 point increase in depressive symptoms at Year 3. Additionally, greater involvement at Year 3 was associated with a 0.26 point decrease in depressive symptoms (marginal) at Year 5.

The final column of Table 5 presents our final moderating model for nonresident fathers. The initial between-groups model provided adequate fit; $\chi^2(88) = 184.91, p < 0.001$; CFI = .80; RMSEA = .06. We proceeded by testing the equivalence of all main and cross-lagged paths between the moderate to high and low quality relationship quality groups. The final model also provided adequate fit; $\chi^2(96) = 189.90, p < 0.001$; CFI = .81; RMSEA = .05 and all paths were equivalent between groups. Consistent with our previous findings, we found that higher father involvement at Year 1 was associated with a 0.26 point increase in depressive symptoms at Year 3 for nonresident fathers. In addition, we found that greater involvement at Year 3 was associated with a 0.37 point reduction in depressive symptoms at Year 5 for nonresident fathers regardless of relationship quality. Finally, higher depressive symptoms at Year 1 were significantly associated with a 0.03 point reduction in involvement at Year 3.

Discussion

There is mounting evidence that fathers' poor mental health is a risk factor for low father involvement (Cabrera et al., 2011; Lyons-Ruth et al., 2002; Paulson et al., 2011). However, most prior research has only explored the implications of poor mental health for father involvement, leaving the potential mental health benefits of father involvement largely unexplored (for exceptions see Knoester et al., 2007; Schindler, 2010). We investigated reciprocal associations between father involvement and depressive symptoms in a sample of primarily low income fathers and examined the role of father resident status and relationship quality as risks or protective factors. We found evidence that higher father involvement was associated with reduced depressive symptoms during the early preschool years for all fathers (child age 3 to 5). Consistent with our conceptualization of nonresident status as a risk, higher nonresident father involvement was associated with increased depressive symptoms for fathers during early toddlerhood (child ages 1 to 3). Though we conceptualized low relationship quality as a risk factor, resident fathers in low quality relationships experienced increased mental health benefits from involvement with their young toddlers. Consistent with previous research (Cabrera et al.; Lyons-Ruth et al.; Paulson et al.), we found some evidence that depressive symptoms were associated with lower involvement in the full and nonresident samples.

Fathers who were more involved with their toddlers may have fulfilled a necessary aspect of their psychological development, generativity (Erikson, 1982), that led to fewer depressive

symptoms. Involved fathers may have developed strong relationships with their children or fulfilled personal and social standards of “involved fathering” (Coltrane, 1996), deriving satisfaction and enjoyment from positive interactions which may have reduced depressive symptoms over time. Previous research has linked personal satisfaction and fulfillment with decreases in depressive symptoms (Beck & Alford, 2008).

We found some support for the notion that poor mental health selects fathers into less involved parental roles. In the full sample, greater depressive symptoms were associated with lower involvement during early toddlerhood for fathers regardless of residency. Fathers’ involvement with young children promotes children’s socioemotional adjustment (Jia, Kotila, & Schoppe-Sullivan, 2012), potentially protecting children from some of the risks conferred by low income status and fragile family relationships. Thus, low father involvement becomes a risk for children who could reap the most benefits from involved fathering. In line with Schindler (2010), we also found that the mental health benefits of involved fathering persisted even when accounting for potential declines in involvement associated with poor mental health during children’s toddler and early preschool years for the full sample of fathers. Thus, a potential pathway to better mental health for fathers is simply spending more time with their children.

Despite evidence that relationship quality plays a key role in resident and nonresident father involvement (e.g., Carlson et al., 2011; Fagan & Palkovitz, 2007) and depressive symptoms (Paulson et al., 2011), we found little indication that relationship quality functioned as a risk factor for resident or nonresident fathers. Regardless of relationship quality measurement choice (i.e., continuous or dichotomous), most full sample findings were robust. However, consistent with the notion that fathers’ parenting is contextually sensitive (e.g., Belsky, 1984), low relationship quality reduced positive associations between involvement from Year 1 to Year 3, but enhanced reductions in depressive symptoms associated with involved fathering over the same time. Thus, low quality relationships placed resident father involvement at risk, yet boosted mental health for those fathers who remained involved during the early toddler years. This is in line with previous work that shows resident fathers retreat from involvement when relationship quality is low (Sotomayor-Peterson et al., 2009). Fathers’ early involvement is strongly linked with later involvement (Fagan & Palkovitz, 2011), hence relationship quality may help identify fathers who are at risk for involvement declines during children’s early years. We found no evidence that general relationship quality moderated associations between nonresident father involvement and depression, despite established links between our measure of general relationship quality and nonresident father involvement (Fagan et al., 2009; Fagan et al., 2007; Ryan et al., 2008). Future research may benefit from exploring the extent to which supportive or undermining coparenting relationships may function as sources of risk or resilience for nonresident fathers (e.g., Fagan & Palkovitz, 2011).

Consistent with our conceptualization of nonresident status as a risk, we found that greater nonresident father involvement with toddlers was associated with increased depressive symptoms for fathers, and nonresident fathers’ greater depressive symptoms were associated with marginally lower nonresident involvement. Highly involved nonresident fathers of young children may face significant stress, both in terms of the demanding, inflexible

childcare that young children need, and from maintaining involvement following relationship dissolution. Early father involvement is vital for continued involvement over time (Fagan & Palkovitz, 2011) and children's early development (Lamb, 2010), thus even small reductions in father involvement may have significant implications for future child and family functioning, particularly when fathers are nonresident. As children became more verbal, self-sufficient, and capable of receiving emotional support and guidance in the later years of the study, involved nonresident fathers may have felt as though they were fulfilling their generative role as the involved father (Summers et al., 2006), deriving satisfaction and fulfillment from their involvement, thereby increasing their wellbeing. Our findings for nonresident fathers were robust to the inclusion of general relationship quality, underscoring the importance of providing resources and services geared toward increasing the quality of father-child interactions more so than the quality of the parental relationship for nonresident fathers with young children.

That nonresident father involvement in the early preschool years (child ages 3 to 5) was associated with lower depressive symptoms is noteworthy. Scholars have argued that nonresident fathers are less committed to the father role than resident fathers (see Coles & Green, 2010), yet nonresident fathers' relationships with their children and desire to fulfill social standards of involved fathering may not be so different from those of resident fathers. Indeed, recent qualitative work suggests that low income nonresident fathers value the father role as an integral aspect of themselves (Edin et al., 2011). Men who fulfill their duties as a father despite living away from their children may be in the best position to benefit psychologically from their involvement, as these public displays of commitment to their role as a father (Ihinger-Tallman et al., 1993) may garner respect and admiration from others, potentially providing a mental "boost" to fathers who may be most susceptible to declines in mental health.

Several limitations of this study are important to note. First, in our effort to incorporate a multidimensional perspective of father involvement, we were required to use mother's reports of the father's responsibility in our standardized measure. It is widely noted that reports of father involvement are often discrepant between parents (Mikelson, 2008), and given the potential for contentious nonresident parental relationships, one can imagine that mothers may have reported lower levels of responsibility than nonresident fathers themselves, had they been given the chance to respond. We attempted to conceptualize father involvement in line with widely used frameworks (e.g., Lamb et al., 1987), but acknowledge that our measure fell short of ideal. The limited number of questions representing distinct domains of involvement made constructing a latent measure of involvement problematic, particularly for resident fathers, who reported little to no variance in the single item indicator of accessibility. Previous scholars have also made note of this issue (Fagan & Palkovitz, 2011), a problem common to many large, secondary datasets. As such, we were unable to explore differential effects of each father involvement facet on depression. Future large-scale data collection efforts should measure multiple aspects of father involvement, recognizing the tendency for different groups of fathers to be involved with their children in different ways by constructing measures that are sensitive to fathering context.

Fathers experiencing depressive symptoms may be at risk for declines in their involvement with children (Cabrera et al., 2011; Lyons-Ruth, et al., 2002; Paulson et al., 2011), reducing the positive benefits of involvement for father and child alike (Eggebeen & Knoester, 2001; Lamb, 2010; Schindler, 2010). Yet, a father's involvement with his child may function as a protective factor, building fathers' confidence and providing them with enjoyable experiences that serve to lessen the physical and emotional drains of depressive symptoms. Our study highlights the importance of providing support for resident fathers who are experiencing relationship difficulties, as we find these fathers are at risk for smaller increases in involvement during children's toddler years. Importantly, our consistent finding that father involvement during toddlerhood may contribute to increases in depressive symptoms for nonresident fathers speaks to the importance of resources in the form of educational and support programs for nonresident fathers who make efforts to remain involved. While programs that target the couple relationship as a mechanism for improving father involvement may be effective for resident fathers (e.g., Carlson & McLanahan, 2006), programs for nonresident fathers might benefit from making the father-child relationship a central focus.

References

- Anderson EA, Kohler JK, Letiecq BL. Predictors of depression among low-income, nonresidential fathers. *Journal of Family Issues*. 2005; 26(5):547–567.10.1177/0192513x04272753
- Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*. 1977; 84:191–215.10.1037/0033-295x.84.2.191 [PubMed: 847061]
- Beach SRH, Fincham FD, Amir N, Leonard KE. The taxometrics of marriage: Is marital discord categorical? *Journal of Family Psychology*. 2005; 19(2):276–285.10.1037/0893-3200.19.2.276 [PubMed: 15982105]
- Beck, AT.; Alford, BA. *Depression: Causes and treatment*. Philadelphia, PA: University of Pennsylvania Press; 2008.
- Belsky J. The determinants of parenting: A process model. *Child Development*. 1984; 55(1):83–96. [PubMed: 6705636]
- Bentler PM. Comparative fit indexes in structural models. *Psychological Bulletin*. 1990; 107:238–246.10.1037/0033-2909.107.2.238 [PubMed: 2320703]
- Cabrera NJ, Hofferth SL, Chae S. Patterns and predictors of father–infant engagement across race/ethnic groups. *Early Childhood Research Quarterly*. 2011; 26(3):365–375. <http://dx.doi.org/10.1016/j.ecresq.2011.01.001>. [PubMed: 22110258]
- Cabrera NJ, Ryan RM, Mitchell SJ, Shannon JD, Tamis-LeMonda CS. Low income, nonresident father involvement with their toddlers: Variation by fathers' race and ethnicity. *Journal of Family Psychology*. 2008; 22:643–647.10.1037/0893-3200.22.3.643 [PubMed: 18729678]
- Carlson MJ, McLanahan SS. Strengthening unmarried families: Could enhancing couple relationships also improve parenting? *Social Service Review*. 2006; 80(2):297–321.10.1086/503123
- Carlson MJ, Pilkauskas NV, McLanahan SS, Brooks-Gunn J. Couples as partners and parents over children's early years. *Journal of Marriage and Family*. 2011; 73(2):317–334.10.1111/j.1741-3737.2010.00809.x [PubMed: 21479113]
- Cheadle J, Amato P, King V. Patterns of nonresident father contact. *Demography*. 2010; 47(1):205–225.10.1353/dem.0.0084 [PubMed: 20355691]
- Coles, RL.; Green, CSC. *The myth of the missing black father*. New York: Columbia University Press; 2010.
- Coley RL. (In)visible men: Emerging research on low income, unmarried, and minority fathers. *American Psychologist*. 2001; 56:743–753.10.1037//0003-066x.56.9.743 [PubMed: 11558359]

- Coltrane, S. *Family man: Fatherhood, housework, and gender equity*. New York: Oxford University Press; 1996.
- Costello, CG. *Symptoms of depression*. Oxford, England: John Wiley & Sons; 1993.
- Curran, PJ.; Bollen, KA. New methods for the analysis of change. Washington, DC: APA; 2001. The best of both worlds: Combining autoregressive and latent curve models; p. 107-135.
- DeKlyen M, Brooks-Gunn J, McLanahan S, Knab J. The mental health of married, cohabiting, and non-coresident parents with infants. *American Journal of Public Health*. 2006; 96:1836–1841.10.2105/AJPH.2004.049296 [PubMed: 16571717]
- Delsing MJMH, Oud JHL, De Bruyn EEJ. Assessment of bidirectional influences between family relationships and adolescent problem behavior. *European Journal of Psychological Assessment*. 2005; 21(4):226–231.10.1027/1015-5759.21.4.226
- Edin, K.; Nelson, T.; Reed, JM. Daddy baby; Momma, maybe: Low income urban fathers and the “package deal” of family life. In: Carlson, M.; England, P., editors. *Social class and changing families in an unequal America*. Stanford, CA: Stanford University Press; 2011. p. 85-107.
- Eggebeen DJ, Knoester C. Does fatherhood matter for men? *Journal of Marriage and Family*. 2001; 63:381–393.10.1111/j.1741-3737.2001.00381.x
- Erikson, EH. *The life cycle completed: A review*. New York: W.W. Norton; 1982.
- Fagan J, Palkovitz R. Unmarried, nonresident fathers’ involvement with their infants. *Journal of Family Psychology*. 2007; 21(3):479–489.10.1037/0893-3200.21.3.479 [PubMed: 17874933]
- Fagan J, Palkovitz R. Coparenting and relationship quality effects on father engagement: Variations by residence, romance. *Journal of Marriage and Family*. 2011; 73(3):637–653.10.1111/j.1741-3737.2011.00834.x
- Fagan J, Palkovitz R, Roy K, Farrie D. Pathways to paternal engagement: Longitudinal effects of risk and resilience on nonresident fathers. *Developmental Psychology*. 2009; 45(5):1389–1405.10.1037/a0015210 [PubMed: 19702400]
- Fagan J, Schmitz MF, Lloyd JJ. The relationship between adolescent and young fathers’ capital and marital plans of couples expecting a baby. *Family Relations*. 2007; 56(3):231–243.10.1111/j.1741-3729.2007.00455.x
- Ihinger-Tallman M, Pasley K, Buehler C. Developing a middle-range theory of father involvement postdivorce. *Journal of Family Issues*. 1993; 14:550–571.10.1177/019251393014004005
- Jia R, Kotila LE, Schoppe-Sullivan SJ. Transactional relations between father involvement and preschoolers’ socioemotional adjustment. *Journal of Family Psychology*. 2012; 25(3):356–365.10.1037/a0030245
- Johnson D, Young R. Toward best practices in analyzing datasets with missing data: Comparisons and recommendations. *Journal of Marriage and Family*. 2011; 73:926–945.10.1111/j.1741-3737.2011.00861.x
- Kamp Dush CM, Taylor MG, Kroeger RA. Marital happiness and psychological well-being across the life course. *Family Relations*. 2008; 57(2):211–226.10.1111/j.1741-3729.2008.00495.x [PubMed: 23667284]
- Kessler RC, Andrews G, Mroczek D, Ustun B, Wittchen HU. The World Health Organization Composite International Diagnostic Interview short-form (CIDI-SF). *International Journal of Methods in Psychiatric Research*. 1998; 7:171–185.10.1002/mpr.47
- Knoester C, Petts RJ, Eggebeen DJ. Commitments to fathering and the wellbeing and social participation of new, disadvantaged fathers. *Journal of Marriage and Family*. 2007; 69:991–1004.10.1111/j.1741-3737.2007.00426.x
- Lamb, ME. How *do* fathers influence children’s development? Let me count the ways. In: Lamb, ME., editor. *The role of the father in child development*. Hoboken, NJ: Wiley; 2010. p. 1-26.
- Lamb, ME.; Pleck, JH.; Charnov, EL.; Levine, JA. A biosocial perspective on paternal behavior and involvement. In: Lancaster, J.; Altmann, J.; Sherrod, L.; Rossi, A., editors. *Parenting across the life span: Biosocial dimensions*. New York: Transaction Publishers; 1987.
- Lovejoy MC, Graczyk PA, O’Hare E, Neuman G. Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review*. 2000; 20(5):561–592. [http://dx.doi.org/10.1016/S0272-7358\(98\)00100-7](http://dx.doi.org/10.1016/S0272-7358(98)00100-7). [PubMed: 10860167]

- Mikelson KS. He said, she said: Comparing mother and father reports of father involvement. *Journal of Marriage and Family*. 2008; 70:613–624.10.1111/j.1741-3737.2008.00509.x
- Minuchin P. Families and individual development: Provocations from the field of family therapy. *Child Development*. 1985; 56:289–302. [PubMed: 3886321]
- Palkovitz, RJ. *Involved fathering and men's adult development: Provisional balances*. Mahwah, NJ: Lawrence Erlbaum Associates; 2002.
- Paulson JF, Dauber SE, Leiferman JA. Parental depression, relationship quality, and nonresident father involvement with their infants. *Journal of Family Issues*. 2011; 32(4):528–549.10.1177/0192513X10388733
- Reichman NE, Teitler JO, Garfinkel I, McLanahan SS. Fragile families: Sample and design. *Children and Youth Services Review*. 2001; 23(4–5):303–326.10.1016/s0190-7409(01)00141-4
- Ryan RM, Kalil A, Ziol-G KM. Longitudinal patterns of nonresident fathers' involvement: The role of resources and relations. *Journal of Marriage and Family*. 2008; 70(4):962–977.10.1111/j.1741-3737.2008.00539.x
- Schindler HS. The importance of parenting and financial contributions in promoting fathers' psychological health. *Journal of Marriage and Family*. 2010; 72(2):318–332.
- Simon RW. Gender, multiple roles, role meaning, and mental health. *Journal of Health and Social Behavior*. 1995; 36:182–194. <http://www.jstor.org/stable/2137224>. [PubMed: 9113142]
- Sotomayor-Peterson M, Wilhelm MS, Card NA. Marital relationship quality and couples' cognitive stimulation practices toward their infants: Actor and partner effects of White and Hispanic parents. *Early Child Development and Care*. 2009; 181(1):103–122.10.1080/03004430903271160
- Steiger JH. Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*. 1990; 25:173–180.10.1207/s15327906mbr2502_4
- Summers JA, Boller K, Schiffman R, Raikes HH. The meaning of “good fatherhood”: Low income fathers' social constructions of their roles. *Parenting: Science & Practice*. 2006; 6:145–165.10.1080/15295192.2006.9681303
- Tach L, Mincy R, Edin K. Parenting as a “package deal”: Relationships, fertility, and nonresident father involvement among unmarried parents. *Demography*. 2010; 47:181–204.10.1353/dem.0.0096 [PubMed: 20355690]
- Turner RJ, Wheaton B, Lloyd DA. The epidemiology of social stress. *American Sociological Review*. 1995; 60:104–125.

Figure 1. Conceptual Model

Note. All models include the following controls, measured at birth: employment, age, education, and race. Models including Relationship Quality are run separately for Resident and Nonresident fathers.

Table 1

Sample Characteristics

Observed Variables	Resident		Nonresident		Resident vs. Nonresident	
	M(sd)	% Missing	M(sd)	% Missing	t	
Depression						
Year 1	0.50 (1.50)	0.00	1.27 (2.32)	0.00	10.20	***
Year 3	0.76 (1.89)	5.40	1.57 (2.53)	14.44	8.72	***
Year 5	0.57 (1.65)	14.64	1.44 (2.51)	20.22	9.72	***
Relationship Quality (Continuous)						
Year 1	15.13 (2.72)	2.35	3.11 (1.27)	16.37	-	
Year 3	15.87 (2.10)	7.85	3.12 (1.14)	36.83	-	
Year 5	15.76 (2.39)	16.77	2.76 (1.27)	24.48	-	
Relationship Quality (Dichotomous)						
Year 1	0.80	2.35	0.67	16.37	6.67	***
Year 3	0.78	7.85	0.68	36.83	4.61	***
Year 5	0.76	16.77	0.57	25.03	8.74	***
Father Age	29.10 (6.98)	0.11	25.98 (7.06)	0.12	10.69	***
Father Race						
Black	0.33	0.00	0.60	0.00	13.52	***
Hispanic	0.29	0.00	0.17	0.00	6.62	***
White	0.28	0.00	0.10	0.00	10.40	***
Other	0.10	0.00	0.13	0.00	2.09	*
Father Education						
Less than High School	0.27	5.56	0.38	8.78	5.48	***
High School	0.25	5.56	0.38	8.78	4.29	***
Some College	0.18	5.56	0.21	8.78	2.27	*
College Degree	0.18	5.56	0.03	8.78	10.55	***
Father Employment	0.87	5.45	0.74	9.03	8.27	***

Observed Variables	Resident		Nonresident		Resident vs. Nonresident	
	M(sd)	% Missing	M(sd)	% Missing		t
n	1872		831		-	

Note.
* $p < 0.05$,
*** $p < 0.001$.

J Range of Resident Relationship Quality = 6–18; Range of Nonresident Relationship Quality = 1–5. *T*-tests were not performed for Continuous Relationship Quality due to inconsistent measurement across the Resident and Nonresident Father groups. All demographic variables are reported from the birth assessment.

Table 2

Involvement Characteristics

		Resident		Nonresident		Resident vs. Nonresident	
		M (sd)	n Missing	M (sd)	n Missing		t
Father Involvement							
Standardized Composite							
Year 1		0.35 (0.41)	1591	-0.58 (0.97)	676		32.17***
Year 3		0.49 (0.31)	1716	-0.91 (0.73)	581		63.92***
Year 5		0.57 (0.30)	1540	-0.81 (0.71)	510		61.93***
Engagement							
Year 1		4.84 (1.40)	1591	3.32 (2.20)	676		19.75***
Year 3		4.51 (1.28)	1716	2.37 (1.92)	581		30.32***
Year 5		4.02 (1.24)	1540	2.03 (1.78)	510		27.97***
Responsibility (Mother Reported)							
Year 1		2.54 (0.59)	1591	1.73 (1.08)	676		22.96***
Year 3		2.52 (0.58)	1716	1.23 (1.08)	581		36.37***
Year 5		2.59 (0.55)	1540	1.15 (1.11)	510		38.47***
Accessibility							
Year 1		28.89 (4.40)	1591	18.01 (11.31)	676		32.93***
Year 3		30 (0)	1716	11.06 (8.41)	581		93.28***
Year 5		30 (0)	1540	9.96 (8.59)	510		91.56***
n		1872		831			-

Note.

*** $p < .001$ and indicates significant differences between Resident and Nonresident Fathers.

Table 3
Autoregressive Cross-Lagged Structural Equation Model - All Fathers; Moderating Resident Status (n = 2,703)

	Overall ¹		Between Groups ²	
	b	SE	b	SE
Involvement Year 3				
Involvement Year 1	0.63***	0.01	0.28***	0.02
Depressive Symptoms Year 1	-0.08***	0.02	-0.01	0.00
Involvement Year 5				
Involvement Year 3	0.86***	0.01	0.54***	0.02
Depressive Symptoms Year 3	-0.01	0.01	0.00	0.00
Depressive Symptoms Year 3				
Involvement Year 1	-0.05*	0.02	0.22* ^a	0.10 ^a
Depressive Symptoms Year 1	0.37***	0.02	-0.23* ^b	0.11 ^b
Depressive Symptoms Year 5				
Involvement Year 3	-0.15***	0.02	-0.21*	0.09
Depressive Symptoms Year 3	0.37***	0.02	0.33***	0.02
n	2703		2703	

Note.

+ p < .10,

* p < .05,

*** p < .001.

¹Model Fit Statistics: $\chi^2(36) = 311.63^{***}$; CFI = .94; RMSEA = .05.

²Model Fit Statistics: $\chi^2(79) = 299.25^{***}$; CFI = 0.88; RMSEA = .05. In Model 2,

^a represents associations for Nonresident Fathers and

^b represents associations for Resident Fathers. All other paths are equivalent between the Resident and Nonresident groups. All models included the following controls: employment, age, education, and race. Unstandardized coefficients are reported.

Table 4

Autoregressive Cross-Lagged Structural Equation Model - Resident Fathers ($n = 1,872$); Moderating Relationship Quality ($n=1,828$)

	Continuous Relationship Quality Control ¹		Dichotomous Relationship Quality Control ²		Moderating Relationship Quality ³	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Involvement Year 3						
Involvement Year 1	0.27***	0.02	0.27***	0.02	0.30*** ^a	0.02 ^a
Depressive Symptoms Year 1	-0.00	0.00	-0.00	0.00	0.16*** ^b	0.05 ^b
Relationship Quality Year 1	0.02***	0.00	0.10***	0.02	-0.01	0.04
Involvement Year 5						
Involvement Year 3	0.54***	0.02	0.54***	0.02	0.56***	0.02
Depressive Symptoms Year 3	0.00	0.00	0.00	0.00	0.00	0.00
Relationship Quality Year 3	0.02***	0.00	0.07***	0.02	-	-
Depressive Symptoms Year 3						
Involvement Year 1	-0.22*	0.11	-0.23*	0.11	-0.03 ^a	0.12 ^a
Depressive Symptoms Year 1	0.38***	0.03	0.39***	0.03	-0.91*** ^b	0.29 ^b
Relationship Quality Year 1	-0.10***	0.02	-0.37***	0.10	0.38***	0.03
Depressive Symptoms Year 5						
Involvement Year 3	-0.05	0.13	-0.07	0.13	-0.13	0.13
Depressive Symptoms Year 3	0.31***	0.02	0.31***	0.02	0.33***	0.02
Relationship Quality Year 3	-0.14***	0.02	-0.73***	0.09	-	-
<i>n</i>	1872		1872		1828	

Note.

*
 $p < .05$,**
 $p < .01$,***
 $p < .001$.¹Model Fit Statistics: $\chi^2(56) = 248.98^{***}$; CFI = .89; RMSEA = .04.

²Model Fit Statistics: χ^2 (56) = 262.89***; CFI = .88; RMSEA = .04.

³Model Fit Statistics: χ^2 (94) = 236.43***; CFI = .90; RMSEA = .04. In Model 3,

^a represents associations for fathers who reported Moderate to High Relationship Quality and

^b represents associations for fathers who reported Low Relationship Quality. All other paths are equivalent between groups. All models included the following controls: employment, age, education, and race. Unstandardized coefficients are reported.

Table 5

Autoregressive Cross-Lagged Structural Equation Model - Nonresident Fathers (n=831); Moderating Relationship Quality (n=695)

	Continuous Relationship Quality Control ¹		Dichotomous Relationship Quality Control ²		Moderating Relationship Quality ³	
	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Involvement Year 3						
Involvement Year 1	0.27***	0.03	0.27***	0.03	0.27***	0.04
Depressive Symptoms Year 1	-0.02 ⁺	0.01	-0.02 ⁺	0.01	-0.03*	0.01
Relationship Quality Year 1	0.12***	0.03	0.25***	0.07	-	-
Involvement Year 5						
Involvement Year 3	0.48***	0.04	0.49***	0.04	0.51***	0.04
Depressive Symptoms Year 3	0.00	0.01	-0.00	0.01	-0.00	0.01
Relationship Quality Year 3	0.11***	0.02	0.28***	0.06	-	-
Depressive Symptoms Year 3						
Involvement Year 1	0.23*	0.10	0.22*	0.10	0.26***	0.11
Depressive Symptoms Year 1	0.38***	0.04	0.38***	0.04	0.40***	0.04
Relationship Quality Year 1	-0.18*	0.09	-0.35	0.22	-	-
Depressive Symptoms Year 5						
Involvement Year 3	-0.22	0.15	-0.26 ⁺	0.15	-0.37*	0.16
Depressive Symptoms Year 3	0.35***	0.04	0.35***	0.04	0.35***	0.04
Relationship Quality Year 3	-0.20**	0.08	-.30	0.20	-	-
<i>n</i>	831		831		695	

Note.

⁺ $p < .10$.* $p < .05$.** $p < .01$.*** $p < .001$.¹ Model Fit Statistics: $\chi^2(56) = 152.58^{***}$; CFI = .87; RMSEA = .05.

²Model Fit Statistics: χ^2 (56) = 149.22***; CFI = .86; RMSEA = .05.

³Model Fit Statistics: χ^2 (96) = 189.90***; CFI = .81; RMSEA = .05. In Model 3, all main paths are equivalent between fathers who reported Moderate to High and Low Relationship Quality. All models included the following controls: employment, age, education, and race. Unstandardized coefficients are reported.