Published in final edited form as:
J Fam Psychol. 2012 December ; 26(6): 976–986. doi:10.1037/a0030715.

Another Baby? Father Involvement and Childbearing in Fragile Families

Letitia E. Kotila[1] and **Claire M. Kamp Dush**[2]
The Ohio State University

[1]1787 Neil Ave., 135 Campbell Hall, Columbus, OH 43210.

[2]1787 Neil Ave., 135 Campbell Hall, Columbus, OH 43210.

Abstract

An historic number of women in the US have children outside of marriage, and with more than one father, yet little research has examined the association between family process and women's childbearing decisions. Using a subsample of unmarried women from the Fragile Families and Child Wellbeing Study (*N*=2028), a study of primarily low-income unmarried parents, we conducted discrete-time survival analysis models to predict whether women had another child with the focal child's father (same-father birth) or with a new father (new-father birth). Father involvement was measured by engagement, indirect care, accessibility, and financial support. Overall, mothers who reported greater engagement and indirect care from the focal child's father were more likely to have a same-father birth even when he was not living in her home, and were also less likely to have a new-father birth. Further, mothers who reported greater accessibility and stable financial support from the focal child's nonresident father were also less likely to have a new-father birth. One pathway through which this may have occurred was that single mothers who perceived less indirect care and accessibility from the focal child's nonresident father were more likely to begin new romantic relationships. Indeed, whether or not the mother had a new romantic partner partially mediated the association between indirect care and a same-father birth, and fully mediated the association between accessibility and a new-father birth, suggesting that one pathway linking father involvement to a new-father birth was through maternal repartnering. Clinical and policy implications are discussed.

Keywords

father involvement; childbearing; repartnering; multipartner fertility; nonmarital fertility

Historic numbers of women in the US are having children outside of marriage; 41% of all births in 2010 were to unmarried parents, with the highest proportions to racial and ethnic minorities (Hamilton, Martin, & Ventura, 2011). More than half of these births were to cohabiting parents (Lichter, 2012), a majority of whom will see their union dissolve by the time their child is 5 years old (Kamp Dush, 2011). Because of the instability of these unions, many mothers are dating and forming new romantic relationships which often result in the birth of a new child, thus a growing number of mothers have children with more than one father (Guzzo & Furstenberg, 2007). Mothers who have children with more than one father experience increased stress and mental health problems and lower parenting quality compared to mothers who share children with only one father (McLanahan, 2009). Children with half-siblings exhibit more depression, poorer school performance, and greater

Phone: 614.292.5690. kotila.2@osu.edu.

delinquency than children with only full-siblings (Halpern-Meekin & Tach, 2008). Despite negative maternal and child outcomes associated with childbearing with multiple fathers, family process-related factors that influence whether women have additional children with new fathers have yet to be identified. We posit that when a father is involved with his child, regardless of whether or not he lives with his child, the mother of his child will be less likely to have another child with a new father.

At the extreme, Guzzo and Furstenberg (2007) found that when a father had no contact with the mother of his child after the announcement of her pregnancy, she was more likely to have another child with a new father. Further, in qualitative interviews, mothers suggested that after they broke up, one reason they began a new intimate relationship was because their child's father was uninvolved (Classens, 2007), suggesting that mothers' new partners who were involved with their child may have "replaced" some of the benefits that involved fathers typically provide. The financial, instrumental, and emotional benefits of a concerned, active father are beneficial to mothers both when they are in a relationship (Cowan, Cowan, Pruett, Pruett, & Wong, 2009; Kalmijin, 1999) and even after it ends (Meadows, 2011). Indeed, because fathers become less involved after mothers repartner or have children with new men (Tach, Mincy, & Edin, 2010), mothers may stay in relationships with involved fathers, or, if single, be more cautious about dating or becoming pregnant in order to preserve the benefits they receive from their child's involved, supportive father.

Using data from the Fragile Families and Child Wellbeing Study, we examined whether a mother's perceptions of greater father involvement, measured as direct engagement (including routine childcare), indirect childcare, father-child contact, and financial support reduced her risk of having another child with a new father. Using a subsample of single mothers, we also tested whether the mother's romantic involvement with a new partner mediated the association between father involvement and another child with a new father.

Factors Associated With Childbearing with Multiple Fathers

In the US, the majority of unmarried parents have children with more than one father, and this "multipartnerd fertility" phenomenon is more common among young, racial minorities of low socioeconomic status (Carlson & Furstenberg, 2006), as well as among women who did not live with the father at the time of their first child's birth (Guzzo & Furstenburg, 2007). Few studies investigate potential pathways by which childbearing with multiple fathers occurs, although we know that mothers who are romantically involved with new men have less supportive coparenting relationships with the fathers of their children (Kamp Dush, Kotila, & Schoppe-Sullivan, 2011). In addition, fathers of these children perceived more problems remaining involved with their child after the mother began a new romantic relationship (Classens, 2007) and subsequently become less involved (Tach et al., 2010).

A Social Exchange Perspective on the Predictors of Childbearing with Multiple Fathers

The social exchange perspective (Thibaut & Kelley, 1959) suggests that individuals are rational, weighing the costs and benefits of decisions and selecting the choice that provides the greatest return with the lowest investment. In our sample of low-income, urban women, most of whom are racial minorities, having children with multiple fathers is not uncommon (e.g. Guzzo & Furstenberg, 2007). These women may have 1) observed involved, supportive fathers becoming less so after the mother of their child began a new romantic relationship, or 2) seen a friend or relative lose the support of an involved father after beginning a new relationship. These experiences could lead women to weigh the costs and benefits of involved, supportive fathers, potentially choosing to remain romantically involved with an

involved father or avoid new intimate relationships if her relationship with the father ends. Qualitative work on low-income motherhood alludes to the idea that some mothers were wary of new relationships because they foresaw potential losses in support from their child's father (Edin & Kefalas, 2005). Thus, an involved father may reduce a mother's risk of childbearing with a new father because his involvement increases the costs of both leaving her current relationship and entering a new one.

The Role of the Couple Relationship

It may also be that a father's involvement with his child functions as an investment into his relationship with the mother as well. Rusbult's (1980) Investment Model proposes that commitment to the relationship increases as investments into the relationship increase. These investments effectively increase the costs of leaving the relationship. In a test of the Satisfaction Hypothesis, (Kalmijn, 1999) found that among married couples, a father's investments into the relationship, measured as involvement with his children, increased marriage stability indirectly by increasing mothers' relationship satisfaction. Among unmarried couples, a father's financial and time investments with his child may have a similar effect. The same may be true among parents who are no longer romantically involved, whereby a father's involvement with his child may increase a mother's satisfaction with him, making it less likely that she will choose to become involved with a new man and risk losing the involvement of her child's father. Thus, in contrast to the benefits of parenting with an involved father, mothers who parent with uninvolved and unsupportive fathers may be less satisfied and more apt to see their relationships end, and hence more likely to be in a position to have another child with a new father.

Father Involvement in Unmarried Families

In his reconceptualization of the widely used Lamb et al. (1987) father involvement framework, Pleck (2010) integrated decades of research on fathers to describe the ways in which today's fathers interact with and care for their children. This revision narrowed the focus of all-inclusive activity measurements of paternal engagement to include activities that promote positive child development and clarified the managerial duties inherent in paternal responsibility. Engaged fathers participate in activities that promote child development such as reading, singing, and playing with their child. These fathers also assist in everyday childcare activities such as diapering, bathing, or feeding their children, relieving mothers from the burden of solo childcare. Responsible fathers take part in the day-to-day management of their children's lives, becoming support systems for mothers to rely on. These fathers assist in making childcare arrangements, transporting children to and from appointments, and show interest in the indirect activities of childrearing that may be challenging for low-income mothers to meet on their own. Furthermore, Pleck asserted the importance of maintaining the distinction between paternal engagement and responsibility, as responsibility activities are indirect in nature. Thus, we examined father involvement in engagement and indirect care activities separately.

Perhaps due to limited research regarding the accessibility aspect of a father's involvement, accessibility was not included in Pleck's (2010) reconceptualization. In their earlier work, Lamb et al. (1987) defined accessible fathers as those who are available to their children even when they are not directly or indirectly caring for them. The difficulty in measuring paternal accessibility is evident in past research that uses father residence as an indicator of accessibility (e.g. Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008). Overall, our limited understanding of nonresident father involvement and family process in low-income, unmarried families (Coley, 2001) makes it important to consider a variety of measures to represent nonresident father involvement. Thus, we conceptualized accessible nonresident fathers as those who maintain father-child contact, with the potential to foster positive

father-child relationships and provide mothers with additional support through their time investments with their children.

Finally, social standards suggest that, at a minimum, fathers should provide financial support for their child, especially when they no longer live with their child. This social expectation for financial support from fathers has strengthened child support enforcement in recent decades and provided support to children of unmarried parents (Sorensen, 1997) although many unmarried parents negotiate arrangements outside of the legal system (Edin, 1995). Despite expectations, nonresident fathers often face significant limitations with regard to their capabilities to pay court-ordered child support (Sorensen, 1997) and many will fail to live up to these obligations. This lack of financial involvement may encourage a mother to seek a new relationship to create a more stable financial situation for her child (i.e. “trading up” Bzostek, McLanahan, & Carlson, in press). Thus, we conceptualized the financial aspect of a father’s involvement as his timely payment of an informal or court-ordered child support agreement.

Potential Confounding Variables

Recent research has revealed close ties between the couple relationship and father involvement in unmarried families (Tach et al., 2010), thus we accounted for relationship satisfaction when the parents were romantically involved. In addition to relationship satisfaction, a mother’s previous childbearing with multiple fathers may be an important factor in determining whether or not she will have another child with a new father, as these mothers often have difficulties entering long-term, stable relationships (Manning, Trella, Lyons, & Du Toit, 2010). Having children with more than one father is more common among young, minority, and less educated mothers (Carlson & Furstenberg; Guzzo & Furstenberg, 2007), and low-income, unmarried fathers often face significant challenges to their involvement such as low education, thus we controlled for a variety of sociodemographic characteristics that are associated with father involvement and multipartnered childbearing for both parents, such as race, education, and poverty status. Further, we explored the importance of maternal living arrangements, such as father residence status, residential mobility, the number of children living in the household, and the presence of a grandmother in the household, all of which may impact a father’s involvement.

Hypotheses

We hypothesized that unmarried mothers who parented with involved fathers would be less likely than mothers who parented with uninvolved fathers to have another child with a new father and more likely to do so with the same father. Fathers who do not live with their child’s mother but who remain involved are beneficial to mothers and children, thus we expected the same pattern of results in both our resident and nonresident samples. Further, mothers who begin new intimate relationships are more likely than mothers who remain single to have another child with a new father, so we also tested whether a mother’s new romantic relationship mediated the association between father involvement and subsequent childbearing. We also hypothesized that the mother’s relationship satisfaction would play an important role in her future childbearing, strengthening associations for a same-father birth and lowering associations for a new-father birth. Importantly, these findings would coincide with other recent findings that suggest that father involvement and couple relationships are linked (Cowan et al., 2009).

Method

Data came from the Fragile Families and Child Wellbeing Study, a longitudinal study of 3,712 children born to unmarried parents as well as 1,186 children born to married parents. Parents were recruited immediately following their child's birth from 75 hospitals in 20 large US cities, and the full sample is representative of nonmarital births in cities with populations greater than 200,000. Interviews were conducted with mothers and fathers (when available) separately following their child's birth (Wave 1), and follow-up interviews were conducted at one, three, five, and nine years post-partum (Waves 2 through 5 respectively). Father involvement was measured consistently across the first four waves; hence we examined only those waves.

We had a final sample of $n = 2028$ because mothers were dropped who 1) were married at Wave 1 ($n = 1186$; 24% of sample lost), 2) reported that their child's father was deceased at Wave 2, 3, or 4 (n=58; 1% of sample lost), 3) were pregnant or had another child between Waves 1 and 2, or refused to respond to these questions ($n = 899$; 18% of sample lost), 4) were not interviewed after Wave 2, or were not interviewed the wave prior to the birth of a new child (i.e. the respondent was not interviewed at Wave 2 and reported at Wave 3 that a birth occurred between Waves 2 and 3; $n = 153$; 3% of sample lost), 5) reported that they did not live with their child the majority of the time ($n = 160$; 3% of sample lost) and 6) were missing data on all father involvement variables at the wave prior to the birth of the new child ($n = 3$; < 1% of sample lost), and 7) were not involved in a relationship with the father of the focal child at the initial interview ($n = 430$; 9% of sample lost). The nonresident subsample was limited to $n = 992$ and included only mothers who did not live with the focal child's father after Wave 1. In logistic regression models (not shown) predicting attrition and item nonresponse from demographic variables, older, non-Black mothers, and mothers with no history of previous childbearing with multiple fathers were more likely to be missing due to attrition or item nonresponse.

Variables

Independent variables—Engagement was measured from mothers reports using an 8-item scale at Wave 2 (11-items at Wave 3), and included the number of days per week (0 to 7) the father participated in certain activities with the child (e.g., playing inside with toys, feeding the child). This measure was modified from the Child Development Supplement to the Panel Study of Income Dynamics (Hofferth & Anderson, 2003) for use in the Fragile Families and Child Wellbeing Study, and variations of this scale using similar items have been used in previous research examining father involvement in the Fragile Families Study (Carlson & McLanahan, 2006; Kamp Dush et al., 2011). Scale items were averaged. Mothers who reported that the father had not seen the child in the past month skipped these questions and were given a score of 0. At Waves 2 and 3, $\alpha = .88$ and .95 respectively.

Indirect care was measured from mothers with a 3-item scale from the following questions: "How often does your child's father 1) do things like look after the child when you need to do things, and 2) take the child places they need to go, such as daycare or the doctor", and "You can count on father for help when you need someone to look after the child for a few hours", ranging from 1 = *often* to 4 = *never.* Items were reverse coded and averaged such that high scores indicated greater indirect care. At each wave, mothers who reported that their child's father had not seen the child in the previous month skipped these questions and were given a score of 0. At Waves 2 and 3, $\alpha = .81$ and .90 respectively.

Accessibility (father-child contact) was only measured for nonresident fathers. Mothers answered the following question:"During the past 30 days, how many days has (father) seen (child)?" and responses ranged from 0 to 30 *days this month.* This measure is an expansion

upon previously used measures of paternal accessibility (e.g. Sarkadi et al., 2008) that used dichotomous indicators father's co-residence to reflect his accessibility.

Financial support was measured for nonresident fathers only as 1 = *financial support paid in a timely manner* and 0 = *financial support not paid on*. Because some parents may negotiate alternative arrangements for financial support outside of the legal child support system (Edin, 1995), we included receipt of formal, court-ordered child support and informal support in our measure. Mothers were asked how often the father paid the formal or informal agreement on time using a Likert-type scale ranging from 1=*Never* to 5=*All of the time.* Responses of *All of the time* and *More than half of the time* were considered timely.

Dependent variables—The primary dependent variable was an indicator of whether the mother had a birth with her child's biological father or with a new father, or no birth. The household roster (at Waves 3 and 4) was used to determine whether a new birth occurred; the age of each child in the household was reported in years. For each child, the mother reported whether or not the focal child's father was also the father of the new child. If the mother reported a new child (born after Wave 2) and the father of this child was also the focal child's father, we coded a same-father birth. If a mother reported a new child (born after Wave 2) who did not have the same father as the focal child, we coded a new-father birth. Note that if the mother reported more than one new child, we used the oldest child reported, or the earliest birth that occurred after Wave 2. If no birth was reported after Wave 2, mothers were coded as no birth.

Time varying and mediating variables—At Wave 1, mothers who were either married or romantically involved with the father of the focal child were asked questions about the quality of their romantic relationship. A 3-item scale of relationship satisfaction was constructed from the following questions: "He is fair and willing to compromise when you have a disagreement." "He expresses affection or love for you." "He encourages or helps you to do things that are important to you." Response options ranged from 1 = *often* to 3 = *never*. At Waves 2 and 3, the relationship satisfaction questions were expanded to include two additional items. Mothers who were married or in a romantic relationship were also asked, "How often does the father listen when you need someone to talk to?" and "How often does the father really understand your hurts and joys?" Response options ranged from 1 to 3 at each wave and were reverse coded and averaged. Alphas were .61, .69, and .71 for Waves 1, 2, and 3, respectively. Because only mothers who were romantically involved with the father at the time of the interview were asked questions about relationship satisfaction, we gave mothers who did not respond to these questions the wave prior to the birth of her new child the last reported relationship quality value. Mothers who were never in a romantic relationship with the father of the focal child were not asked these questions and thus were coded as missing on this variable.

Time invariant controls—Parental age was measured at Wave 1 in years. Maternal race/ethnicity was self-identified at Wave1 and coded as White (excluded), Black, Hispanic, and Other. Parental education, measured at Wave 1, was coded as less than high school, high school (excluded) and some college. A dichotomous indicator of each parents' previous childbearing with multiple partners was measured separately at Wave 2 and was coded as 0 = *no previous children with multiple fathers/mothers* and 1 = *previous children with multiple fathers/mothers*.

Due to previously established links to father involvement, relationship quality, and childbearing, we included the following time-varying covariates. The residential status of the mother and the focal child's father was included where 0 = the parents were living together either sometimes or all of the time and 1 = *the parents were not living together*, *or*

were living together either rarely or never. Mother's new partner status was a dichotomous indicator, where 0 = *the mother was not in a romantic relationship* and 1 = *the mother was in a new romantic relationship*. The total number of people, as well as the total number of children under 18 living in the mother's household at each wave was coded as a continuous variable from the household roster, and ranged from 1 to 15 and 1 to 10, respectively. The presence of a grandmother in the household was a dichotomous indicator where 0 = *no grandmother present* and 1 = *grandmother present*. The income to poverty ratio was used to indicate financial hardship, with values less than or equal to one indicating that the respondent was in poverty, and ranged from 0 to 12.7. Residential mobility was measured as a continuous variable from mother's reports of the number of residential moves since the last interview, and ranged from 0 to 9.

Analytic Strategy

We used maximum likelihood discrete-time event history methods with a multinomial logit (Allison, 1982) in Stata 12 to examine the competing "risks" of a mother's additional birth with the same father versus another child with a new father. The event, birth, was measured within discrete points of time because the exact birth month of the new child was unavailable. Mothers contributed person-years to the file beginning with the birth of the focal child until they reported either 1) another child with the same father or 2) another child with a new father, or 3) no new child. Each mother could contribute as few as two or as many as five person-years. That is, if a mother reported no births by Wave 4, which was collected when the focal child was five years old, the mother was at risk for a new birth for five years, and because she had no births, she was censored at the fifth person-year.

Following Allison's (1982) strategy for analyzing discrete-time data, we examined multinomial logistic models of the competing risks of another child with the same father versus a new father. The model took the following form:

$$\log\left(\frac{P_{itj}}{P_{it0}}\right)=\alpha+\sum_{m=1}^{M}\beta_m x_{mij}+\sum_{n=1}^{N}\beta_n x_{nij(t-1)},\ j=1,2 \quad (1)$$

where P_{itj} was the conditional probability of a mother i at year t since the focal child's birth experiencing event j (j = 1 for a birth with same father or j= 2 for a birth with a new father) versus no event occurring P_{it0} at year t. When person-year t was either the year at which the mother was last interviewed without a birth occurring, or a year in which a birth occurred, the dependent variable was coded 0 = *censored* (no birth observed), 1 = *birth with the same father*, and 2 = *birth with a new father*. For person-years prior to the year the mother was censored or a new birth occurred, the dependent variable was coded as 0. α was an indicator of time that had elapsed since the birth of the new child, and was included in the model to control for time dependence (Allison, 2006). The model included m time-invariant predictors measured at baseline (e.g., age). The model also included n time-varying independent variables and covariates (e.g., engagement) measured at $t-1$; that is, for person-year four, the engagement measure at that year was measured at Wave 3, or when the child was three years old. This is because the time-varying independent variables and covariates predicted another birth between $t-1$ and t. When the lag between interview periods was longer than a year (i.e. between Waves 2 and 3), the value of the time-varying variables at both times t and $t-1$ was the value of the previous wave that may have occurred at either t -1 or $t-2$. The father involvement domains were highly collinear; engagement and indirect care (r = .72), accessibility and indirect care (r =.7), and accessibility and engagement (r =.81), thus we examined each domain separately.

Following Baron and Kenny (1986), we explored whether or not the mother's involvement with a new romantic partner mediated the association between father involvement and another child with a new partner. We first tested whether father involvement predicted whether a single mother (defined as a mother not living with the focal child's father) was romantically involved with a new partner two years later using logistic regression analysis. Mothers were included if they were not living with the focal child's father and were not involved with a new man at Waves 2 and 3, and reported whether or not they were involved with the focal child's father or a new man at Wave 4. We limited the sample to single mothers at Waves 2 and 3 so that father involvement could be measured prior to the mother's involvement in a new romantic relationship. Finally, we included the mother's new partner status as a control variable in the original models to complete our mediation analysis.

Results

Descriptive statistics

Descriptive statistics are reported in Table 1. The majority of the mothers reported no new birth. Of the mothers in the full sample, approximately 25 percent reported a new child with the same father, and 11 percent reported a new child with a new father. Roughly 40 percent of parents, and 50 percent of nonresident fathers, had previous children with multiple partners. Overall, fathers were modestly involved with their children; the mean level of indirect care and engagement were above the midpoints of the scales, and as expected, nonresident fathers were less involved than resident fathers. Mothers reported that nonresident fathers spent roughly 11 days with their child in the previous month at Wave 2 and that slightly less than half of nonresident fathers paid financial obligations on time.

All mothers

Mothers who parented with engaged fathers and with fathers who provided indirect care were significantly more likely to have another child with the same father, and were significantly less likely to have another child with a new father (Table 2). In particular, a one point increase in engagement was associated with a 16% greater relative risk of another child with the same father, and a 26% lower relative risk of another child with a new father. A mother's relative risk of a same-father birth increased by 57%, and her relative risk of a new-father birth decreased by 42%, with a one point increase in indirect care.

Following the addition of the time-invariant and time-variant controls, most coefficients indicating associations between and father involvement and subsequent childbearing dropped in magnitude. This indicated that the control variables were associated with both father involvement and subsequent childbearing. Yet even after the addition of the control variables, mothers who reported that their child's father was engaged and provided indirect care were still more likely to have an additional child with the same father and less likely to have a child with a new father. Notably, the mother's romantic relationship satisfaction with the father was not a significant predictor of her subsequent birth either with her child's father or with a new father.

Nonresident subsample

For single mothers, greater engagement, indirect care, accessibility, and financial support were significant predictors of a subsequent birth (Table 3). Higher levels of each predicted an increased relative risk of having a new child with the focal child's father, whereas lower levels of each increased the relative risk of having a new child with a new father (Table 3). Specifically, a one point increase in engagement was associated with a 14% greater relative risk of another child with the same father, and an 11% lower relative risk of another child with a new father. A one point increase in indirect care was associated with a 27% greater

relative risk of a same-father birth, and a 17% lower relative risk of a new-father birth. For each additional day per month that the focal child's father saw the child, a mother's relative risk of having another child with him increased by 3%, and her relative risk of having another child with a new father decreased by 2%. When a father paid his financial obligations in a timely a mother's relative risk of another child with a new man decreased by 34%. With the exception of financial support, these results were robust to the inclusion of controls, though the magnitude of the associations slightly decreased for engagement and indirect care, decreasing the relative risk ratios for same-father births and raising the relative risk ratios for new father births. Again, mothers' relationship satisfaction was not a significant predictor of either same-father or new-father births for nonresident mothers in any of our models.

New romantic relationship

Next, we examined whether mothers' romantic involvement with a new partner mediated the association between father involvement and subsequent childbearing for nonresident mothers by using each type of father involvement to predict the mother's involvement in a new romantic relationship (Table 4). Indirect care, accessibility, and financial support were each significant predictors of a mother's new romantic relationship, suggesting that for these three domains of involvement, the mother's new romantic relationship may be a mediator of the association between a father's involvement and her subsequent childbearing. A one point increase in indirect care decreased the odds of a mother's new romantic relationship by 18%, and with each additional day in the past month that the focal child's father saw the child, mothers had 1% lower odds of becoming romantically involved a new man. When fathers financially supported their child, the mothers' odds of a new relationship decreased by 2%. Coefficients for engagement and financial support were in similar directions, but did not reach statistical significance.

Mother's new relationship as a mediator

To complete our mediation analysis, we included the dichotomous indicator of the mother's new romantic relationship as a control variable in our original models. Only the coefficients for the main independent variables are reported in Table 5, though all other controls were also included in each model. Overall, the relative risk of having another child with the same father was between 58% and 89% lower if the mother was romantically involved with a new man. Further, the relative risk of having another child was over 400% greater when the mother was in a new romantic relationship. Thus, a mother's new romantic relationship was a strong predictor of her subsequent childbearing.

Turning to the role of the mediator in accounting for the main effects, a mother's involvement with a new man partially mediated the previously significant associations between engagement and indirect care and subsequent childbearing with the same father; the coefficients dropped in magnitude, but remained statistically significant. A mother's new relationship partially mediated associations between a father's financial support and another child with him and the coefficient for financial support was no longer statistically significant. Further, a mother's new romantic relationship fully mediated the previously significant associations between accessibility and a new child with a new father, and also partially mediated and reduced to nonsignificance the association between financial support and another child with a new man. Finally, the mother's romantic involvement with a new man partially mediated the association between engagement and indirect care and another child with a new man. In sum, mothers were still more likely to have an additional child with fathers who were engaged, provided indirect care, and who were accessible even after accounting for whether or not she had a new romantic partner. Moreover, even after taking into account the mother's new romantic relationship, mothers who parented with engaged

fathers or fathers who provided indirect care were less likely to have another child with a new man.

Discussion

Father involvement measured as engagement, indirect care, accessibility, and financial support were important predictors of the subsequent childbearing of low-income, unmarried mothers. Overall, mothers who perceived less involvement from their child's father were less likely to have another child with him and were more likely to have another child with a new father, even after controlling for relationship quality, living arrangements, and other demographic characteristics, including previous childbearing with multiple fathers. Furthermore, these findings held even after limiting the sample to only mothers who did not live with their child's father. Thus, mothers who parented with fathers who were less involved were more likely to have another child with a new father. With involvement already low, these mothers may have had little to lose when entering a new romantic relationship.

These associations remained even after relationship satisfaction was taken into account suggesting a disconnect between childbearing and relationship satisfaction in unmarried families. Qualitative interviews from the Time Love and Cash among Couples with Children Study, a subsample of parents from the Fragile Families and Child Wellbeing Study, found that many pregnancies were unplanned, happened shortly after couples began dating, and often propelled the couples into cohabiting and more serious relationships that may not have otherwise come to fruition (Carlson & McLanahan, 2010). Moreover, these interviews suggested that both parent's desire for their child to have a father, rather than their commitment to the romantic relationship itself, was integral to relationship formation. And although problems with the couple relationship often led to break-ups, many parents cited the child as a primary reason they remained in unstable on-again, off-again relationships (Edin, Nelson, & Reed, 2009). Thus, childrearing and romantic relationships among unmarried couples may be increasingly disconnected.

In analyses examining whether father involvement predicted whether the mother became involved with a new partner, we found that when mothers parented with fathers who were less involved in indirect care and less accessible, they were more likely to become involved with a new man two years later. A mother's involvement with a new man was associated with over 400% greater odds of having a child with him, and also partially mediated associations between engagement, indirect care, and financial support and her subsequent childbirth with a new father, and fully mediated the association between accessibility and and another birth with a new father. Not surprisingly, a mother's involvement in a new romantic relationship was a pathway through which she had children with multiple fathers.

For mothers who went on to have another child with a new father, the costs associated with this new relationship, such as reduced father involvement (Tach et al., 2010) and strained coparenting (Kamp Dush et al., 2011), may have been outweighed by the benefits of her new relationship, as suggested by the social exchange perspective (Thibaut & Kelley, 1959). For instance, a mother who received little or no support from her child's father may have been able to better care for her child due to the support of her new partner. Often, the new partners of low-income mothers in this sample had more education and stable employment (Bzostek et al., in press) and in some cases were more involved with her child than the biological father had been (Bzostek, 2008), benefitting both mother and child alike. In addition, when mothers' new romantic partners were involved with her children, children experienced the same behavioral and health benefits as those associated with biological father involvement (Bzostek). The mother's new partner may have provided her with the

instrumental and emotional support that is critical to successful parenting, her own mental health, and her child's development (Edin & Lein, 1997). Research is needed to determine to what extent these benefits may outweigh the many potential costs of having children with multiple partners.

For single mothers who did not have another child with a new father, the involvement of her child's father may have been particularly critical. Fathers who were engaged, cared for their child indirectly, who were accessible, and who provided financial support provided single mothers with instrumental, emotional, and financial support that reduced her likelihood of seeking this support through a new romantic relationship and reduced the probability of another child with a new father. Involved fathers may have supported mothers through their time investments with their shared child by helping to reduce their child's problem behaviors (Schoppe-Sullivan, Weldon, Cook, Davis, & Buckley, 2009), perhaps making single-parenting more manageable. These investments by the child's father may have also increased the costs of entering a new relationship, as mothers may have been aware of the drop in involvement when new relationships are formed, either through her own experience with mutlipartnered childbearing or that of others. Further, because having children with multiple fathers may put children at risk for poor outcomes (Bronte-Tinkew, Horowitz, & Scott, 2009), increasing father involvement among high risk populations such as low-income, single mothers, may protect children from maladjustment (Flouri & Buchanan 2003).

These findings should be interpreted in light of the limitations of our study, one of which includes missing data due to attrition and nonresponse. However, younger, Black mothers with a history of prior childbearing with multiple fathers were least likely to be missing from our sample, and these demographic characteristics are associated with a greater risk of future childbearing with multiple fathers (Carlson & Furstenberg, 2006), hence we captured some of the most at-risk mothers in our subsample. A second limitation comes from our use of mother's reports of father involvement, which are subject to reporter bias - mothers often report lower levels of father involvement than fathers themselves (Mikelson, 2008). For our purposes, the mother's perception of the father's parenting abilities and cooperation with her, rather than the father's perceptions of himself, may be the most relevant opinion to consider when examining her childbearing, as the burden of childbearing is much greater for women than men (Trivers, 1972) and her perception may factor more heavily into her sexual and contraceptive decisions. However, we tested the robustness of our results by performing a separate set of analyses (not shown) in which we substituted the father's reports of his engagement and accessibility for the mother's. In these analyses, the association between the father's involvement and another child with him was no longer significant, but father involvement continued to be negatively associated with her risk of another child with a new father. For the reasons we stated above, we chose to use maternal reports, but we are confident that our findings related to the mother's subsequent birth with a new father were not biased by rater.

Although we were able to determine if mothers gave birth to another child who lived with her, questions were not asked about all pregnancies that occurred after Wave 1. That is, pregnancies that ended in miscarriage or abortion were not reported, and new biological children who did not live with the mother may have been missed. Further, birth intentions were not assessed, and some births with the same father, or with a new father, could have been unplanned. Pregnancy intentions have been linked to father involvement (Bronte-Tinkew, Ryan, Carrano, & Moore, 2007). Future research should test the robustness of these results with complete childbearing histories including the exact birth date as well as abortions and miscarriages, and should take into account pregnancy intentions. Although we included a wide array of demographic indicators that have been associated with father

involvement and multipartnered childbearing, our analysis necessarily leaves some questions unanswered, such as how access to public assistance and kin support may play a role in these associations.

Although our effort to produce comparable, multidimensional measures of father involvement for resident and nonresident fathers is commendable, the measure of father engagement available for use in this study was less than ideal for fathers who did not live with their child. This popular measure of engagement was modified from the Child Development Supplement to the Panel Study of Income Dynamics (Hofferth & Anderson, 2003) for use in the Fragile Families and Child Wellbeing Study. But the measure, a frequency count of the number of days in the past week that the father engaged in certain activities with the child, inherently penalizes nonresident fathers when father involvement is reported by mothers. This study and others would benefit from a separate measure of engagement that is distinct from father-child contact. Though expensive, observational data on father-child interactions (e.g., Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004) would be ideal for studies that include resident and nonresident fathers. Further, the instability of nonmarital relationships, combined with the two-year lag between waves, made it difficult to capture the father's involvement when he lived with the mother, but before the mother became romantically involved with a new man. Research using datasets with a shorter lag between waves could be even more informative for analyses testing the association between father involvement and mothers' romantic relationship patterns.

The implications of our results are two-fold. First, public policy efforts that focus on increasing the quality of father-child relationships may benefit from additional programs that aim to both increase fathers' participation in a wide range of parenting activities as well as strengthen couple relationships. These programs may not only increase the chances that children and parents receive the benefits associated positive father involvement (e.g., Flouri & Buchanan, 2003), but also may have the hidden benefit of reducing births with multiple parents. Though we did not find that relationship satisfaction was an important predictor in subsequent births for unmarried couples, recent intervention work with low-income families suggests that strengthening couple relationships plays an important role in facilitating and maintaining father involvement (Cowan et al., 2009). By employing a systemic approach to increasing father involvement, these programs may have the indirect benefit of also reducing births with multiple partners as well as easing the burden on low-income families who struggle and government programs that are experiencing financial strains.

Many unmarried fathers are highly involved with their children, and although most will see the end of their romantic relationship before their child's fifth birthday, many continue to remain involved in their child's life (Carlson & McLanahan, 2010). However, other fathers will drop out of their child's life, whether because they are unable or unwilling to remain involved. In these cases, financial assistance programs for single, low-income mothers could be broadened to include assistance in other forms, such as flexible or emergency childcare options, that may help mothers maintain a stable single-parent home. Indeed, children living with continuously single mothers and with continuously married parents showed few differences in child behavioral and cognitive outcomes after careful adjustments for sociodemographic characteristics (Kamp Dush, 2009). We acknowledge that involved, educated, and employed new partners may be good for both mothers and children (Bzostek et al., in press; Bzostek, 2008). However, if this new relationship ends in a break-up or divorce, mothers and their children may be worse off than they were prior to the new relationship; single mothers who enter then exit a relationship increase in depressive symptoms (Williams, Sassler, & Nicholson, 2008) which has been shown to be associated with poor child outcomes (Feng, Shaw, Skuban, & Lane, 2007). Overall, future research should continue to examine family process-related predictors and outcomes of childbearing

with multiple partners due to links with poor maternal and child outcomes (Halpern-Meekin & Tach, 2008; McLanahan, 2009) while keeping in mind the potential benefits mothers and children may receive when new families are formed.

Acknowledgments

Kamp Dush is grateful for support for this research from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) (1K01HD056238). This paper and its contents are solely the responsibility of the authors and do not necessarily represent the official views of NICHD.

References

Allison PD. Discrete-time methods for the analysis of event histories. Sociological Methodology. 1982; 13:61–98. Retrieved from http://www.sagepub.com/journals/Journal201996.

Allison, PD. Notes from event history and survival analysis using Stata. Statistical Horizons; Philadelphia, PA: 2006. Unpublished workshop notes

Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology. 1986; 51(6):1173–1182. Retrieved from http://www.apa.org/pubs/journals/psp/index.aspx. [PubMed: 3806354]

Braver SL, Fitzpatrick PJ, Bay RC. Noncustodial parent's report of child support payments. Family Relations. 1991; 40(2):180–185. http://www.blackwell publishing.com/journal.asp?ref=0197-6664&site=1.

Bronte-Tinkew J, Horowitz A, Scott ME. Fathering with multiple partners: Links to children's well-being in early childhood. Journal of Marriage and Family. 2009; 71:608–631. doi: 10.1111/j.1741-3737.2009.00622.x.

Bronte-Tinkew J, Ryan S, Carrano J, Moore KA. Resident fathers' pregnancy intentions, prenatal behaviors, and links to involvement with infants. Journal of Marriage and Family. 2007; 69(4):977–990. doi: 10.1111/j.1741-3737.2007.00425.x.

Bzostek SH. Social fathers and child well-being. Journal of Marriage and Family. 2008; 70:950–961. doi: 10.1111/j.1741-3737.2008.00538.x.

Bzostek, SH.; McLanahan, SS.; Carlson, MJ. Does mother know best?: A comparison of biological and social fathers after a nonmarital birth. Social Forces. (in press)http://muse.jhu.edu/journals/social_forces/

Carlson MJ, Furstenberg FF. The prevalence and correlates of multipartnered fertility and urban U.S. parents. Journal of Marriage and the Family. 2006; 68:718–732. doi: 10.1111/j.1741-3737.2006.00285.x.

Carlson MJ, McLanahan SS. Strengthening unmarried families: Could enhancing couple relationships also improve parenting? Social Service Review. 2006; 80(2):297–321. Retrieved from http://www.press.uchicago.edu/ucp/journals/journal/ssr.html.

Carlson, M.; McLanahan, S. Fathers in fragile families. 5th ed. Vol. Vol. 5. Wiley; Hoboken, NJ: 2010.

Classens, A. Gatekeeper moms and (un)involved dads: What happens after a breakup?. In: England, P.; Edin, K., editors. Unmarried couples with children. Russell Sage Foundation; New York: 2007. p. 204-227.

Coley RL. In)visible men: Emerging research on low-income, unmarried, and minority fathers. American Psychologist. 2001; 56(9):743–753. doi: 10.1037//0003-066x.56.9.743. [PubMed: 11558359]

Cowan PA, Cowan CP, Pruett MK, Pruett K, Wong JJ. Promoting fathers' engagement with children: Preventive interventions for low-income families. Journal of Marriage and Family. 2009; 71(3): 663–679. doi: 10.1111/j.1741-3737.2009.00625.x.

Edin, K.; Kefalas, M. Promises I can keep: Why poor women put motherhood before marriage. University of California Press; Los Angeles, CA: 2005.

Edin K. Single mothers and child support: The possibilities and limits of child support policy. Children and Youth Services Review. 1995; 17(1–2):203–230. doi: 10.1016/0190-7409(95)00009-2.

Edin K, Lein L. Work, welfare, and single mothers' economic survival strategies. American Sociological Review. 1997; 62:253–266. Retrieved from http://www.asanet.org/ journals/asr/.

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. 2011.

Feng X, Shaw DS, Skuban EM, Lane T. Emotional exchange in mother-child dyads: Stability, mutual influence, and associations with maternal depression and child problem behavior. Journal of Family Psychology. 2007; 21(4):714–725. doi: 10.1037/0893-3200.21.4.714. [PubMed: 18179343]

Flouri E, Buchanan A. The role of father involvement in children's later mental health. Journal of Adolescence. 2003; 26:63–78. doi: 10.1016/s0140-1971(02)00116-1. [PubMed: 12550822]

Guzzo KB, Furstenberg FF. Multipartnered fertility among young women with a nonmarital first birth: Prevalence and risk factors. Perspectives on Sexual and Reproductive Health. 2007; 39(1):29–38. doi: 10.1363/3902907. [PubMed: 17355379]

Halpern-Meekin S, Tach L. Heterogeneity in two-parent families and adolescent well-being. Journal of Marriage and Family. 2008; 70(2):435–451. doi: 10.1111/j.1741-3737.2008.00492.x.

Hamilton, BE.; Martin, JA.; Ventura, SJ. Births: Preliminary Data for 2010. National vital statistics reports web release; Hyattsville, MD: 2011.

Hofferth SL, Anderson KG. Are all dads equal? Biology versus marriage as a basis for paternal investment. Journal of Marriage and Family. 2003; 65:213–232. doi: 10.1111/j.1741-3737.2003.00213.x.

Kalmijn M. Father involvement in childrearing and the perceived stability of marriage. Journal of Marriage and Family. 1999; 61(2):409–421. http://www.blackwellpublishing.com/ journal.asp?ref=0022-2445.

Kamp Dush, CM. An examination of child well-being in stable single parent and married families. In: Peters, HE.; Dush, C. M. Kamp, editors. Marriage and Family: Perspectives and Complexities. Columbia University Press; New York City, NY: 2009.

Kamp Dush CM. Relationship-specific investments, family chaos, and cohabitation dissolution following a nonmarital birth. Family Relations. 2011; 60(5):586–601. doi: 10.1111/j.1741-3729.2011.00672.x. [PubMed: 22081737]

Kamp Dush CM, Kotila LE, Schoppe-Sullivan SJ. Predictors of supportive coparenting after relationship dissolution among at-risk parents. Journal of Family Psychology. 2011; 25:356–365. doi: 10.1037/a0023652. [PubMed: 21534670]

Lamb, ME.; Pleck, JH.; Charnov, EL.; Levine, JA. A biosocial perspective on paternal behavior and involvement. In: Lancaster, J.; Altmann, J.; Sherrod, LR.; Rossi, A., editors. Parenting across the life span: Biosocial dimensions. Transaction Publishers; Piscataway, NJ: 1987.

Lichter, DT. Childbearing among cohabiting women: Race, pregnancy, and union transitions. In: Booth, A.; Brown, SL.; Landale, NS.; Manning, WD.; McHale, SM., editors. Early Adulthood in a Family Context. Springer; New York, NY: 2012. p. 209-219.

Manning WD, Trella D, Lyons H, Du Toit NC. Marriageable women: A focus on participants in a community healthy marriage program. Family Relations. 2010; 59(1):87–102. doi: 10.1111/j.1741-3729.2009.00588.x. [PubMed: 23258947]

Meadows SO. The association between perceptions of social support and maternal mental health: A cumulative perspective. Journal of Family Issues. 2011; 32(2):181–208. doi: 10.1177/0192513x10375064.

McLanahan S. Fragile families and the reproduction of poverty. The Annals of the American Academy of Political and Social Science. 2009; 621(1):111. doi: 10.1177/0002716208324862. [PubMed: 20204078]

Mikelson KS. He said, she said: Comparing mother and father reports of father involvement. Journal of Marriage and Family. 2008; 70(3):613–624. doi: 10.1111/j.1741-3737.2008.00509.x.

Pleck, JH. Paternal involvement: Revised conceptualizations and theoretical linkages with child outcomes. In: Lamb, ME., editor. The role of the father in child development. John Wiley & Sons; 2010. p. 58-93.

Rusbult CE. Commitment and satisfaction in romantic associations: A test of the investment model. Journal of Experimental Social Psychology. 1980; 16(2):172–186. doi: 10.1016/0022-1031(80)90007-4.

Sarkadi A, Kristiansson R, Oberklaid F, Bremberg S. Fathers' involvement and children's developmental outcomes: A systematic review of longitudinal studies. Acta Pædiatrica. 2008; 97(2):153–158. doi: 10.1111/j.1651-2227.2007.00572.x.

Schoppe-Sullivan SJ, Weldon AH, Cook JC, Davis EF, Buckley CK. Coparenting behavior moderates longitudinal relations between effortful control and preschool children's externalizing behavior. Journal of Child Psychology and Psychiatry. 2009; 50:698–706. doi: 10.1111/j.1469-7610.2008.02009.x. [PubMed: 19207627]

Sorensen E. A national profile of nonresident fathers and their ability to pay child support. Journal of Marriage and Family. 1997; 59(4):785–797. Retrieved from http://www.blackwellpublishing.com/journal.asp?ref=0022-2445.

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. doi: 10.1353/dem.0.0096. [PubMed: 20355690]

Tamis-LeMonda CS, Shannon JD, Cabrera NJ, Lamb ME. Fathers and mothers at play with their 2- and 3-year olds: Contributions to language and cognitive development. Child Development. 2004; 75(6):1806–1820. Retrieved from http://www.blackwellpublishing.com/journal.asp?ref=0009-3920&site=1. [PubMed: 15566381]

Thibaut, JW.; Kelley, HH. The social psychology of groups. John Wiley; New York: 1959.

Trivers, RL. Parental investment and sexual selection. In: Campbell, B., editor. Sexual Selection and the Descent of Man 1871-1971. Aldine; Chicago, IL: 1972. p. 136-179.

Williams K, Sassler S, Nicholson LM. For better or for worse? The consequences of marriage and cohabitation for single mothers. Social Forces. 2008; 86(4):1481–1511. http://muse.jhu.edu/journals/social_forces/.

Table 1

Descriptive Statistics

	All Mothers		Resident Mothers		Nonresident Mothers	
	M (SD)	% M	*M (SD)*	% M	*M (SD)*	%M
Dependent Variables						
Same-Father Births	0.25	0.00	0.32	0.00	0.15	0.00
New-Father Births	0.11	0.00	0.50	0.00	0.20	0.00
No Birth	0.64	0.00	0.63	0.00	0.65	0.00
Independent Variables						
Engagement	3.59 (2.40)	0.30	4.86 (1.61)	0.09	1.72 (2.14)	0.37
Indirect Care	1.96 (1.09)	0.60	2.42 (0.71)	0.58	1.25 (1.17)	0.37
Accessibility	-	-	-	-	10.70(11.49)	0.13
Financial Support	-	-	-	-	0.45	0.37
Control and Mediating Variables						
Mother						
Relationship Satisfaction	2.08 (0.54)	1.08	2.35 (0.31)	0.09	1.67 (0.56)	2.25
Age	24.08 (5.59)	0.00	24.19 (5.45)	0.00	23.92 (5.79)	0.00
Race		0.00		0.00		0.00
White	0.14		0.17		0.10	
Black	0.54		0.50		0.66	
Hispanic	0.29		0.34		0.21	
Other	0.03		0.03		0.02	
Education		0.20		0.25		0.23
Less than High School	0.36		0.35		0.38	
High School	0.36		0.36		0.35	
Some College	0.28		0.28		0.27	
Previous Multipartnered Childbearing	0.40	0.79	0.39	1.00	0.41	0.49
Grandmother in HH	0.22	0.35	0.14	0.00	0.33	0.86
Total People in HH	4.48 (1.63)	0.30	4.62 (1.60)	0.17	4.26 (1.64)	0.74
Total Children < 18 in HH	3.49 (1.62)	0.00	3.61 (1.59)	0.00	3.28 (1.64)	0.00
Income to Poverty Ratio	1.39 (1.34)	0.00	1.54 (1.39)	0.00	1.17 (1.24)	0.00
Residential Mobility	0.64 (0.84)	0.05	0.60 (0.78)	0.00	0.69 (0.91)	0.13
Father						
Age	26.69 (6.91)	1.14	26.86 (6.84)	0.50	26.42 (7.01)	2.08
Education		1.98		0.50		4.17
Less than High School	0.35		0.36		0.33	
High School	0.41		0.39		0.45	
Some College	0.24		0.25		0.22	
Previous Multipartnered Childbearing	0.40	3.80	0.35	1.99	0.48	6.49
N	2028		1211		817	

Note. For descriptive purposes, the resident and nonresident samples are drawn from Wave 2. Standard deviations are only reported for continuous variables. %M stands for percent missing. Accessibility was measured for Nonresident fathers only. HH stands for Household.

Table 2

Maximum Likelihood Discrete-time Event History Models Predicting the Competing Risks of a Subsequent Child with the Same Father vs. A New Father – All Mothers

	Same Father Birth vs. No Birth		Birth with a New Father vs. No Birth				
Key Independent Variables	**β**	**RRR**	**β**	**RRR**	**χ^2**	**Person Years**	***n***
No Controls							
Engagement	0.15*** (0.02)	1.16***	−0.30*** (0.03)	0.74***	158.86***	7804	2022
Indirect Care	0.36*** (0.05)	1.43***	−0.55*** (0.06)	0.58***	153.45***	7778	2016
Adjusted for Controls							
Engagement	0.07* (0.03)	1.07*	−0.13*** (0.04)	0.88***	532.84***	7139	1864
Key Control Variables							
Mother's Coresidence	−1.04*** (0.14)	0.35***	1.98*** (0.27)	7.22***			
Relationship Satisfaction	0.10 (0.12)	1.11	−0.19 (0.14)	0.83			
Indirect Care	0.19** (0.06)	1.20**	−0.23** (0.07)	0.79**	532.74***	7124	1859
Key Control Variables							
Mother's Coresidence	−1.03*** (0.13)	0.36***	2.03*** (0.27)	7.65***			
Relationship Satisfaction	0.07 (0.12)	1.15	−0.23 (0.18)	0.80			

Note. Standard errors reported in parentheses. RRR stands for Relative Risk Ratios. HH stands for household. Additional control variables included mother age, father age, mother race (Black, Hispanic, White (excluded), other), mother education (less than high school, high school (excluded), some college or higher), father education (less than high school, high school (excluded), some college or higher), mother's previous children with multiple fathers, and father's previous children with multiple mothers, mother's coresidence (0 = *resident*, 1 = *nonresident*), grandmother present in the household, household size, total number of children < 18 in household, income to poverty ratio, and residential mobility.

$^{+}p \leq 0.10$

$^{*}p \leq 0.05$

$^{**}p < 0.01$

$^{***}p < 0.001$.

Table 3

	Same Father Birth vs. No Birth		Birth with a New Father				
Key Independent Variables	**β**	**RRR**	**β**	**RRR**	**χ^2**	**Person Years**	***n***
No Controls							
Engagement	0.10** (0.04)	1.11**	−0.11** (0.03)	0.90**	18.96***	3810	987
Indirect Care	0.24** (0.08)	1.27**	−0.19** (0.06)	0.83**	19.59***	3814	988
Accessibility	0.03*** (0.01)	1.03***	−0.02** (0.01)	0.98**	28.67***	3822	989
Financial Support	0.23 (0.19)	1.26	−0.45** (0.16)	0.64**	10.45**	3648	928
Adjusted for Controls							
Engagement	0.11* (0.04)	1.11*	−0.13** (0.04)	0.88**	145.49***	3387	874
Key Control Variables							
Relationship Satisfaction	−0.04 (0.18)	0.96	−0.10 (0.11)	0.91			
Indirect Care	0.27** (0.09)	1.32**	−0.20** (0.07)	0.82**	144.63***	3387	874
Key Control Variables							
Relationship Satisfaction	0.08 (0.18)	0.92	−0.12 (0.14)	0.89			
Accessibility	0.04*** (0.01)	1.04***	−0.02** (0.01)	0.98**	153.10***	3395	875
Key Control Variables							
Relationship Satisfaction	−0.18 (0.19)	0.83	−0.11 (0.14)	0.89			
Financial Support	0.30 (0.20)	1.36	−0.37* (0.17)	0.69*	137.03***	3336	844
Key Control Variables							
Relationship Satisfaction	0.09 (0.18)	1.09	−0.19 (0.14)	0.83			

Note. Standard errors reported in parentheses. RRR stands for Relative Risk Ratios. HH stands for household. Additional control variables included mother age, father age, mother race (Black, Hispanic, White (excluded), other), mother education (less than high school, high school (excluded), some college or higher), father education (less than high school, high school (excluded), some college or higher), mother's previous children with multiple fathers, and father's previous children with multiple mothers, grandmother present in the household, household size, total number of children < 18 in household, income to poverty ratio, and residential mobility.

$^{+}$ $p \leq 0.10$

* $p \leq 0.05$

** $p < 0.01$

*** $p < 0.001$.

Table 4

Logistic Regressions Predicting Mothers' New Partner from Father Involvement - Nonresident Mothers

Key Independent Variables	β	OR	χ^2	*n*
No Controls				
Engagement	−0.03 (0.03)	0.97	0.54	649
Indirect Care	−0.13 (0.07)	0.88	3.06	655
Accessibility	−0.01 (0.01)	0.99	2.32	655
Financial Support	−0.12 (0.17)	0.88	0.56	654
Adjusted for Controls				
Engagement	−0.06 (0.05)	0.95	42.63***	577
Key Control Variables				
Relationship Quality	−0.13 (0.17)	0.88		
Indirect Care	−0.20* (0.07)	0.82*	49.68***	583
Key Control Variables				
Relationship Quality	−0.09 (0.15)	0.92		
Accessibility	−0.01* (0.01)	0.99*	60.13***	583
Key Control Variables				
Relationship Quality	−0.08 (0.17)	0.92		
Financial Support	−0.02* (0.01)	0.98*	48.32***	583
Key Control Variables				
Relationship Quality	−0.13 (0.17)	0.88		

Note. Standard errors reported in parentheses. RRR stands for Relative Risk Ratios. HH stands for household. Additional control variables included mother age, father age, mother race (Black, Hispanic, White (excluded), other), mother education (less than high school, high school (excluded), some college or higher), father education (less than high school, high school (excluded), some college or higher), mother's previous children with multiple fathers, and father's previous children with multiple mothers, grandmother present in the household, household size, total number of children < 18 in household, income to poverty ratio, and residential mobility.

$^{+}p \leq 0.10$

$^{*}p \leq 0.05$

$^{**}p < 0.01$

$^{***}p < 0.001$.

Table 5

Maximum Likelihood Discrete-time Event History Models Testing the Mediating Role of Mothers' New Partner in the Association between Father Involvement and Subsequent Childbearing – Nonresident Mothers

	Same Father Birth vs. No Birth		Birth with a New Father				
Key Independent Variables	**β**	**RRR**	**β**	**RRR**	**χ^2**	**Person Years**	***n***
Engagement	0.10 * (0.04)	1.10 *	−0.09 * (0.04)	0.92 *	253.33 ***	3351	874
New partner	−0.90 ** (0.34)	0.41 **	1.63 *** (0.17)	5.10 ***			
Indirect Care	0.26 ** (0.10)	1.29 **	−0.08 (0.08)	0.92	251.44 ***	3353	874
New partner	−0.87 ** (0.35)	0.42 *	1.64 *** (0.17)	5.17 ***			
Accessibility	0.03 *** (0.01)	1.04 ***	−0.01 (0.01)	0.99	256.72 ***	3357	875
New partner	−0.78 * (0.35)	0.46 *	1.64 *** (0.17)	5.14 ***			
Financial Support	0.26 (0.21)	1.29	−0.27 (0.17)	0.77	242.85 ***	3217	826
New partner	−0.91 ** (0.34)	0.40 **	1.64 *** (0.17)	5.16 ***			

Note. Standard errors reported in parentheses. RRR stands for Relative Risk Ratios. HH stands for household. Additional control variables include mother age, father age, mother race (Black, Hispanic, White (excluded), other), mother education (less than high school, high school (excluded), some college or higher), father education (less than high school, high school (excluded), some college or higher), mother's previous children with multiple fathers, and father's previous children with multiple mothers, grandmother present in the household, household size, total number of children < 18 in household, income to poverty ratio, and residential mobility.

+ $p \leq 0.10$

* $p \leq 0.05$

** $p < 0.01$

*** $p < 0.001$.