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Parenting in On/Off Relationships: The Link Between Relationship Churning and Father Involvement

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Abstract

Family systems theory points to the interconnected nature of dyadic relationships within the family unit, arguing for attention to how the parental relationship shapes their ties to and interactions with their children. Grounded in family systems theory, we consider how *relationship churning*—defined as being in an on-again/off-again relationship with the same partner—is associated with father involvement. We use data from the Fragile Families and Child Wellbeing Study to examine how father involvement among relationship churners compares with father involvement among those in three other relationship types (measured during the first five years of the focal child’s life): stably together relationships, stably broken-up relationships, and repartnered relationships. First, we find that churning fathers remain more involved with their 9-year-old children than do parents who stably break up or repartner, but they are less involved than those who are stably together. Second, lower relationship quality among churners—and, to a lesser extent, repartnering and childbearing with a new partner—explains some of the differences in father involvement between churners and the stably together. Third, these differences are most apparent among parents not living together when father involvement is measured. Taken together, the focus on relationship churning extends prior research on the association between relationship transitions and father involvement by separating relationship instability from partner change.

Keywords

Father involvement; Relationship churning; Relationship instability

Introduction

Recent research has revealed the extent to which parenting and romantic partnerships remain intertwined, despite the frequency of childbearing outside the context of marriage and of childrearing outside the context of romantic unions. Existing research generally treats relationship status as dichotomous (a couple is together or not) and unidirectional (a couple

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gets together or breaks up, but does not go back and forth between statuses). However, given that more than one in six U.S. urban children experience *parental relationship churning*—that is, their parents have an on-again/off-again relationship—by their fifth birthday (Halpern-Meekin and Turney 2016), understanding how this common family dynamic is linked to father involvement is important. Although fathers' involvement typically declines following union dissolution, parents' repartnering is a key factor in how involved fathers remain with children from previous unions (Berger et al. 2012; Juby et al. 2007; Kamp Dush et al. 2011; Stewart 1999; Tach et al. 2010). It remains an open question what happens when parents repartner with each other through churning, rather than through introducing a new partner into the family system.

Family systems theory suggests that relationship churning may be associated with distinctive patterns of father involvement (Minuchin 1974). Relationship churning creates disruptions to the roles and functions in the parents' dyadic relationship and in the family system more generally. Such disruptions could occur directly, with the father's exit from the household affecting his relationship with his children, or indirectly, as changes in the parental relationship spill over into their interactions with their children. First, churning may erode (or stem from the erosion of) the quality of the parental relationship, leaving parents less able to participate in a cooperative parenting relationship that can facilitate father involvement. Second, churning may slow the process of entering a new romantic relationship and subsequent childbearing. Given that new family commitments often reduce father involvement, churning could help maintain fathers' relationships with their children compared with when parents enter new unions. Post-breakup repartnering with the child's father (as opposed to with someone new) likely requires fewer adjustments within the family system, and energy put into that romantic union will be a simultaneous investment in the parenting relationship and the immediate family system. Of course, a third possibility is that patterns of father involvement among churners may stem entirely from the demographic and socioeconomic characteristics of these couples (Halpern-Meekin and Turney 2016; Halpern-Meekin et al. 2013a; Nepomnyaschy and Teitler 2013).

In the present study, we use data from the Fragile Families and Child Wellbeing Study to examine the association between relationship churning and father involvement, comparing churners with three groups: (1) couples who are stably together, (2) couples who stably separate without repartnering, and (3) couples who stably separate and repartner with someone new. We examine how relationship churning is associated with both the quantity (measured by whether the father had contact with his child in the last month) and quality (measured by involvement in parenting decisions and responsibilities) of father involvement. Because these facets of parenting, unlike financial support, are not usually a primary focus of state enforcement, they are often contingent on parents' own willingness or ability to arrange for them; therefore, these factors may vary depending on the nature of the parents' romantic union.

The present study makes three contributions. First, drawing on family systems theory, we provide one of the first examinations of the consequences of relationship churning—an understudied, but not uncommon, relationship form—for father involvement net of demographic and socioeconomic characteristics (see also Nepomnyaschy and Teitler 2013).

Second, we distinguish between *churners* (those who experience relationship tumult without changing partners) and others who break up and repartner, enabling us to observe which feature—relationship instability or partner change—drives the declines in father involvement that accompany parental relationship dissolution and the commencement of new relationships. Third, we consider two factors—(1) relationship quality and (2) repartnering and subsequent childbearing—that may account for the association between churning and father involvement.

Background

Understanding Father Involvement

The association between relationship churning and father involvement is consequential for the well-being of children and families. There are indications that father involvement, especially in the context of a high-quality coparenting relationship with the mother, is positively linked to indicators of children's well-being, including happiness, psychological health, academic success, and behavioral outcomes (Amato 1994; Amato and Gilbreth 1999; Carlson 2006; Flouri and Buchanan 2003; Jeynes 2014; Williams and Kelly 2005; but see also Carlson et al. 2009; Hawkins et al. 2007; King 1994). Further, father involvement is beneficial for fathers themselves (Eggebeen and Knoester 2001; Knoester et al. 2007).

Linking Relationship Churning and Father Involvement Via Family Systems Theory

Fathers' involvement with their children does not happen in isolation. Instead, it is embedded in the larger familial context, including in the parents' relationship. Family systems theory posits that the dyadic relationship between parents shapes, and is shaped by, the relationships that parents each have with their children (see, e.g., Cox and Paley 2003; Cox et al. 2001; Minuchin 1974). Difficulties in any one dyadic relationship reverberate throughout other dyadic relationships, meaning that the consequences of parents' romantic struggles can manifest, in part, in their involvement with their children. On this theoretical basis, we expect an association between relationship churning and father involvement, net of demographic and socioeconomic characteristics, and we expect this association to result from (1) parents' relationship quality and (2) repartnering and subsequent childbearing following a union dissolution.

Relationship Quality—Family systems theory suggests that the association between relationship churning and father involvement may result from parents' relationship quality. Churning is likely both a cause and consequence of low relationship quality. Research has found that young adults in churning relationships, compared with those in stably together or stably broken-up relationships, report more frequent conflict, lower levels of validation, lower levels of commitment, and higher levels of physical violence and verbal abuse (Halpern-Meekin et al. 2013a, b). Other research has found that young adult churners report lower relationship satisfaction, feel less certain about the relationship's future, and are less dedicated to their partners than their counterparts (Vennum and Johnson 2014; Vennum et al. 2014, 2015). Qualitative research has also suggested that on/off relationships are frequently troubled, beset by issues such as conflict and infidelity (Cross-Barnett et al. 2011).

Therefore, in line with family systems theory, lower relationship quality among churners may reduce the quantity and quality of father involvement. Fathers are more likely to be involved when fathers and mothers are getting along (Coley and Chase-Lansdale 1999; Fagan et al. 2003; Futris and Schoppe-Sullivan 2007; McClain and DeMaris 2013; Sobolewski and King 2005), and cooperative parenting becomes less likely after parents dissolve their unions (Martin et al. 2015; McGene and King 2012; Waller 2012), particularly for those who had been in a coresidential relationship (Cooper et al. 2015).

Repartnering and Subsequent Childbearing—Family systems theory also suggests that the association between relationship churning and father involvement may result from parents' repartnering and subsequent childbearing. Indeed, father involvement declines markedly after parents repartner and have children in these new unions (Berger et al. 2012; Juby et al. 2007; Kamp Dush et al. 2011; Stewart 1999; Tach et al. 2010). Consistent with the expectations of family systems theory, parents' repartnering following a dissolution is associated with less cooperative parenting (Martin et al. 2015; McGene and King 2012). If churning slows the process of repartnering and subsequent childbearing, it would be associated with higher levels of father involvement compared with others who separate once and then enter a new union. That is, the family system may not be as disrupted by churning as it is by repartnering because in the latter case, relationship instability is accompanied by the introduction of a new partner; repartnering potentially draws resources and energy outside the nuclear family system and offers the possibility for conflict between and over the current and former romantic partners.

The idea that for fathers, parenting and partnership are part of a “package deal,” with the former dependent on the latter (Townsend 2004), is similarly in line with the family systems perspective. Parents' transitions into new relationships are associated with a decline in paternal contact with children, both in whether and how often fathers and children have contact (Tach et al. 2010). New partners also fear that ongoing parental involvement with children from a former relationship could lead to a reunification with that ex-partner (Claessens 2007). This suggests that more intensive father involvement after dissolution could be unattractive to mothers' and fathers' prospective partners or that mothers whose children's fathers are involved are less likely to look for a new union, thereby slowing repartnering (Kotila and Kamp Dush 2012). However, most of the studies in this area have not examined the role of churning; for example, one study of father involvement dropped churners from their sample (Berger et al. 2012).

Prior Research—Little research has considered the association between relationship churning and father involvement. In an exception, Nepomnyaschy and Teitler (2013) examined churning coresidential parents, finding that father involvement among churners is significantly higher than for parents who are separated but is not significantly different than for stably cohabiting parents. Additionally, two ethnographic studies found that the bonds of raising shared children play a key role in drawing cohabiting churning parents back together (Cross-Barnett et al. 2011; Roy et al. 2008). The results of these studies are instructive; however, their exclusive focus on cohabitators is a limitation, given that approximately two-fifths of nonmarital births occur outside cohabiting unions (Manning et al. 2015).

Involvement is higher among coresidential fathers, for both practical reasons and those related to their identities as fathers (Carlson 2006; Edin et al. 2009; Olmstead et al. 2009). Nonetheless, there may be variation in father involvement by relationship type within residential status. For example, among nonresidential fathers, churners might be distinct from those who are stably broken up. Churning potentially interrupts not only the relationship with the mother but also the dynamics of the family system and the development of the father's relationship with his children.¹ Churning may keep the father involved in the family longer (because the couple is repartnering with each other, rather than introducing someone new in the family), but the family system may nonetheless be permanently changed by the churning experience.

Confounders of the Association Between Relationship Churning and Father Involvement

Another possibility is that the association between relationship churning and father involvement results from the demographic and socioeconomic characteristics of churners (rather than from churning itself). Relationship churning is not randomly distributed across the population, and a number of demographic and socioeconomic characteristics are associated with both relationship churning and father involvement.

For example, research on young adult churners finds that churners, compared with their counterparts, are more likely to be black and less likely to be white; less likely to have been raised by both parents; and less likely to have college-educated parents (Halpern-Meekin et al. 2013a). These patterns in race and family of origin are also found in research focusing specifically on churning parents; in addition, churners, compared with their counterparts who remain stably together, have lower educational attainment, report higher levels of material hardship, are less likely to be employed, and are more likely to report depression (Halpern-Meekin and Turney 2016). Similarly, previous research has indicated that father involvement varies by race, parental age, parental education, parental depression, finances, employment status, child gender, and child behavior (Amato and Rivera 1999; Argys and Peters 2001; Coley and Hernandez 2006; Danziger and Radin 1990; Huang 2006; King et al. 2004; Lerman and Sorensen 2000; Lundberg et al. 2007).

Present Study

Grounded in family systems theory, as well as related existing research, we examine how relationship churning—compared with being stably together, being stably separated (without repartnering), and being separated and repartnered with someone new—is associated with father involvement, net of measured demographic and socioeconomic characteristics. In estimating these associations, we capture a diversity of churning parents by including married, cohabiting, and nonresidential couples in our sample. We also provide the first estimate of how relationship quality and repartnering and childbearing with a new partner explain these associations and the first estimate of variations in these associations by current residential status.

¹For examples of studies taking an approach that presumes a bidirectional nature of the parent-child relationship, see Coley and Medeiros (2007) and Ream and Savin-Williams (2005).

Drawing on family systems theory and prior research, we test three hypotheses:

Hypothesis 1a: Churners will have lower father involvement than those who are stably together, net of demographic and socioeconomic characteristics.

Hypothesis 1b: Churners will have higher father involvement than those who are stably broken up, net of demographic and socioeconomic characteristics.

Hypothesis 1c: Churners will have higher father involvement than those who are stably broken up and repartnered, net of demographic and socioeconomic characteristics.

Hypothesis 2: Both relationship quality and subsequent repartnering and childbearing will explain some of the differences in father involvement between churners and others.

Hypothesis 3: The differences in father involvement between churners and others will be smaller for parents who are currently coresiding compared with parents who are currently not coresiding.

Data, Measures, and Analytic Strategy

Data

To examine the association between relationship churning and father involvement, we use data from the Fragile Families and Child Wellbeing Study (hereafter, Fragile Families), a population-based sample of 4,898 children born between February 1998 and September 2000 to mostly unmarried parents in urban areas (Reichman et al. 2001). Biological mothers were interviewed in the hospital after children were born, and biological fathers were interviewed as soon as possible afterward (usually, but not always, in the hospital). These parents have been subsequently interviewed over nine years (when children were approximately ages 1, 3, 5, and 9). The Fragile Families data are commonly used to study the consequences of relationship transitions for family and child well-being, although they have been less commonly used to study the consequences of within-partner relationship churning. They are well-positioned to answer our research questions because they capture parents' relationships over time, including both direct and indirect measures of relationship churning (as described later); because mothers, fathers, and children report on both the quantity and quality of father involvement; and because they include an array of demographic and socioeconomic characteristics associated with both relationship churning and father involvement.

Response rates, especially among mothers, were relatively high but declined over time (as is common in longitudinal surveys; Groves 2004). Approximately 86 % of sampled mothers participated in the baseline survey. Mothers' response rates for the one-, three-, five-, and nine-year surveys were, respectively, 90 %, 88 %, 87 %, and 76 %. The primary analytic sample, which includes 2,832 cases across all 20 Fragile Families cities, each measured up to five points in time (baseline, one-year, three-year, five-year, and nine-year surveys), excludes the following: (1) the 1,383 cases lost to attrition at the nine-year survey; (2) 243 cases missing data on the three measures of father involvement at the nine-year survey

(contact with child, shared responsibility in parenting, and cooperation in parenting—all described later); (3) 364 cases missing data on relationship status at any of the five survey waves; and (4) 75 cases that do not fit into any of the four relationship history categories (also described later). In supplemental analyses, we estimate father- and child-reported measures of father involvement, which are limited to cases in the analytic sample with nonmissing dependent variables (ranging from 1,839 to 2,041 for father-reported measures and from 2,632 to 2,638 for child-reported measures).

Although the analytic sample includes about three-fifths of the Fragile Families baseline sample, there are relatively few statistically significant observed differences between the baseline and analytic samples, and these statistically significant differences are moderate in magnitude. Mothers in the analytic sample, compared with mothers in the baseline sample, are more likely to be non-Hispanic white (23.2 % vs. 21.1 %), less likely to be Hispanic (23.6 % vs. 27.3 %), less likely to not have graduated from high school (30.5 % vs. 34.7 %), and more likely to be employed at the one-year survey (55.7 % vs. 52.9 %). Parents in the analytic sample are less likely to be separated at baseline (11.1 % vs. 13.3 %) and more likely to have only one child together (62.1 % vs. 55.2 %). The evidence suggests the analytic sample is more advantaged than the full sample, a point we will return to later.

Measures

Although the association between relationship churning and father involvement is likely bidirectional, we are primarily interested in the pathway from relationship churning to father involvement; therefore, we do our best to establish a proper time ordering of our variables. We measure our control variables at the earliest time period (at the baseline or one-year survey), our independent variable (relationship history) after that (between the baseline and five-year surveys), and our dependent variable (father involvement) at the latest period (at the nine-year survey).

Father Involvement—The primary dependent variables include three measures of mother-reported father involvement measured at the nine-year survey. We present unstandardized means and standard deviations of father involvement in the descriptive tables. In the multivariate analyses, to facilitate comparisons of the magnitude of associations across outcomes, we standardize the continuous measures.

Father involvement includes contact, shared responsibility in parenting, and cooperation in parenting. First, a binary variable indicates the mother reports the father saw the focal child in the past 30 days. Second, shared responsibility in parenting is an average of mothers' responses to statements about how often the father does things such as “look after child when you need to do things” (1 = *never* to 4 = *often*; $\alpha = .93$). Third, cooperation in parenting is an average of mothers' responses to statements such as “when father is with child, he acts like the kind of parent you want for your child” (1 = *never* to 4 = *always*; $\alpha = .97$).

Additionally, in supplemental analyses, we consider four indicators of father-reported father involvement (contact, shared responsibility in parenting, cooperation in parenting, and

engagement) and two indicators of child-reported father involvement (connection and closeness), all measured at the nine-year survey.

See Table S1 in Online Resource 1 for details about all measures of father involvement.

Relationship Churning—Relationship churning is measured by mothers' direct and indirect reports of churning between the baseline and five-year surveys. We measure relationship churning between the baseline and five-year surveys to ensure that churning is measured prior to the measurement of our dependent variables (which are measured at the nine-year survey) and because this five-year period allows time for churning to unfold. Importantly, we use mothers' reports of relationship churning because (1) substantially more mothers than fathers participated in all survey waves; (2) research indicates that men are more affected by women's perceptions of their relationship than the reverse (e.g., Faulkner et al. 2005); and (3) this is consistent with recently published research on this topic (e.g., Halpern-Meekin and Turney 2016).²

Direct reports—ascertained at the baseline, three-year, and five-year surveys—indicate that the mother says she is in an “on-again/off-again” relationship with the father. Because direct reports of churning are not measured at the one-year survey, churning is likely underreported. Indirect reports indicate that the mother reports any (marital, cohabiting, or nonresidential romantic) romantic relationship with the father at one survey wave(s), no relationship with him at the following survey wave(s), and any relationship with him again at a subsequent survey wave(s) (or similar combinations of between-wave churning). Parents are considered to have engaged in relationship churning if they report either direct or indirect churning. In the analytic sample, 12.1 % of mothers report direct churning, and 5.4 % of mothers report indirect churning, with 1.4 % of mothers reporting both direct and indirect churning (descriptive statistics not shown).

We compare parents who experience relationship churning with the following three groups, all of which take into account relationship information from the baseline, one-year, three-year, and five-year surveys: (1) stably together, mothers who report any romantic relationship with the child's father at all time points (and no relationship churning); (2) stably broken up, mothers who report dissolving their relationship with the father and no repartnering (and no relationship churning); and (3) repartnered, mothers who report dissolving their relationship with the father and repartnering (and no relationship churning). Parents in the latter two groups could have separated at any point prior to the baseline and up to and including the five-year surveys. Also, given that we use mothers' reports of relationship status, parents in the latter two groups may include both fathers who repartnered and those who did not. Finally, as noted earlier, 75 cases do not neatly fit into one of these four relationship categories, and we drop these cases from the analytic sample.³

²In supplemental analyses, we adjust for discordance in reports of churning between mothers and fathers (with 14 % of mothers and fathers not in agreement on at least one of the three direct measures of churning); the results are robust to this specification.

³Many of the 75 couples who do not fit into one of our four relationship categories reported not being in a romantic relationship in earlier surveys (with some having new romantic partners) but did report being in a romantic relationship with the focal child's father in later surveys.

Explanatory Variables—We consider three sets of explanatory variables, all measured at the nine-year survey (and, therefore, after our measurement of relationship history), which may explain the association between relationship churning and father involvement. First, mother- and father-reported relationship quality at the nine-year survey are both ordinal variables ranging from 1 (*poor*) to 5 (*excellent*). Second, binary variables indicate whether the mother and father are currently repartnered (that is, whether they report being in a relationship with someone besides the focal child’s biological parent) at the nine-year survey. We use mothers’ reports of their own repartnering. We use fathers’ reports of their own repartnering, and because attrition is higher among fathers than mothers at the nine-year survey, we also use mothers’ reports of whether the father is married to or cohabiting with a new partner.⁴ Third, binary variables indicate whether the mother and father have had a child with a different partner since the one-year survey (measured cumulatively because unlike romantic relationships, parent-child ties are unlikely temporary). Mothers and fathers report on their own childbearing with a new partner; and at the nine-year survey, we also supplement fathers’ reports with mothers’ reports of fathers’ childbearing. Mother- and father-reported relationship quality ($r = .60$) are highly correlated, and mother- and father-reported repartnering ($r = .27$) and childbearing with a new partner ($r = .20$) are moderately correlated. Importantly, although these three sets of explanatory variables are correlated with relationship churning and our three comparison groups, they are not perfectly correlated because they are measured at a later point in time.

Control Variables—The multivariate analyses adjust for demographic and socioeconomic background characteristics of mothers and fathers. We measure these characteristics during the survey wave when they are first ascertained to establish, as best as we can, time ordering between the control variables, relationship churning, and father involvement. Measures are taken at baseline unless otherwise noted. These characteristics include race/ethnicity (mother’s race (non-Hispanic white, non-Hispanic black, Hispanic, non-Hispanic other race) and a binary variable indicating the mother and father are a mixed-race couple), mother’s and father’s ages, mother’s and father’s reports that they lived with both biological parents at age 15, mother’s and father’s educational attainment (less than high school diploma, high school diploma or GED, some college, college degree), parents’ relationship status (married, cohabiting, nonresidential romantic relationship, separated),⁵ father’s financial support during pregnancy (1 = *gave money during pregnancy to buy things for the baby*), father’s instrumental support during pregnancy (1 = *helped in other ways during pregnancy, such as providing transportation to the prenatal clinic or helping with chores*), mother’s and father’s material hardship (measured at the one-year survey), mother’s and father’s employment (measured at the one-year survey), mother’s and father’s depression (measured at the one-year survey; Kessler et al. 1998), shared children (a binary indicator that the focal child is

⁴Mothers were asked only about whether the father was married to or cohabiting with a new partner—not whether he had any new partner—so the measure of fathers’ repartnering is likely underreported.

⁵Although our independent variable is a measure of the type of relationship that the parents experienced over the first five years after the focal child’s birth, we adjust for parents’ relationship status at baseline for two main reasons. First, we want to take into account the initial level of commitment of the couple because this may be independently predictive of both father involvement and relationship churning. Second, supplemental analyses showed that excluding this control variable did not alter the substantive findings, allaying concerns that we overcontrol for relationship characteristics.

the parents' first shared child, measured at the one-year survey), child gender, and child temperament (measured at the one-year survey; Buss and Plomin 1984).

Analytic Strategy

The analytic strategy proceeds in four stages. First, we present descriptive statistics of father involvement and our explanatory variables, all measured at the nine-year survey, by relationship history (measured between the baseline and five-year surveys). We use chi-square tests or *t* tests, depending on the distribution of the variables, to test for statistically significant differences between parents who experience relationship churning and the other three groups of parents.

Second, we use logistic regression or ordinary least squares (OLS) regression, depending on the distribution of the outcome variable, to estimate mother-reported father involvement at the nine-year survey as a function of relationship churning (and, in supplemental analyses, to estimate father- and child-reported father involvement).⁶ In all models, we compare relationship churners with the stably together, stably broken up, and repartnered. Model 1 presents the unadjusted association between relationship churning and father involvement. Model 2 adjusts for a number of demographic and socioeconomic characteristics, allowing us to consider whether the association between relationship churning and father involvement results from these background characteristics.

Third, we estimate the association between relationship churning and father involvement, considering how (1) relationship quality and (2) repartnering and new childbearing may explain this relationship. In this analytic stage, Model 1 adjusts for all demographic and socioeconomic characteristics. Model 2 adjusts for relationship quality (at the nine-year survey), Model 3 adjusts for repartnering (at the nine-year survey) and childbearing with a new partner (between the one- and nine-year surveys), and Model 4 adjusts for all variables simultaneously. Note that measures of relationship status at the nine-year survey are highly correlated with our categorical measure of relationship history (measured between the baseline and five-year surveys), but diagnostic tests suggest that collinearity does not bias the results. For example, the mean variance inflation factor (VIF) in the final model is 1.74, well below the threshold of 10 considered problematic in OLS models.

Fourth, to consider whether the association between relationship churning and father involvement varies by fathers' residential status, we present estimates of father involvement for two groups at the nine-year survey: those with residential biological fathers and those with nonresidential biological fathers. These models include the full set of covariates. As a reminder, to be in the stably together category, a couple needs only to be stably together through the five-year survey; thus, a portion of the stably together couples will be broken up by the nine-year survey (and this constitutes the bulk of our stably together nonresidential fathers).

⁶Comparing coefficients across logistic regression models is not recommended (Mood 2010). Therefore, we also estimated linear probability models for our dichotomous outcome, which produced coefficients that were comparable with the average marginal effects of the logistic regression models.

Between <1 % and 22 % of control variables are missing values (with missing values relatively uncommon among mother-reported control variables and more common among father-reported control variables). We use multiple imputation to preserve cases with missing values. The imputation equation comprises all variables included in the analysis, including the dependent variables, but we drop cases missing dependent variables after imputation (Von Hippel 2007). We produce 20 data sets with the multivariate normal method and average results across these 20 data sets. All analyses are unweighted, and we include relevant variables as controls in the regression models following accepted practice (e.g., Lee and McLanahan 2015; Meadows et al. 2008).

Sample Description

Table 1 presents the means and standard deviations of all variables included in the analysis. On average, fathers are involved in the lives of their 9-year-old children. For example, nearly 9 in 10 mothers (88.9 %) reported that the father saw the child in the past 30 days. Mothers reported an average shared responsibility of 2.3 and an average cooperation of 2.9 (range: 1 to 4). Importantly, approximately one-sixth (16.1 %) of parents experienced relationship churning, 42.4 % were stably together, 14.3 % were stably broken up, and 27.2 % were repartnered between the baseline and five-year surveys.

Table 1 also presents descriptive statistics of background characteristics of the sample. The majority of mothers identified as racial/ethnic minorities; approximately one-half (49.8 %) identified as non-Hispanic black, and nearly one-quarter (23.6 %) identified as Hispanic. On average, mothers and fathers were, respectively, 25 and 28 years old at baseline. The majority of parents (69.5 % of mothers and 69.5 % of fathers) had at least a high school diploma at baseline, although relatively few (12.0 % of mothers and 11.0 % of fathers) had completed a four-year college degree. The majority of parents were in coresidential relationships at baseline (including 25.8 % who are married and 35.6 % who are cohabiting).

Results

Means of Father Involvement, by Relationship Churning

Table 2, which presents means of father involvement by relationship churning, suggests three conclusions. First, across all outcomes, relationship churners reported significantly less father involvement than the stably together. Mothers who experienced relationship churning, compared with the stably together, were less likely to report that the father saw the child in the past 30 days (84.4 % vs. 96.4 %; $p < .001$), and report less shared responsibility (1.9 vs. 3.2; $p < .001$) and cooperation (2.6 vs. to 3.6; $p < .001$). Second, relationship churners and the stably broken up generally reported similar levels of father involvement, although some differences are statistically or marginally statistically significant (with relationship churners occasionally reporting more father involvement). For example, mothers who experienced relationship churning, compared with the stably broken up, reported more shared responsibility (1.9 vs. 1.7; $p < .01$) and cooperation (2.6 vs. 2.5; $p < .10$). Third, across two of the three outcome variables, relationship churners reported more father involvement than the repartnered. Mothers who experienced relationship churning, compared with the

repartnered, reported no significant differences in fathers seeing the child but more shared responsibility (1.9 vs. 1.4; $p < .001$) and cooperation (2.6 compared with 2.2; $p < .001$).

Means of Explanatory Variables, by Relationship Churning

Next, also in Table 2, we present descriptive statistics of variables that may explain the association between relationship churning (measured between the baseline and five-year surveys) and father involvement (measured at the nine-year survey): relationship quality (at the nine-year survey), repartnering (at the nine-year survey), and childbearing with a new partner (between the one- and nine-year surveys, given the nontemporary nature of parent-child relationships). These patterns are similar to patterns of father involvement described earlier. First, relationship churners, compared with the stably together, reported lower relationship quality. They also reported more repartnering and more childbearing with a new partner. Second, relationship churners had levels of relationship quality, repartnering, and childbearing with a new partner that were similar to those of the stably broken up. Third, relationship churners reported higher relationship quality, less repartnering, and less childbearing with a new partner than the repartnered. See Figs. S1–S3 in Online Resource 1 for an illustration of these patterns over time.

Estimating Father Involvement as a Function of Relationship Churning

Main Analyses—We now turn to the multivariate analyses to see whether these associations persist after we adjust for a range of demographic and socioeconomic characteristics. Table 3 estimates mother-reported father involvement at the nine-year survey—contact with the child in the past 30 days, shared responsibility in parenting, and cooperation in parenting—as a function of relationship churning between the baseline and five-year surveys. We turn first to the estimates of contact. Model 1, the unadjusted model, shows that compared with relationship churners, the stably together were more likely to report contact ($b = 1.605$, $OR = 4.98$, $p < .001$), and the stably broken up and repartnered were similarly likely to report contact. In Model 2, which adjusts for parents' background characteristics that might be associated with both relationship churning and father involvement, the stably together coefficient is reduced in magnitude (by 30 %) but remains statistically significant. This model shows that the stably together had three times the odds of reporting contact than relationship churners ($b = 1.131$, $OR = 3.10$, $p < .001$).

We turn next to estimates of shared responsibility in parenting. Model 1, the unadjusted model, shows differences in shared responsibility across the four types of relationship history. Compared with relationship churners, the stably together reported more shared responsibility ($b = 1.097$, $p < .001$), the stably broken up reported less shared responsibility ($b = -0.151$, $p < .01$), and the repartnered reported less shared responsibility ($b = -0.413$, $p < .001$). In Model 2, which adjusts for background characteristics, the stably together coefficient decreases by 26 %. However, all three comparison groups remain statistically different from relationship churners, with the stably together reporting about four-fifths of a standard deviation more shared responsibility ($b = 0.814$, $p < .001$), the stably broken up reporting one-fourth of a standard deviation less shared responsibility ($b = -0.235$, $p < .001$), and the repartnered reporting two-fifths of a standard deviation less shared responsibility ($b = -0.405$, $p < .001$).

Finally, we turn to estimates of cooperation in parenting, and these results are similar to those estimating shared responsibility. The unadjusted association (Model 1) shows that compared with the relationship churners, the stably together reported more cooperation ($b = 0.842, p < .001$), the stably broken up reported less cooperation ($b = -0.131, p < .05$), and the repartnered reported less cooperation ($b = -0.402, p < .001$). These associations persist with the addition of the control variables in Model 2. Compared with the churners, the stably together reported more than one-half of a standard deviation more shared responsibility ($b = 0.567, p < .001$), the stably broken up reported one-fourth of a standard deviation less shared responsibility ($b = -0.214, p < .001$), and the repartnered reported one-third of a standard deviation less shared responsibility ($b = -0.353, p < .001$).

Taken together, the results in Table 3 generally support Hypotheses 1a, 1b, and 1c.

Robustness Checks: Examining Father- and Child-Reported Father

Involvement—The analyses presented thus far use mothers' reports of father involvement. We also draw on father- and child-reported measures of father involvement, which is in line with our family systems approach and allows us to triangulate information via multiple members of the family system. In Table S2 of Online Resource 1, we consider the robustness of our associations by estimating four indicators of father-reported father involvement (contact, shared responsibility, cooperation, and engagement) and two indicators of child-reported father involvement (connection and closeness). The results are consistent with the estimates of mother-reported father involvement. Across nearly all outcomes, the relationship churners have less involvement than the stably together and more involvement than the stably broken up and the repartnered.

Robustness Checks: Considering Direct and Indirect Churning—Additionally, as described earlier, our measure of relationship churning is based on both direct and indirect reports of churning. It is possible that these differences in measurement are differentially associated with father involvement, and we consider this possibility in Online Resource 1, Table S3. We find that direct and indirect churning are similarly associated with contact in the past 30 days. We also find that indirect churning, compared with direct churning, is associated with more shared responsibility ($b = 0.237, p < .01$) and cooperation ($b = 0.290, p < .001$). However, consistent with results from Table 3, both direct and indirect churners have less father involvement than the stably together and more father involvement than the stably broken up and repartnered.

Robustness Checks: Restricting Sample to Those With No Contact—Finally, given that some fathers have no contact with children, we want to ensure that these cases are not driving our results for shared responsibility and cooperation (because they were coded as 0 on these outcomes). We restrict the analytic sample to cases in which the father saw the child in the last 30 days. Results are robust to this specification, as shown in Table S4 of Online Resource 1, suggesting that relationship churning is associated with father involvement (as measured by shared responsibility and cooperation) net of having any contact.

Considering Explanatory Factors

Next we consider whether the differences in father involvement at the nine-year survey between relationship churners and other parents can be explained by (1) relationship quality (at the nine-year survey) and (2) repartnering (at the nine-year survey) and childbearing with a new partner (between the one- and nine-year surveys).

Table 4 estimates father involvement (with each of the three panels representing contact, shared responsibility, and cooperation, respectively). Model 1, which adjusts for demographic and socioeconomic characteristics (and is the equivalent of Model 2 of Table 3), is presented to facilitate comparisons with other models. Model 2, which adjusts for mother- and father-reported relationship quality at the nine-year survey, shows that relationship quality explains 28 % of the difference in contact between relationship churners and the stably together. With respect to shared responsibility, relationship quality explains 40 % of the difference between the churners and the stably together, 45 % of the difference between the churners and the stably broken up, and 38 % of the difference between the churners and the repartnered. With respect to cooperation, relationship quality explains 71 %, 63 %, and 54 % of the difference between relationship churners and the stably together, stably broken up, and separated, respectively. Across all outcomes, mother-reported relationship quality explains more of the association than father-reported relationship quality (results not shown).

Model 3, which adjusts for repartnering and childbearing with a new partner, shows that these variables account for 21 % of the difference in contact between relationship churners and the stably together, 26 % of the difference in shared responsibility between relationship churners and the stably together, and 27 % of the difference in cooperation between relationship churners and the stably together. Additionally, repartnering and childbearing with a new partner explain 13 % and 11 % of the differences in shared responsibility and cooperation, respectively, between the churners and the stably broken up. They also explain 53 % and 44 % of the differences in shared responsibility and cooperation, respectively, between the churners and the repartnered. Among the repartnering/childbearing explanatory variables, mother's repartnering explains the largest share of the differences in father involvement between the relationship churners and their counterparts (results not shown).

In Model 4, which adjusts for all covariates, there remain statistically significant differences in father involvement by relationship churning. Compared with relationship churners, the stably together are nearly two times more likely to report that the father saw the child in the past 30 days ($b = 0.689$, $OR = 1.99$, $p < .01$). They also reported two-fifths of a standard deviation higher shared responsibility ($b = 0.385$, $p < .001$) and one-sixth of a standard deviation higher cooperation ($b = 0.133$, $p < .001$). Additionally, although there are no differences in contact between relationship churners and the other two categories, the stably broken up reported about one-tenth of a standard deviation lower shared responsibility ($b = -0.123$, $p < .01$) and cooperation ($b = -0.076$, $p < .10$), and the repartnered reported one-tenth of a standard deviation lower shared responsibility ($b = -0.128$, $p < .01$) and cooperation ($b = -0.115$, $p < .01$).

Taken together, the results from Table 4 provide support for Hypothesis 2.

Variation Across Residential and Nonresidential Fathers

Table 5 presents estimates of father involvement at the nine-year survey, separately for residential and nonresidential fathers at the nine-year survey. We present estimates for only shared responsibility and cooperation because there is no variation in contact among residential fathers. Among residential fathers, we find no differences between the churners and the stably together. We also find that compared with the churners, the repartnered reported less shared responsibility, and the stably broken up reported less cooperation. In contrast, among nonresidential fathers, the stably together reported more shared responsibility and cooperation than the churners. Tests of differences across coefficients (e.g., Paternoster et al. 1998) show that the residential status differences between the stably together and the churners are statistically significant ($z = -1.85$ for shared responsibility and $z = -2.22$ for cooperation). Because recent research suggests how transitions end is important for family life (Lee and McLanahan 2015), we also examined differences by whether the parents are romantically involved at the nine-year survey (and not just living together at the nine-year survey). Results were consistent with those in Table 5.

These results provide support for Hypothesis 3.

Discussion

Grounded in family systems theory, we conceptualize churning as a disruption to the parents' dyadic relationship that echoes through the other relationships in the family system. We use data from the Fragile Families and Child Wellbeing Study to examine the association between relationship churning—on-again/off-again relationships—and father involvement. We anticipated that parents' relationship churning would be associated with father involvement, with those who are stably together expected to have higher levels of father involvement than churners, and those who are stably broken up or repartnered expected to have lower levels. These theoretical expectations are borne out in our empirical analyses.

The analyses provide support for three conclusions. First, we find that fathers who experienced relationship churning with their children's mothers were more likely to remain involved than were fathers in relationships that dissolved (especially if mothers repartnered), net of an array of demographic and socioeconomic differences. Conversely, churning fathers were less likely to be involved with their children than were fathers who were stably together with their children's mothers. These findings have implications for the broader literature on both the consequences of relationship transitions and the predictors of father involvement. For example, previous research on father involvement generally neglected the possibility of a churning relationship. This is an important limitation to previous research, given the prevalence of this relationship form—with 16 % of children in the Fragile Families sample experiencing parental relationship churning by their fifth birthday—and its association with multiple measures of father involvement. If churners are mistakenly classified as having dissolved their union in prior research, father involvement among this group is upwardly biased; likewise, if churners are mistakenly classified as being stably together in prior research, father involvement for this group is downwardly biased.

The association between relationship churning and father involvement also has implications for the measurement of relationship transitions. Previous research has shown that father involvement declines following a breakup when parents repartner (Berger et al. 2012; Carlson and Berger 2013; Juby et al. 2007; McGene and King 2012; Tach et al. 2010), but these studies cannot tease out the likely disruptive influence of multiple parental relationship transitions from the introduction of a new partner in the family system. Considering relationship churning provides the analytic leverage to tease out these different influences. We find that the instability from parental relationship transitions matters, but so does the introduction of a new partner: fathers in churning relationships remain more involved with their children than do fathers who have repartnered or seen their children's mothers repartner. This is in line with the expectations of family systems theory, given that both factors independently present disruptions to the functioning of the family system, requiring the renegotiation of family roles and relationships.

Second, we find that a portion of the differences between churners and other groups can be explained by the slower pace at which churning couples enter new unions and have children with new partners and, predominantly, by relationship quality. Descriptively, we find that churners are most akin to stably broken-up parents in their relationship quality, repartnering, and subsequent childbearing at the nine-year survey. It appears that churning could have a protective effect on relationship quality and slow the speed of repartnering and subsequent childbearing, thereby mitigating key factors that impede father involvement. We also see that relationship quality at the nine-year survey, compared with repartnering and subsequent childbearing at the nine-year survey, explains a larger portion of the differences in father involvement between churners and others. This raises the possibility that relationship transitions may matter for father involvement because of how they influence relationship quality, a causal pathway sometimes missed in studies of relationship dissolution and father involvement.⁷

In future studies with more complete relationship histories (e.g., prior to the focal child's birth), researchers should explore whether and how relationship churning changes the event and pacing of subsequent partnerships and childbearing, and how patterns of relationship quality change following the dissolution of a churning versus a stably together relationship. In terms of approaches to working with families, this finding emphasizes that programs that seek to encourage father involvement with children must attend to the nature and quality of the relationship between the two parents, not just the father's parenting skills and attitudes (see, for example, the Supporting Father Involvement Project; Cowan et al. 2014).

Third, we find that differences in father involvement between churners and others—especially the stably together—are most evident when fathers are not living with their children at the time father involvement is measured. Consistent with research on churning cohabiting parents (Nepomnyaschy and Teitler 2013), we show that differences between

⁷An array of studies has focused on the role of repartnering in the declines in father involvement that often follow a breakup (Berger et al. 2012; Carlson and Berger 2013; Juby et al. 2007; McGene and King 2012; Tach et al. 2010). Of these, only that by McGene and King (2012) comes close to considering relationship quality when examining cooperation in parenting. The present study examines both repartnering and relationship quality simultaneously in seeking to understand the association between relationship status transitions and father involvement.

residential churning and stably together parents are limited. However, by expanding our sample to examine both residential and nonresidential churning—important because more than one-half of nonmarital births are to nonresidential parents (McLanahan and Beck 2010)—we reveal that relationship status matters among those not living together, with churning showing significantly lower levels of father involvement across measures compared with those who had been stably together.⁸ Further, in our analyses by residential status at the nine-year survey, we observe a new group of churning: those who broke up without churning before the child was 5 years old (either stably or with repartnering) but were living together when the child was 9 years old. We see that these groups, whose churning is more proximate to the observation of father involvement, show lower levels of father involvement compared with those whose churning was observed years earlier. This suggests that churning may be more consequential for family dynamics closer to the disruption and reconciliation and provides a fruitful avenue for future research.

By considering both residential and nonresidential couples, we extend this prior research by providing a more complete understanding of how parents' relationship experiences may matter for the ways they engage in parenting. These findings underline that after an initial breakup, it is not just repartnering and subsequent childbearing that matter; churning dynamics also play an important role in predicting later father involvement. Theoretically, this suggests that a disruption in the family system can have long-term reverberations. However, the fact that father involvement is no different between the stably together and churning who are coresidential at the nine-year survey indicates that family dynamics may be able to adapt or recover following a disruption, which could hold important opportunities for family support programs and therapists to learn about how family systems can be resilient in the face of challenges.

Limitations

A number of limitations should be kept in mind when interpreting the results. First, because we use data across all five survey waves, our analytic sample is smaller than the baseline sample. Although we find only small observed differences between the analytic and baseline samples, it is possible that unobserved differences exist. Second, our measure of churning is almost certainly underreported, given that direct measures of churning were not asked at the one-year survey, the direct measures of churning do not capture churning that might have occurred prior to each of the survey waves, and the indirect measures of churning may miss some between-wave churning. Thus, our estimates of the association between relationship churning and father involvement are conservative. Further, we cannot distinguish between those who churn through a breakup and reconciliation once versus those who do so multiple times, which may have distinct consequences for family functioning and father involvement. Third, the measures of fathers' repartnering and childbearing with a new partner is likely underestimated, given that this information comes from mothers when fathers did not participate in the nine-year survey. Fourth, we present estimates of father involvement at the nine-year survey as a function of relationship churning between the baseline and five-year

⁸Nepomnyaschy and Teitler (2013) did examine nonresidential fathers but only those who previously coresided with their children (i.e., they looked at churning only in and out of cohabiting relationships).

surveys; however, father involvement could affect the likelihood of churning. For example, previous research has shown that when fathers are more involved, mothers are happier with the romantic relationship and perceive the union to be more stable (Kalmijn 2009; Schober 2012), and other work shows the bond of parenting can draw churners back together (Cross-Barnett et al. 2011; Roy et al. 2008). Future research should examine the causal and potentially bidirectional links between churning and father involvement.

Conclusions

As fathers' involvement with their children is embedded in their family systems, parental romantic relationship transitions influence the likelihood of fathers continuing to be active participants in their children's lives. However, parental breakups are not all similarly associated with subsequent patterns of father involvement. Previous research found that churning was associated with elevated levels of parenting stress, compared with those who were stably together or stably broken up but not repartnered (Halpern-Meekin and Turney 2016). However, in this study, churning is associated with higher levels of father involvement compared with those who stably separated and repartnered. This heightened parenting stress, therefore, could be due to the fact that more-intensive parenting efforts are occurring in the context of a more ambiguous and volatile "package deal." Churning could have a protective effect in terms of keeping fathers involved longer or more intensively than they would be if the couple had broken up and started relationships with new partners (rather than reuniting with each other). Moving beyond father involvement, future research should examine whether and how this relationship form—churning—has implications for parental and child well-being (see, for example, Hernandez et al. 2016).

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Descriptive statistics of all variables used in analyses

	Mean or %	SD
Dependent Variables		
Mother-reported contact with child in past 30 days (y9) (%)	88.9	
Mother-reported shared responsibility in parenting (y9)	2.295	1.194
Mother-reported cooperation in parenting (y9)	2.891	1.170
Independent Variables		
Relationship history (b, y1, y3, y5) (%)		
Relationship churning	16.1	
Stably together	42.4	
Stably broken up	14.3	
Repartnered	27.2	
Explanatory Variables		
Mother-reported relationship quality (y9)	2.816	1.460
Mother repartnered (y9) (%)	33.8	
Mother childbearing with new partner (y9) (%)	16.1	
Father-reported relationship quality (y9)	3.163	1.400
Father repartnered (y9) (%)	15.2	
Father childbearing with new partner (y9) (%)	26.8	
Control Variables		
Mother's race/ethnicity (b) (%)		
Non-Hispanic white	23.2	
Non-Hispanic black	49.8	
Hispanic	23.6	
Non-Hispanic other race	3.4	
Mother and father are mixed-race couple (b) (%)	14.4	
Mother's age (b)	25.247	6.028
Father's age (b)	27.748	7.221
Mother lived with both biological parents at age 15 (b) (%)	42.1	
Father lived with both biological parents at age 15 (b) (%)	43.9	
Mother's educational attainment (b) (%)		
Less than high school	30.5	
High school diploma or GED	31.6	
Some college	25.9	
College degree	12.0	
Father's educational attainment (b) (%)		
Less than high school	30.5	
High school diploma or GED	36.8	
Some college	21.8	
College degree	11.0	
Parents' relationship status (b) (%)		

	Mean or %	SD
Married	25.8	
Cohabiting	35.6	
Nonresidential romantic	27.4	
Separated	11.1	
Father provided financial support during pregnancy (b) (%)	86.8	
Father provided instrumental support during pregnancy (b) (%)	72.6	
Mother material hardship (y1)	1.152	1.602
Father material hardship (y1)	0.407	1.071
Mother employed (y1) (%)	55.7	
Father employed (y1) (%)	77.4	
Mother depression (y1) (%)	15.9	
Father depression (y1) (%)	11.4	
Parents have only one child together (y1) (%)	62.1	
Child is boy (b) (%)	52.2	
Child temperament (y1)	3.420	0.753
<i>N</i>	2,832	

Notes: *b* measured at baseline survey, *y1* measured at one-year survey, *y3* measured at three-year survey, *y5* measured at five-year survey, and *y9* measured at nine-year survey.

Table 2

Means of mother-reported father involvement and explanatory variables, by relationship history (measured between baseline and five-year surveys)

	Relationship Churning	Stably Together	Stably Broken Up	Repartnered
Dependent Variables				
Mother-reported contact with child in past 30 days (y9) (%)	84.4	96.4 ^{***}	82.5	83.3
Mother-reported shared responsibility in parenting (y9)	1.900	3.210 ^{***}	1.719 ^{**}	1.406 ^{***}
Mother-reported cooperation in parenting (y9)	2.624	3.607 ^{***}	2.471 [†]	2.155 ^{***}
Explanatory Variables				
Mother-reported relationship quality (y9)	2.382	3.725 ^{***}	2.218 [*]	1.974 ^{***}
Mother repartnered (y9) (%)	38.5	8.9 ^{***}	40.0	66.4 ^{***}
Mother childbearing with new partner (y9) (%)	16.3	2.9 ^{***}	17.0	36.2 ^{***}
Father-reported relationship quality (y9)	2.777	3.894 ^{***}	2.753	2.452 ^{***}
Father repartnered (y9) (%)	16.9	3.7 ^{***}	20.5	28.1 ^{***}
Father childbearing with new partner (y9) (%)	33.8	8.6 ^{***}	33.6	47.3 ^{***}
<i>N</i>	455	1,201	405	771

Notes: *y9* measured at nine-year survey. Asterisks/dagger indicate statistically significant differences between relationship churning group and other groups.

[†] $p < .10$;

^{*} $p < .05$;

^{**} $p < .01$;

^{***} $p < .001$

Table 3

Estimating mother-reported father involvement at nine-year survey as a function of relationship history (measured between baseline and five-year surveys)

	Mother-Reported Contact With Child in Past 30 Days		Mother-Reported Shared Responsibility in Parenting		Mother-Reported Cooperation in Parenting	
	Model 1 Unadjusted	Model 2 + Controls	Model 1 Unadjusted	Model 2 + Controls	Model 1 Unadjusted	Model 2 + Controls
Relationship History (ref. = chinning)						
Stably together	1.605*** (0.202)	1.131*** (0.230)	1.097*** (0.041)	0.814*** (0.048)	0.842*** (0.046)	0.567*** (0.053)
Stably broken up	-0.140 (0.184)	-0.289 (0.195)	-0.151** (0.051)	-0.235*** (0.051)	-0.131* (0.058)	-0.214*** (0.058)
Repartnered	-0.083 (0.161)	-0.123 (0.173)	-0.413*** (0.044)	-0.405*** (0.045)	-0.402*** (0.050)	-0.353*** (0.051)
Mother's Race/Ethnicity (ref. = non-Hispanic white)						
Non-Hispanic black		-0.479* (0.208)		0.000 (0.041)		0.084 [†] (0.046)
Hispanic		0.183 (0.233)		0.052 (0.043)		0.074 (0.049)
Non-Hispanic other race		-0.183 (0.425)		0.081 (0.081)		0.152 [†] (0.091)
Mother and Father Are Mixed-Race Couple		-0.239 (0.193)		-0.062 (0.042)		-0.060 (0.048)
Mother's Age		0.014 (0.018)		0.003 (0.004)		0.004 (0.004)
Father's Age		0.016 (0.014)		0.004 (0.003)		0.001 (0.003)
Mother Lived With Both Biological Parents at Age 15		0.060 (0.142)		0.048 (0.030)		0.029 (0.034)
Father Lived With Both Biological Parents at Age 15		-0.018 (0.151)		0.025 (0.031)		0.056 (0.037)
Mother's Educational Attainment (ref. = less than high school)						
High school diploma or GED		0.238 (0.155)		-0.030 (0.037)		-0.047 (0.041)
Some college		0.157 (0.186)		-0.064 (0.042)		-0.047 (0.048)
College degree		0.403 (0.395)		-0.042 (0.066)		-0.020 (0.074)
Father's Educational Attainment (ref. = less than high school)						
High school diploma or GED		0.061 (0.151)		0.012 (0.036)		0.022 (0.041)

	Mother-Reported Contact With Child in Past 30 Days		Mother-Reported Shared Responsibility in Parenting		Mother-Reported Cooperation in Parenting	
	Model 1 Unadjusted	Model 2 + Controls	Model 1 Unadjusted	Model 2 + Controls	Model 1 Unadjusted	Model 2 + Controls
Some college		0.278 (0.206)		0.080 [†] (0.044)		0.075 (0.050)
College degree		0.762 [†] (0.461)		0.098 (0.066)		0.079 (0.075)
Parents' Relationship Status at Baseline (ref. = married)						
Cohabiting		0.079 (0.260)		-0.122 [*] (0.055)		-0.055 (0.063)
Nonresidential romantic		-0.007 (0.267)		-0.246 ^{***} (0.059)		-0.164 [*] (0.068)
Separated		0.105 (0.303)		-0.292 ^{***} (0.071)		-0.355 ^{***} (0.084)
Father Provided Financial Support During Pregnancy		-0.052 (0.223)		0.181 ^{**} (0.057)		0.396 ^{***} (0.070)
Father Provided Instrumental Support During Pregnancy		0.006 (0.218)		0.090 [†] (0.050)		0.121 [*] (0.055)
Mother Material Hardship		-0.021 (0.039)		-0.017 [†] (0.009)		-0.021 [*] (0.010)
Father Material Hardship		0.001 (0.056)		-0.003 (0.015)		0.006 (0.017)
Mother Employed		-0.089 (0.133)		-0.018 (0.029)		0.004 (0.032)
Father Employed		0.116 (0.163)		0.041 (0.015)		0.113 [*] (0.047)
Mother Depression		-0.050 (0.167)		-0.096 [*] (0.039)		-0.114 ^{**} (0.044)
Father Depression		-0.169 (0.194)		-0.169 ^{**} (0.048)		-0.197 ^{***} (0.054)
Parents Have Only One Child Together		-0.023 (0.140)		-0.039 (0.030)		-0.002 (0.034)
Child Is Boy		-0.145 (0.125)		0.014 (0.027)		-0.027 (0.031)
Child Temperament		0.030 (0.083)		0.001 (0.019)		-0.013 (0.021)
Intercept	1.688	1.116	-0.336	-0.477	-0.234	-0.626
<i>N</i>	2,832	2,832	2,832	2,832	2,832	2,832

Notes: Mother-reported contact with child in the past 30 days is estimated with a logistic regression model. The other outcomes are estimated with ordinary least squares (OLS) regression (and these outcomes are standardized, with a mean of 0 and a standard deviation of 1).

[†]
 $p < .10;$

*
 $p < .05;$

**
 $p < .01;$

 $p < .001$

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Table 4

Estimating mother-reported father involvement at nine-year survey as a function of relationship history (measured between baseline and five-year surveys), considering explanatory factors

	Model 1 + Controls	Model 2 + Controls and Relationship Quality	Model 3 + Controls, Repartnering, Childbearing With New Partner	Model 4 + All Variables
A. Mother-Reported Contact With Child in Past 30 Days				
Relationship history (ref. = churning)				
Stably together	1.131 *** (0.230)	0.819 ** (0.237)	0.899 *** (0.237)	0.689 ** (0.241)
Stably broken up	-0.289 (0.195)	-0.209 (0.199)	-0.278 (0.197)	-0.212 (0.200)
Repartnered	-0.123 (0.173)	0.001 (0.177)	0.051 (0.180)	0.103 (0.182)
B. Mother-Reported Shared Responsibility in Parenting				
Relationship history (ref. = churning)				
Stably together	0.814 *** (0.048)	0.489 *** (0.039)	0.599 *** (0.046)	0.385 *** (0.039)
Stably broken up	-0.235 *** (0.051)	-0.130 ** (0.041)	-0.205 *** (0.048)	-0.123 ** (0.040)
Repartnered	-0.405 *** (0.045)	-0.250 *** (0.037)	-0.191 *** (0.044)	-0.128 ** (0.037)
C. Mother-Reported Cooperation in Parenting				
Relationship history (ref. = churning)				
Stably together	0.567 *** (0.053)	0.167 *** (0.041)	0.416 *** (0.054)	0.133 ** (0.042)
Stably broken up	-0.214 *** (0.058)	-0.080 † (0.044)	-0.190 ** (0.056)	-0.076 † (0.043)
Repartnered	-0.353 *** (0.051)	-0.163 *** (0.039)	-0.198 *** (0.051)	-0.115 ** (0.040)
<i>N</i>	2,832	2,832	2,832	2,832

Notes: Mother-reported contact with child in the past 30 days is estimated with a logistic regression model. The other outcomes are estimated with ordinary least squares (OLS) regression (and these outcomes are standardized, with a mean of 0 and a standard deviation of 1). Model 1 adjusts for all covariates in Model 2 of Table 3. Model 2 adjusts for all variables in Model 1, mother-reported relationship quality, and father-reported relationship quality (the latter two of which are measured at the nine-year survey). Model 3 adjusts for all variables in Model 1, mother repartnered, father repartnered, mother childbearing with a new partner, and father childbearing with a new partner (the latter four of which are measured at the nine-year survey). Model 4 adjusts for all variables.

† $p < .10$;

** $p < .01$;

*** $p < .001$

Table 5

Estimating mother-reported father involvement at the nine-year survey as a function of relationship history (measured between baseline and five-year surveys), by father's residential status at nine-year survey

	Residential	Nonresidential	z Score
A. Mother-Reported Shared Responsibility in Parenting			
Relationship history (ref. = churning)			
Stably together	0.026 (0.057)	0.163** (0.047)	-1.85
Stably broken up	-0.096 (0.087)	0.020 (0.041)	-1.21
Repartnered	-0.373** (0.116)	-0.029 (0.036)	-2.83
B. Mother-Reported Cooperation in Parenting			
Relationship history (ref. = churning)			
Stably together	0.036 (0.031)	0.196** (0.065)	-2.22
Stably broken up	-0.097* (0.048)	-0.020 (0.056)	-1.04
Repartnered	-0.058 (0.064)	-0.069 (0.050)	0.14
<i>N</i>	1,119	1,713	

Notes: Each panel presents estimates of mother-reported father involvement at the nine-year survey as a function of relationship history by father's residential status at the nine-year survey. All models are estimated with ordinary least squares (OLS) regression (and these outcomes are standardized, with a mean of 0 and a standard deviation of 1). Models include all covariates from Model 4 of Table 4.

* $p < .05$;

** $p < .01$;

*** $p < .001$