Trajectories of Couple Relationship Quality after Childbirth:
Does Marriage Matter?

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Abstract

Marital quality typically declines after the birth of a (first) child, as parenthood brings new identities and responsibilities for mothers and fathers. Yet, it is less clear whether nonmarital, cohabiting relationship quality follows a similar trajectory, particularly given the greater selectivity of cohabiting relationships that persist over time. This paper uses data from the Fragile Families and Child Wellbeing Study (N=2,409) with latent growth curve models to examine relationship quality for co-resident couples over nine years after a child’s birth. Findings suggest that marriage at birth is protective for couple relationship quality, net of various individual characteristics associated with marriage, compared to all cohabiting couples at birth; however, marriage does not differentiate relationship quality compared to the subset of stably-cohabiting couples. Also, cohabiting couples who get married after the birth have better relationship quality compared to all cohabiters who do not marry—though less so when compared to stably-cohabiting couples.

Key words: Relationship quality, marital quality, marriage, transition to parenthood, Fragile Families and Child Wellbeing Study
1. Introduction

The transition to parenthood represents a major life event in which a couple must—both individually and together—negotiate extensive personal, familial, social, and often professional changes. Since the publication of LeMasters’ article entitled “Parenthood As Crisis” (LeMasters 1957), a vast literature has documented how having a baby changes the lives of married couples—typically, a decrease in positive marital interchange, an increase in marital conflict, and a decline in marital satisfaction (Belsky and Kelly 1994; Cowan and Cowan 1992; Glenn and McLanahan 1982; Gottman and Notarius 2000; Michaels and Goldberg 1988). This occurs because of the strains, stresses, and sources of conflict, as parents adjust to their new caregiving roles, responsibilities, and routines (and the gender differentiation therein) amidst depleted resources of time and energy (Cowan and Cowan 1992; Cowan, Cowan, Heming, Garrett, Coysh, Curtis-Boles, and Boles 1985). Some research has tempered the general findings about declining marital quality after childbirth, suggesting that such decline is not unique to the transition to parenthood but also a function of marital duration (McHale and Huston 1985; Umberson, Williams, Powers, Chen, and Campbell 2005) and depends on various other individual and couple characteristics (Doss, Rhoades, Stanley, and Markman 2009). In any case, it remains clear that childbirth represents a significant event in the lives of married couples and brings a decline in relationship quality for many.

Since the 1960s, a declining share of children has begun life with married parents, and fully 41% of all births now occur outside of marriage (Hamilton, Martin, and Ventura 2012). Over four-fifths of unwed couples are in a romantic relationship at the time of the baby’s birth, and half are living together (McLanahan, Garfinkel, Reichman, Teitler, Carlson, and Norland Audigier 2003). Although the majority of unwed couples break up within a few years of a baby’s
birth, more than one-third continue to live together five years later (McLanahan 2011). Yet, there has been limited attention to the trajectories in relationship quality for unmarried couples who have a child together and whether/how such may differ from those of married couples (but see Howard and Brooks-Gunn 2009, for an exception). This topic is important because it sheds light on the nature of contemporary family roles and relationships outside of marriage—and also points to the ongoing place for marriage as a social institution that may (or may not) strengthen couple relationships and ultimately increase family stability and the wellbeing of children. Understanding whether and how marriage matters for couple relationships can also provide information salient to recent policy initiatives designed to strengthen relationships among unmarried parents which have, unfortunately, met with little success (Wood, McConnell, Moore, Clarkwest, and Hsueh 2012).

This paper uses data from the Fragile Families and Child Wellbeing Study to examine the level and change in couple relationship quality over nine years subsequent to an urban birth in the late 1990s. Using latent growth curve models, we explore how marriage matters for relationships among co-resident (legally married and unmarried cohabiting) couples at the time of birth in two ways: First, we examine whether nine-year trajectories in relationship quality differ by marital status at birth, and whether any differences by marital status can be accounted for by individual or couple characteristics; extending Howard and Brooks-Gunn (2009), we follow couples over a longer period of time, use a more detailed relationship quality measure, and implicitly incorporate the link between relationship quality and stability in our multivariate estimates. Second, we analyze whether marriage after a nonmarital birth is associated with an increase in relationship quality, compared to cohabiting couples at birth who do not marry; to our knowledge, this has not been done in prior work for unmarried parents after a birth. We focus on
couples living together (at the time of birth and over time), since relationship dynamics and expectations differ for couples living apart, and romantic non-resident relationships are far less stable (Osborne and McLanahan 2007); homogeneity along key dimensions (living arrangements in this case) is important when conducting research on couple relationship quality (Karney and Bradbury 1995). However, an innovation of our approach is to include all co-resident (at birth) couples in the analysis—not just those who stayed together as in prior work. To the extent that marriage is associated with both relationship stability and relationship quality, limiting the analyses to only those couples who remain together could lead to biased estimates of the effect of marriage. By simultaneously accounting for relationship instability and quality, we can more accurately estimate how marriage may shape trajectories of relationship quality.

2. Previous Research

2.1 Relationship quality of married and cohabiting couples after childbirth

Life course theory highlights that lives are lived in a social context and that “linked lives” in the form of dyadic relationships affect individual well-being (and other relationships) over time; individuals experience trajectories, or long-term pathways in various domains, which can be altered by transitions, or discrete life changes or events (Elder 1994; Elder 1998). Among family ties, the marital relationship has historically been viewed as central to nuclear family dynamics (Cummings and O'Reilly 1997), is a key aspect of the adult life course (Umberson et al. 2005), and is linked to various domains of adult well-being (Proulx, Helms, and Buehler 2007; Wickrama, Lorenz, Conger, and Elder 1997). As noted above, the trajectory of marital quality typically declines with the transition to parenthood (Belsky and Hsieh 1998; Belsky and Rovine 1990; Cowan and Cowan 1992; MacDermid, Huston, and McHale 1990; Shapiro, Gottman, and Carrère 2000), although not all couples become less satisfied with their marriages
during this transition—there is significant variability (Belsky 1986; Belsky and Rovine 1990). In particular, the extent to which spouses can (re)negotiate their roles and protect their time together may help preserve marital quality (Dew and Wilcox 2011; MacDermid, Huston, and McHale 1990).

We might expect even greater declines in relationship quality after childbirth for unmarried, cohabiting couples as compared to married couples. Marriage represents a significant legal and personal commitment between two persons and has historically been highly ‘institutionalized’ as the primary context for childrearing (Cherlin 2004; Cherlin 2005). The legal status, clearer norms and expectations about family roles and responsibilities (for both nuclear and extended families), as well as the “enforced intimacy” (Nock 1995) or “enforceable trust” (Cherlin 2004) within marriage, circumscribe the so-called ‘package deal’ in which partner and parent roles co-occur (Furstenberg and Cherlin 1991; Townsend 2002). Also, the nature of the marriage contract facilitates greater specialization (between market and household work) of husbands and wives, decreases uncertainty about the future, and encourages couple-specific investments, compared to cohabitation where equality—but uncertainty—prevails (Brines and Joyner 1999; England and Farkas 1986). We might thus expect that the more ‘institutionalized’ nature of married relationships would help protect relationship quality from declining as much or as rapidly amidst the stresses of caring for a new child as compared to unmarried couples.

Cross-sectional research comparing the quality of relationships for married and cohabiting couples in general (regardless of the presence of children) suggests that cohabiting couples have lower-quality relationships than married couples: Cohabitors report lower levels of happiness and interpersonal commitment, and higher levels of conflict (Brown and Booth 1996; Nock 1995; Stanley, Whitton, and Markman 2004; Wiik, Bernhardt, and Noack 2009), although
such differences are not observed between the sub-set of cohabiters with plans to marry versus
married couples (Brown 2004; Brown and Booth 1996; Wiik, Bernhardt, and Noack 2009).
Some longitudinal research on change in relationship quality over time also suggests that the
levels of happiness and fairness are higher among married couples compared to cohabiting
couples (generally—not just those with children) (Brown 2003; Skinner, Bahr, Crane, and Call
2002). Yet, married and cohabiting couples experience a similar pattern of relationship quality
decline over time, and the presence of children is shown to diminish quality for both (Brown
2003).

There has been limited research about how the transition to parenthood affects couple
relationship quality for unmarried (versus married) parents. While some research shows that
becoming a parent has different effects on individual well-being for married versus unmarried
parents (Nomaguchi and Milkie 2003)—and among unmarried parents, for cohabiters versus
those who are single (Woo and Raley 2005), to our knowledge, only two studies have explicitly
compared the level and change in relationship quality around the transition to parenthood for
married versus cohabiting couples: Mortensen et al. (2012) found that among women in Norway,
a similar decline in relationship quality was observed for married and cohabiting women over a
two-year period during which they had a child, although married women reported higher initial
relationship quality. Using the Fragile Families Study (as we do here), Howard and Brooks-Gunn
(2009) found that while there was no difference in starting relationship quality for married versus
cohabiting couples with children, cohabiters’ relationship quality declined more quickly up to
five years after a birth.
2.2 The transition to marriage and couple relationship quality after childbirth

Beyond the differences in how marital status at the time of a birth differentiates subsequent relationship quality trajectories, there is reason to believe that for unmarried couples, getting married after childbirth may be linked with improved couple relationship quality. This could reflect selection and/or causation. Certainly, cohabiting couples with the most positive relationships would be expected to select into marriage—although some evidence suggests that positive relationship quality deters separation but does not, in fact, predict marriage (Brown 2000). But marriage may also have a causal effect improving future relationship quality through precisely the elements of ‘institutionalization’ within marriage described above (Cherlin 2004; Cherlin 2005; Nock 1995). In other words, entering and living in the state of being married may improve relationship quality beyond whatever quality the same couple experienced as cohabitators.

Despite the significant interest in cohabitation, there has been only limited research using longitudinal data on how the transition to marriage affects couple relationship quality. Using data from the National Survey of Families and Households (NSFH), Brown (2004) finds that cohabitators who get married report more happiness in their relationship, more effective conflict resolution, fewer disagreements, and lower levels of instability, compared to cohabitators who do not marry; at the same time, this research finds that cohabitators who plan to marry have relationships that do not differ from those who actually married, suggesting that marriage itself may not have a causal effect. Also using the NSFH, an unpublished paper by Musick and Bumpass (2006) found that cohabitators’ getting married was associated with spending more time together, fewer heated fights, and less favorable attitudes toward separation, with no differences in global quality or frequency of disagreements; unfortunately, the published version of this paper (Musick and Bumpass 2012) dropped the relationship quality outcomes. Neither of these
studies is focused on couples with children, despite the now large number of children being raised by cohabiting parents. Given the importance of parents’ relationship quality for children’s well-being (Heinrich, Cronrath, Degen, and Snyder 2010), it is important to understand the extent to which getting married may enhance couples’ relationship quality after a nonmarital birth. Our study builds on the prior literature about marriage and relationship quality by using a more detailed measure of relationship quality over a longer time period, by considering both prior and prospective marriage, and by jointly estimating relationship stability and quality in order to further identify the extent to which marriage differentiates co-resident couple relationship quality over time.

2.3 Connections between relationship stability and relationship quality

An important caveat in research on couples’ relationship quality trajectories concerns the role of relationship stability. After couples break up, romantic relationship quality is no longer analytically relevant, an instance of a statistical problem commonly known as ‘truncation by death’ (McConnell, Stuart, and Devaney 2008; Zhang and Rubin 2003); in such situations, there is no true value on the dependent variable because individuals are no longer in the state in which such would be measured, but they are not missing or censored. If the truncation of data is not random (i.e., the probability that the outcome data are observed is correlated with the outcome of interest), the resulting estimates are likely to be biased. In our case, if relationship quality is correlated with relationship stability, and we do not “account for” the underlying process of union dissolution, our estimates of marriage and relationship quality will be (downwardly) biased.

Prior research finds that relationship quality is indeed an important predictor of relationship stability; couples with high-quality relationships are more likely to stay together and
less likely to break up (Amato and Hohmann-Marriott 2007; Gager and Sanchez 2003; Gibson-Davis, Edin, and McLanahan 2005; Tach and Edin 2013). Furthermore, couples who stay together also differ from other couples on a variety of social and economic dimensions; they tend to be socioeconomically advantaged, religious, and have more traditional gender norms and higher levels of gender trust (Carlson, McLanahan, and England 2004). Thus, by only incorporating information from the select sub-sample of couples that remain stable over time (i.e., those for whom there are contemporaneous reports of relationship quality), prior studies may have underestimated how couples’ relationship quality trajectories change over time and generated biased estimates with respect to the predictors of relationship quality change.

The intersection of relationship quality and relationship stability is especially critical when considering the protective role of marriage for relationship quality. We know that cohabiting couples are much more likely to break up than married couples (Bumpass and Lu 2000; Osborne, Manning, and Smock 2007). Therefore, cohabiting couples who stay together (whether they marry or not) represent a much more select group among all cohabiting couples than do married couples who stay together among all married couples. To the extent that marriage has a causal effect that decreases the likelihood of breaking up in the first place (in addition to affecting relationship quality while together), comparing relationship quality between only married and cohabiting couples that stay together over time may underestimate the true effect of marriage. Prior work typically focuses only on stable couples, ignoring the role of relationship stability when estimating how marriage is linked to relationship quality. Our study improves upon prior research by explicitly accounting for union dissolution. In doing so, our research provides a more accurate assessment of the association between marriage and relationship quality trajectories.
3. The Present Study

Using data on urban births from the Fragile Families and Child Wellbeing Study, this paper examines the level and change in couple relationship quality after a focal child’s birth for 2,409 couples that were co-resident (married or cohabiting) at the time of the birth. While we cannot address how relationship quality changes over the transition to parenthood per se (since we have no pre-birth measure of relationship quality), we are able to observe patterns of change from just after the birth over the next nine years to address the following two research questions: First, do trajectories of couple relationship quality after childbirth differ by marital status at the time of birth? Second, for cohabiting couples at birth, does getting married after the birth change (or reflect change in) couple relationship quality? Drawing on the extent literature, we expect that marriage will be protective against the decline in relationship quality subsequent to a child’s birth, and we expect that getting married will be linked to higher relationship quality compared to all cohabiters—but will not differentiate those who marry from stable cohabiters.

4. Method

Data come from the Fragile Families and Child Wellbeing Study, a longitudinal survey designed to track the conditions and capabilities of unmarried parents—and a comparison group of married parents—and their children over time (Reichman, Teitler, Garfinkel, and McLanahan 2001). The study follows a cohort of 4,898 children and their parents in 20 large U.S. cities from birth (1998-2000) until the child is about nine years old. The survey over-samples unmarried parents and includes 3,712 nonmarital births and 1,186 marital births. When weighted, the data are representative of births to parents in cities of populations 200,000 or more. (As Reichman et al. [2001] note, the data may not be as representative of marital births, since hospitals with the most nonmarital births within cities were chosen for sampling purposes.) Mothers were
interviewed in person at the hospital within 48 hours of the birth, and fathers were interviewed in person either in the hospital or were located as soon as possible thereafter. Follow-up interviews occurred by phone when the child was about 1, 3, 5 and 9 years old.

In this paper, we use data from the baseline through 9-year surveys. We use information reported by mothers and fathers on their own characteristics and mothers’ reports about the quality of the couple relationship over time. Response rates for the baseline survey are 87% for unmarried mothers and 82% for married mothers; among cases with a completed mother interview, 88% of married fathers and 75% of unmarried fathers were interviewed. Response rates for eligible mothers (i.e., had a completed baseline interview) remained high at each follow-up wave: 91%, 88%, 87%, and 76% at the 1-, 3-, 5- and 9-year surveys, respectively (with similar proportions of married and unmarried mothers [at birth] interviewed). The full sample for this research includes 2,409 couples that were co-resident at the time of the baby’s birth (971 married and 1,438 cohabiting couples) and who were interviewed at least twice after the baseline interview over the 9-year period. We also focus on the sub-set of 1,239 couples who were stably co-resident at every wave in which they were observed over the 9-year period (734 married and 505 cohabiting at birth).

4.1 Measures

4.1.1 Couple relationship quality

The quality of the parents’ relationship is measured by mothers’ reports about the level of supportiveness in the couple relationship (represented by her perception of the father’s behavior) at each survey wave; a strength of the data is that the same set of items are asked four times over an eight-year period from child age 1 to child age 9. We use mothers’ reports in order to include a larger fraction of all couples, since fewer fathers were interviewed. Mothers are asked about
the frequency that the father displays the following six types of behavior in the relationship: 1) “is fair and willing to compromise when [they] have a disagreement,” 2) “expresses affection or love toward [her],” 3) “insults or criticizes [her] or [her] ideas” (coding reversed), 4) “encourages or helps [her] to do things that are important to [her],” 5) “listens to [her] when [she] needs someone to talk to,” and 6) “really understands [her] hurts and joys.” Response options are 1 (never), 2 (sometimes), and 3 (often). Again, recall that all of the relationship quality measures are after the baby’s birth, so we cannot test how the transition to parenthood affects couple relationship quality per se; rather, we can consider how relationship quality proceeds from a baby’s birth over the subsequent 9 years.

The baseline survey only included the first 4 items; we use all 6 items at each post-birth wave to provide more information (but results do not change substantively if we limit the later waves to the 4 baseline items). For all five waves, factor analysis (with varimax rotation) yielded a single factor across items, so the items were averaged to obtain an overall relationship quality score, with higher scores indicating higher quality; alpha reliabilities for baseline, 1 year, 3 years, 5 years, and 9 years are $\alpha = .57, .83, .87, .87,$ and .81, respectively. (Supplementary analysis suggests that the lower alpha at baseline is partly due to a smaller number of items and partly due to the fact that the items are simply less correlated just after the birth than in later waves.)

4.1.2 Marital status and relationship stability

Our main independent variable of interest is couples’ marital status at the birth of the focal child. We rely on mothers’ report of her legal marital status with the father. For cohabiting couples, we also include a set of time-varying measures that indicate whether the couple married between interview waves (mother-reported). In order to account for relationship stability, we also
include a set of time-varying measures that capture whether the mother and father remained in a co-resident relationship at each survey wave (mother-reported).

4.1.3 Parents’ characteristics

In order to eliminate spurious correlation in evaluating how marriage is linked to couple relationship quality, we control for a number of individual and couple characteristics associated with marriage and relationship quality. All control variables are reported at the baseline survey unless indicated otherwise.

With respect to demographic characteristics, education (Goldstein and Kenney 2001; Lichter, McLaughlin, Kephart, and Landry 1992), better physical health (Lillard and Panis 1996) and older age are associated with a greater likelihood of marriage (Lichter and Graefe 2001), while being African American (Lichter, LeClare, and McLaughlin 1991) and having grown up without both biological parents present (South 2001) are associated with a reduced probability of marriage. We measure mothers’ race/ethnicity with four categories: white non-Hispanic, black non-Hispanic (reference), Hispanic, and other non-Hispanic. A dummy variable indicates whether the father’s race/ethnicity differs from the mother’s. Educational attainment for both mothers and fathers is self-reported in four categories: less than high school (reference), high school degree, some college, and bachelor’s degree or more (the latter two are combined in the regression models); we use mothers’ report of fathers’ education if the father is not interviewed. Each parent reports their age in years at the time of the baby’s birth and whether they lived with both parents at age 15. Mothers also report whether they are residing with their mother (the child’s maternal grandmother) at the time of the birth. Fathers’ economic characteristics at baseline (reported by mothers) are measured with two constructs: regular employment and earnings. Regular employment is defined as working at a regular job an average of 25 or more
hours per week for at least 26 weeks in the previous year. Previous year’s earnings are coded in three categories: less than $10,000, $10,000 to $25,000, and $25,000 or more. Mothers’ report whether she thought about—or the father suggested—getting an abortion (to roughly proxy whether the birth was unplanned). How long the mother knew the father prior to the pregnancy measures the relationship duration (in years). Physical health is self-reported by mothers and fathers, ranging from 1 (poor) to 5 (excellent).

Among parents with young children, being/getting married is associated with more favorable attitudes toward marriage and lower levels of distrust (by mothers but not fathers) of the opposite gender (McLanahan 2004), as well as greater religiosity (Lichter and Carmalt 2009; Wilcox and Wolfinger 2007). Traditional attitudes toward gender roles are measured by the average of two questions with four response choices ranging from 1 (strongly disagree) to 4 (strongly agree): 1) “The important decisions in the family should be made by the man of the house,” and 2) “It is much better for everyone if the man earns the main living and the woman takes care of the home and family” ($r = .41$). Parents’ distrust of the opposite gender is represented by their responses to two statements: 1) “Men (women) cannot be trusted to be faithful,” and 2) “In a dating relationship, a man (woman) is largely out to take advantage of a woman (man).” Response choices range from 1 (strongly disagree) to 4 (strongly agree), and the two items are averaged into a single measure ($r = .47$). The frequency of religious attendance reflects how often mothers and fathers attend religious services, ranging from 1 (not at all) to 5 (once a week or more).

With respect to socio-behavioral characteristics, married parents are less likely to have substance problems, to have been physically violent, or to have been incarcerated than unmarried parents (DeKlyen, Brooks-Gunn, McLanahan, and Knab 2006; McLanahan 2009). We use
mothers’ reports about whether they or the father had a problem with substances that interfered with their work or personal relationships. Mothers report at baseline whether the father was physically violent toward her (sometimes or often hits or slaps), and mothers report at the 1-year survey whether the father had ever been in jail or prison.

Also, married mothers and fathers are less likely to have had children by more than one partner (Carlson and Furstenberg 2006). While the initial transition to parenthood likely yields the greatest change in the couple relationship, higher-order births also create new demands and affect the couple relationship (O'Brien and Peyton 2002); couples with a greater number of children are shown to experience a steeper decline in marital quality over time (Kurdek 1999).

Couple fertility history reflects both the mother’s and the father’s previous childbearing, combined from several questions reported by mothers at the 1-year survey about whether they’ve had children together and/or with other partners. The information is combined into categories: couple first birth, couple had two or more previous children together and no children by other partners (reference), father only had one or more children by a previous partner, mother only had a child by a previous partner, and both parents had a child by a previous partner.

4.2 Missing data

As with all surveys, attrition and missing data are an important concern. Of the 2,970 co-resident couples included in the baseline survey (1,187 married and 1,783 cohabiting), 503 mothers were not interviewed at least two more times after the baseline interview. The majority of these cases were lost to attrition, rather than mothers who missed earlier waves being subsequently interviewed. Couples lost to attrition are disproportionately Hispanic (but not white or black) and have lower maternal and paternal education, but otherwise do not significantly differ on the characteristics examined here (including initial relationship quality). For the full
sample of 2,409 couples, two variables have more than 10% missing—fathers’ employment (12.5%) and fathers’ earnings (13.6%). In the latent growth model estimation, full information maximum likelihood (FIML) is used to estimate missing values on all covariates; FIML estimates models that include all cases using available data and has been shown to yield less biased and more efficient estimates than other common missing data treatments (Wothke 1998).

4.3 Analytic Strategy

After presenting unadjusted mean scores on relationship quality across all survey waves, we use latent growth curve modeling to examine trajectories in relationship quality over time. Growth curve models are particularly instructive for examining processes of change in couple relationships (Karney and Bradbury 1995), capturing both within-couple and between-couple variation. Within-couple differences, specified in a Level-1 model, reflect the pattern of couple relationship quality trajectories. The intercept value represents the level of relationship quality at the initial (time-of-birth) interview, and the slope represents the couple’s linear rate of change over the time period. The Level-2 model estimates between-couple differences by allowing the intercepts and slopes to vary as a function of time-invariant variables that differ across couples. All latent growth models are estimated using Mplus software, version 7.0 (Muthén and Muthén 2012). Model fit is evaluated by the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA); good fit is indicated by a CFI greater than .95 and an RMSEA less than .06 (Hu and Bentler 1999), although a CFI of .90 is also considered acceptable (Raykov and Marcoulides 2000).

We focus on marital status in two ways. First, we estimate a series of nested latent growth models to compare trajectories of relationship quality between married and cohabiting (at birth) couples (Table 3); this analysis sheds light on the selectivity of marriage and the extent to which
marriage may differentiate relationship quality over and above the characteristics of those who enter it. We start with an unconditional model to evaluate overall differences in relationship quality trajectories between cohabiting and married couples. Covariates are added in stages: In Model 2, we add characteristics assumed to be exogenous to marital status at birth: demographic, economic, and relationship history characteristics. Model 3 adds couple health, social-behavioral characteristics and fertility history that could potentially be endogenous to marriage. Second, we compare relationship trajectories among cohabiting couples who get married post birth to those who do not (Table 4). Here, we start with the full set of baseline covariates and then include time-varying measures of whether the couple got married between each of the survey waves. This analysis points to the potential benefits of marriage for unwed parents.

As noted earlier, in order to address selection into stable, cohabiting relationships and to provide upper and lower bounds on the true effect of marriage on relationship quality, we conduct all analyses twice. First, we estimate our latent growth curve models using all co-resident couples at birth while accounting for relationship instability over time. We do this by including a set of auxiliary variables that capture couples’ relationship instability (i.e., that measure the probability of relationship quality being missing due to truncation). This modeling technique allows us to account for interrelationships between marriage, relationship stability, and relationship quality (Enders 2010; Muthén and Muthén 1998-2012); the results are analogous to modeling the change in relationship quality conditional on the probability of still being in a co-residential union. By including all couples and using auxiliary variables to account for data truncation allows us to provide an upper bound estimate of how marriage influences relationship quality trajectories. These results provide a more representative estimate (than models using only stable couples) of how marriage influences relationship quality to the extent that cohabiters with
poor quality relationships break up and are thus excluded from analyses using couples in stable relationships. Second, we re-estimate our latent growth curve models using only the sub-set of couples who remain in stable co-resident relationships over the 9 years subsequent to the focal child’s birth. These estimates should be comparable to prior research on relationship quality among stable couples, although to the extent that marital status influences relationship stability, these estimates will be (downwardly) biased due to truncation resulting from union dissolution; they thus represent a lower bound of how marriage is linked to relationship quality. Differences between results for the full sample versus using only stable couples would suggest that marriage protects against relationship instability as well as relationship quality declines. Note that we explored other modeling techniques that would allow us to jointly estimate relationship survival and relationship quality over time, but these become computationally complex and unstable when using categorical variables and/or FIML as our models require (Enders 2011).  

5. Results  

5.1 Sample Description

Table 1 shows detailed descriptive information about the full sample of co-resident parents at birth, by marital status at birth (weighted by national sampling weights). Compared to married mothers, cohabiting mothers (and fathers) are less advantaged in terms of their demographic, health and social-behavioral characteristics. Specifically, cohabiting mothers and fathers are, on average, younger at the birth of their child, have lower levels of educational attainment and are less religious. Cohabiting mothers have lower self-rated health, and cohabiting fathers are less likely to have lived with both parents at age 15. Further, cohabiting fathers tend to have less regular employment, lower earnings, and are more likely to have some

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1 In sensitivity analyses we used models with fewer categorical variables and less item-missing data to compare our results when using auxiliary variables to those with joint survival and growth curve models. Our results for the total co-residential sample and the total unmarried samples were very similar regardless of analytic strategy.
history of incarceration. Cohabiting couples knew each other for fewer years before the pregnancy and are more likely to have considered resolving the pregnancy via abortion. With respect to fertility history, married and cohabiting couples are equally like to have the focal child as their first birth, while cohabiting couples are much more likely to have had a child by a previous partner—either the mother, father, or both; married couples are much more likely to have only had previous children together.

Means on couple relationship quality across survey waves from birth through 9 years are shown in Table 2. Overall, average relationship quality is quite high right after a baby’s birth (2.74 on the 1-to-3 scale), declining somewhat (to 2.66) by year 9 (among couples that report at the respective wave). Comparing married and cohabiting couples at birth, we see that relationship quality does not significantly differ by marital status, but the slight gap that exists grows over time and favors married parents. Overall, two-thirds of couples who were living together at the time of the birth were still together at 9 years—73 percent of married couples and 46 percent of cohabiting couples. When average relationship quality scores are examined only among these stably co-resident couples (bottom panel), the differences by time-of-birth marital status are even smaller at most time points. As shown in the bottom row of Table 2, over the post-birth period, an increasing fraction of the unmarried couples who remain co-resident get married—from 24% at year 1, to fully 66% at year 9. In other words, of cohabiting couples that stay together over the long term, the majority eventually marry.

5.2 Marital Status at Birth and Couples’ Relationship Quality Trajectory

Turning to results for how marriage is related to relationship quality over time, we first estimate latent growth curve models for the full sample of co-resident couples at the child’s birth, using models that estimate relationship quality while accounting for relationship stability. The
first (unconditional) model in Table 3 displays the initial relationship quality (intercept) and the rate of change (slope) in relationship quality over time. Couples married at the time of the focal child’s birth have a slightly higher (marginally significant) initial level of relationship quality than couples cohabiting at the baby’s birth (.021 units higher, or about 9 percent of a standard deviation). Also, the marital status slope coefficient—which represents the deviation due to marriage from the average yearly change in couple relationship quality—is positive and statistically significant, suggesting that marriage is protective for relationship quality following a child’s birth; the average change in marital quality is 0.022 units higher (i.e. a slower decline) than the average change in cohabiting relationship quality. Thus, without adjusting for any confounding characteristics, cohabiting couples have increasingly lower quality relationships than married couples, but the magnitude of the difference is small.

When background characteristics are controlled in Model 2, the (marginally significant) marital status difference in the intercept becomes smaller in magnitude (and not statistically significant), primarily due to the fact that married mothers are more likely to be white and to have some college education, and these characteristics are associated with a higher initial level of relationship quality. The slope parameter is reduced by about half (from .022 to .014) but remains statistically significant. When health and social-behavioral covariates are included (Model 3), married couples now have significantly lower relationship quality at birth, suggesting that the initial relationship quality advantage among married couples was partly due to their better health and demographic characteristics. The slope estimate remains statistically significant but small (.012), suggesting that even net of a host of characteristics with which marriage is correlated, relationship quality declines more slowly over time among married couples than among cohabiters.
The results in the lower panel of Table 3 repeat the results above but focus on the subset of stably co-resident couples. The fit of Model 1 is poor, particularly with respect to the RMSEA, which is not surprising, since there is only one predictor variable (marital status) in the model, and the sample is about half of the full sample. Here, we find in Model 1 a slightly higher but not statistically significant initial value on relationship quality for married couples at the time of the child’s birth (.023 units higher), and relationship quality declines slightly more slowly among married couples (.006). Thus, without adjusting for any confounding characteristics, cohabiting couples at the birth who stay together have increasingly lower quality relationships than married couples at birth who stay together, but the magnitude of the difference is very small. Adding background characteristics (Model 2) diminishes both the intercept difference and the slope difference, neither of which is statistically significant. Adding health and social-behavioral characteristics in Model 3 does little to change the estimates. Overall, net of a host of covariates, marital status at birth is neither associated with significant differences in initial relationship quality nor with change over time in relationship quality as compared to cohabiters at birth who remain together over 9 years after a birth.

5.3 Change in Relationship Quality following Marriage

The next set of results (Table 4) is intended to answer the question of whether entering a marriage subsequent to the birth is associated with positive change in relationship quality for those cohabiting at the time of birth. We start with model 3 from Table 3 (limited to unmarried cohabiters) and then add time-varying measures of getting married between waves in order to predict differences in relationship quality over time between those who do versus do not marry. As with the prior analyses, we first present results for the broader group of couples who are co-
resident at birth and may (or may not) break up over time, followed by results for those who stay together over the entire 9-year period.

Considering all cohabiting couples at birth and estimating relationship quality accounting for stability, there is evidence that those who get married have significantly better quality relationships at years 3, 5 and 9 (but not year 1) than couples who do not. This means that immediately following marriage—and in most waves after marrying, those who married have consistently higher relationship quality than couples who did not marry. The overall relationship quality trajectory for all couples continues to be downward (slope of -.024); however, couples who marry receive a ‘boost’ in their relationship quality that is larger than this average decline. This leads to an increasing gap between those who marry and those who do not over time (as evidenced by the general pattern of larger marriage coefficients across waves). This could indicate that the benefits of marriage persist over time—or that as an increasing share of couples break up, the relationship quality of the reference group becomes increasingly worse.

As shown in the bottom panel of Table 4, when the sample is limited to only couples that were cohabiting at birth and stayed together over the next 9 years, there are fewer observed differences in relationship quality between couples that get married versus those that continue cohabiting. For those who got married between the baseline and 1-year surveys, relationship quality at 9 years is slightly higher (.08) though only marginally statistically significant. Getting married between the 1- and 3-year surveys, and the 5- and 9-year surveys, is linked to a better-quality relationship at 3 years, and 9 years, respectively, indicating some initial upswing in relationship quality after marriage for these groups. The difference between the results in the top and bottom panels of Table 4 suggest that part of why marriage is protective for relationship quality is because it reduces the likelihood of breaking up. It is important to note that we cannot
evaluate whether marriage increases relationship quality in a causal way or whether those with better relationships get married (i.e., selection).

6. Discussion

This paper uses data from the Fragile Families and Child Wellbeing Study to provide new information about how marriage matters for trajectories of couple relationship quality subsequent to the birth of a child in large U.S. cities in the late 1990s. Life course theory suggests that the transition into marriage—and living in the state of being married—are important aspects of social life that likely have implications for other family relationships and individual well-being. Our analysis explores whether there are differences in relationship quality over time by initial marital status at the child’s birth, as well as whether cohabiting couples’ getting married before their child’s ninth birthday is associated with improved relationship quality. Given the large and growing number of nonmarital births—and policy concerns about the parenting, relationships and instability in such families, this research provides useful evidence about the role of legal marriage for couple relationship quality, an important aspect of family cohesion that is linked with both parenting (Erel and Burman 1995) and children’s wellbeing (Heinrich et al., 2010).

An important consideration that has received limited attention in prior research is that marriage may matter for relationship stability as well as—or perhaps via the mechanism of—relationship quality, so failing to incorporate stability into the estimates of quality and focusing only on couples that stay together may underestimate the role of marriage for relationship quality. As expected, we find greater evidence for marriage as a differentiating factor in relationship quality when we include all couples who start out co-resident and account for subsequent relationship stability, versus limiting our analyses to the subset of stable couples
whose relationship is structurally the same (i.e., two biological parents stably living with their common child) except for the legal bond of marriage.

With respect to our first research question—whether trajectories of couple relationship quality differ by marital status at the time of a new child’s birth, the answer appears to be yes among all co-resident couples at birth. Although the initial higher level of relationship quality for married couples appears to be entirely driven by the individual and dyadic characteristics of those who get married, couples married at the time of their baby’s birth do experience a significantly slower decline in relationship quality over time than cohabiting couples, net of a host of demographic, economic, and social-behavioral characteristics. In other words, consistent with earlier work that looked at a shorter timeframe and did not incorporate relationship stability (Howard and Brooks-Gunn 2009), marriage appears to be protective for couple relationship quality in the first nine years after a baby’s birth, even holding constant many observed individual and couple factors with which marriage is correlated. These results could suggest either that being married has a causal effect on sustaining relationship quality, or that the association is due to some other unmeasured characteristic(s) that differentiate couples who have children within versus outside of marriage (such as emotional maturity, efficacy, attitudes and values about family life, etc.). Although this investigation utilizes longitudinal data following the same couples over multiple waves, one cannot be certain which is true, and as with family structure effects more broadly (Cherlin 1999), both causation and selection are likely operative.

Analyses of the sub-group of couples that stay together over the nine years after the birth suggest that (after controlling for demographic characteristics) there is no significant difference in quality—either starting level or change over time—between stably married couples and stable cohabiting couples over nine years. This finding echoes prior work showing that cohabiters with
the most serious commitment, reflected by plans to marry, have similar quality relationships to married couples (Brown 2004). In other words, marriage matters because couples are more likely to stay together once married (whether a causal effect of the institution or a selection effect due to the individuals who enter it)—not because it produces notably higher quality relationships among couples who are already in a stable, co-resident relationship.

With respect to the second question—whether getting married post-birth is associated with changes in couple relationship quality (a question that to our knowledge has not been addressed in prior work), the answer again depends on the group being analyzed. Among all cohabiting couples at birth, there is suggestive evidence that couples who go on to get married have higher relationship quality than those who continue to cohabit. At the same time, fewer differences by marriage are observed as compared to the subset of stably cohabiting couples (that do not marry). As above, this is consistent with related research using the NSFH, suggesting that while married couples have better quality relationships than cohabiters overall, there are no differences observed between married couples and the sub-set of cohabiters that plan to marry in the future (Brown 2004; Brown and Booth 1996; Wiik, Bernhardt, and Noack 2009).

While this analysis has focused on couples who start out in a co-resident relationship at the time of the baby’s birth, it is important to recall that of all nonmarital births, couples who live together over the subsequent nine years (whether they later marry or not) represent a very select group of couples. Overall, about 46% of couples that started out cohabiting at birth were co-residing at 9 years (29% were married and 17% were cohabiting). Therefore, the couples analyzed in this paper clearly represent the ‘best’ relationships among all cohabiters—and only about half of all unmarried couples generally are living together at the time of an unwed birth (McLanahan 2011). As such, the couples that start out cohabiting (and especially those that
cohabit long-term) could be the most likely to get and stay married; hence, if getting married does not improve their relationships, there could be little promise of marriage for the other unwed couples. On the other hand, the opposite could be true: Since these couples are effectively living in ‘marriage-like’ relationships already, marriage may do the least to change their circumstances. It could be that non-resident couples—whose relationships are less strong and secure—are exactly the couples for whom a marital commitment might make more of an early difference in strengthening their union. The stronger results when all co-resident couples are included are not inconsistent with this interpretation, although clearly a host of other (observed and unobserved) factors beyond marriage predict both relationship dissolution and quality. Importantly, our analyses are unable to disentangle the causal directionality between marriage, relationship quality, and relationship stability. We found that couples who are (get) married have higher quality relationships over the course of 9 years and that this is due, in part, to union stability, but we are unable to identify whether marriage itself contributes to maintaining high quality and stable relationships, or if those in the best and most stable relationships get (and remain) married. Future work should try to disentangle the independent contributions of marriage and relationship quality on relationship stability and provide information on the process through which marriage facilitates relationship quality and stability.

Taken together, the findings about being married and getting married suggest that marriage is positively related to couple relationship quality: Marriage at the time of birth seems to be (modestly) protective against decline in relationship quality, and getting married after the birth is associated with better relationship quality. The fact that the difference in relationship quality between couples who get married and do not get married grows over time may suggest that the benefits of marriage take time to accrue – it takes time to develop the shared history and
‘marriage-specific capital’ (including children) that positively affect the couple relationship trajectory (England and Farkas 1986). In other words, the ‘institutionalization’ of marriage—recognized as a key element of the married state (Cherlin 2004)—may not occur immediately with entry into the legal status.

There are several limitations to this research (some of which we have discussed above and hence describe only briefly here). First, as noted above, although we include a large number of confounding variables in the analyses, there likely remains unobserved heterogeneity between couples who are married (or get married) versus those who are (do) not. As such, we cannot evaluate whether the differences in couple relationship quality by marriage are due to marriage itself or to some other attribute with which it is correlated. Second, our measure of relationship quality is limited in that it focuses mostly on positive interactions (and does not reflect conflict) and is reported only by mothers (fathers may have a different view); also, the measure reflects only emotional support, whereas marriage may affect other types of support in relationships, such as instrumental support. Third, as with all longitudinal surveys, attrition is likely not random, and results may be biased by certain types of people/couples being more likely to remain in the survey over time. We suspect that couples with better relationships and who are more advantaged are more likely to persist in the survey; hence, we may be under-estimating differences in relationship quality by marital status that would be otherwise be observed if all couples continued to be interviewed.

With respect to policy implications vis-à-vis unwed parents, whether the benefits of marriage accrue over time is a crucial question. If so—and if programs could, in fact, encourage marriage—such programs might contribute to children’s wellbeing by enhancing the longevity of the relationships, given the importance of family stability for children (Fomby and Cherlin 2007;
Osborne and McLanahan 2007). Unfortunately, recent experimental evaluations of the relationship skills programs within the Building Strong Families federal initiative are not encouraging, as such programs were shown to have no overall effects on marriage, union quality, and union stability among unwed couples (Wood et al. 2012). It could be that programs would have greater benefit if focused on the sub-set of unmarried couples for whom the key reported barriers to marriage—relationship standards and financial stability (Edin and Kefalas 2005; Gibson-Davis, Edin, and McLanahan 2005)—can most readily be overcome.

Overall, across our analyses, we find that marriage, relationship stability, and relationship quality are intimately connected. Couples that are able to maintain high-quality relationships stay together, and frequently get (stay) married. Future research can evaluate differences by marriage over a longer period of time, can consider multiple dimensions of relationship quality (using other data sources), and can examine the extent to which marriage may moderate the link between relationship quality and various aspects of adult and child well-being.
REFERENCES


### Table 1. Weighted Sample Descriptives for Co-Resident Couples at Time of Birth, by Marital Status (N=2,409)

<table>
<thead>
<tr>
<th></th>
<th>Married % or M (SD)</th>
<th>Cohabiting % or M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother's race/ethnicity (ref=black non-Hispanic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>50.8</td>
<td>26.9</td>
</tr>
<tr>
<td>Black non-Hispanic</td>
<td>11.3</td>
<td>28.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>26.5</td>
<td>40.0</td>
</tr>
<tr>
<td>Other non-Hispanic</td>
<td>11.4</td>
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</tr>
<tr>
<td>Father's race differs</td>
<td>13.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Age at child's birth (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>29.20 (3.40)</td>
<td>24.67 (7.71)</td>
</tr>
<tr>
<td>Father</td>
<td>31.65 (3.78)</td>
<td>27.58 (9.64)</td>
</tr>
<tr>
<td>Mother's education</td>
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<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>14.8</td>
<td>39.3</td>
</tr>
<tr>
<td>High school degree</td>
<td>25.9</td>
<td>41.6</td>
</tr>
<tr>
<td>Some college or higher</td>
<td>59.3</td>
<td>19.1</td>
</tr>
<tr>
<td>Father's education</td>
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<td></td>
</tr>
<tr>
<td>Less than high school</td>
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<td>36.5</td>
</tr>
<tr>
<td>High school degree</td>
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<td>38.5</td>
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<tr>
<td>Some college or higher</td>
<td>64.0</td>
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<tr>
<td>Lived with both parents at age 15</td>
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<td></td>
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<tr>
<td>Mother</td>
<td>62.0</td>
<td>45.3</td>
</tr>
<tr>
<td>Father</td>
<td>68.7</td>
<td>45.2</td>
</tr>
<tr>
<td>Mother thought/Father suggested abortion</td>
<td>9.5</td>
<td>26.3</td>
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<tr>
<td>Length of relationship prior to pregnancy (years)</td>
<td>7.09 (1.90)</td>
<td>3.92 (4.28)</td>
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<tr>
<td>Co-reside with maternal grandmother</td>
<td>3.8</td>
<td>13.2</td>
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<tr>
<td>Father is employed regularly</td>
<td>95.6</td>
<td>80.6</td>
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<td>Father's Earnings in the past year at baseline</td>
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<td>Less than $10,000</td>
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<td>24.8</td>
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<tr>
<td>$10,000-24,999</td>
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<td>47.0</td>
</tr>
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<td>$25,000+</td>
<td>67.5</td>
<td>28.1</td>
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<tr>
<td><strong>Health and social-psychological characteristics</strong></td>
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<td></td>
</tr>
<tr>
<td>Self-rated health (range=1-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>4.08 (.54)</td>
<td>3.74 (1.28)</td>
</tr>
<tr>
<td>Father</td>
<td>4.08 (.54)</td>
<td>3.93 (1.28)</td>
</tr>
<tr>
<td>Substance problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>1.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Father</td>
<td>0.2</td>
<td>3.9</td>
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</table>

*(table continued next page)*
Table 1 (cont.). Sample Descriptives for Co-Resident Couples at Time of Birth, by Marital Status (N=2,409)

<table>
<thead>
<tr>
<th>Health and social-psychological characteristics (cont.)</th>
<th>Married</th>
<th>Cohabiting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% or M (SD)</td>
<td>% or M (SD)</td>
</tr>
<tr>
<td>Traditional gender role attitudes (range=1-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>2.16 (.44)</td>
<td>2.07 (.81)</td>
</tr>
<tr>
<td>Father</td>
<td>2.39 (.39)</td>
<td>2.33 (.89)</td>
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<tr>
<td>Distrust of other gender (range=1-4)</td>
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<tr>
<td>Mother</td>
<td>1.83 (.41)</td>
<td>2.02 (.90)</td>
</tr>
<tr>
<td>Father</td>
<td>1.69 (.34)</td>
<td>1.93 (.85)</td>
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<tr>
<td>Religious attendance (range=1-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>3.43 (.81)</td>
<td>2.81 (1.75)</td>
</tr>
<tr>
<td>Father</td>
<td>3.28 (.81)</td>
<td>2.50 (1.84)</td>
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<tr>
<td>Father is physically violent</td>
<td>1.0</td>
<td>2.4</td>
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<tr>
<td>Father ever incarcerated</td>
<td>7.0</td>
<td>28.8</td>
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<tr>
<td>Couple fertility history</td>
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<tr>
<td>Couple first birth</td>
<td>32.9</td>
<td>29.2</td>
</tr>
<tr>
<td>Couple 2+ births together (no other births)</td>
<td>44.9</td>
<td>14.8</td>
</tr>
<tr>
<td>Father only child by other partner</td>
<td>10.5</td>
<td>16.8</td>
</tr>
<tr>
<td>Mother only child by other partner</td>
<td>7.2</td>
<td>20.0</td>
</tr>
<tr>
<td>Both parents child by other partner</td>
<td>4.5</td>
<td>19.2</td>
</tr>
<tr>
<td>Time-varying variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Got married post birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between birth and 1-year</td>
<td>NA</td>
<td>16.9</td>
</tr>
<tr>
<td>Between 1-year and 3-year</td>
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<td>10.5</td>
</tr>
<tr>
<td>Between 3-year and 5-year</td>
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</tr>
<tr>
<td>Between 5-year and 9-year</td>
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<td>5.5</td>
</tr>
<tr>
<td>Number of cases (n)</td>
<td>971</td>
<td>1,438</td>
</tr>
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</table>

Note: Data are weighted by 1-year national sampling weights.
<table>
<thead>
<tr>
<th>Table 2. Relationship Quality Mean Scores for Co-Resident Couples at Birth, by Marital Status at Birth (N=2,409)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>$M$</td>
</tr>
<tr>
<td><strong>All couples co-resident at birth ($n=2,409$)</strong></td>
</tr>
<tr>
<td>All ($n=2,409$)</td>
</tr>
<tr>
<td>Married at birth ($n=971$)</td>
</tr>
<tr>
<td>Cohabiting at birth ($n=1,438$)</td>
</tr>
<tr>
<td>Signif. difference (two-tailed $t$-test)</td>
</tr>
<tr>
<td>Percent co-resident at wave</td>
</tr>
<tr>
<td>Married at birth ($n=971$)</td>
</tr>
<tr>
<td>Cohabiting at birth ($n=1,438$)</td>
</tr>
<tr>
<td>% Married at wave</td>
</tr>
<tr>
<td>% Cohabiting at wave</td>
</tr>
<tr>
<td><strong>Stably co-resident, birth to 9 years ($n=1,239$)</strong></td>
</tr>
<tr>
<td>Relationship quality mean score</td>
</tr>
<tr>
<td>Married at birth ($n=734$)</td>
</tr>
<tr>
<td>Cohabiting at birth ($n=505$)</td>
</tr>
<tr>
<td>Cohabiting at birth, percent married at wave</td>
</tr>
</tbody>
</table>

Note: Relationship quality score represents the average of 6 items (4 at time of birth) about supportiveness in the couple relationship, reported by mothers; range=1 (never) to 3 (often).

Note: Data are weighted by 1-year national sampling weights.
Table 3. Unstandardized Coefficients from Latent Growth Models
Estimating Couple Relationship Quality among Co-Resident Couples at Child's Birth

<table>
<thead>
<tr>
<th></th>
<th>Model 1 Intercept</th>
<th>Model 1 Slope</th>
<th>Model 2 Intercept</th>
<th>Model 2 Slope</th>
<th>Model 3 Intercept</th>
<th>Model 3 Slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>All co-resident couples with a birth (n = 2,409)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Relationship Quality</td>
<td>2.686 ** - .044 **</td>
<td>2.717 ** - .043 **</td>
<td>2.698 ** - .036 *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married at child's birth</td>
<td>.021 + .022 **</td>
<td>-.025</td>
<td>.014 **</td>
<td>-.034 *</td>
<td>-.034 **</td>
<td>.012 **</td>
</tr>
<tr>
<td>Model fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFI</td>
<td>.941</td>
<td>.990</td>
<td>.992</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>RMSEA</td>
<td>.054</td>
<td>.027</td>
<td>.023</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All stably co-resident couples (n = 1,239)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Relationship Quality</td>
<td>2.718 ** - .018 **</td>
<td>2.744 ** - .015 *</td>
<td>2.689 ** - .012 +</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married at child's birth</td>
<td>.023 .006 *</td>
<td>-.003</td>
<td>.005</td>
<td>-.005</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>Model fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFI</td>
<td>.914</td>
<td>.979</td>
<td>.984</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>RMSEA</td>
<td>.088</td>
<td>.042</td>
<td>.034</td>
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</tr>
</tbody>
</table>

†p < .10  *p < .05  **p < .01

Note: Missing data on covariates are estimated using full information maximum likelihood.

Note: Model 2 includes background characteristics (mother's race/ethnicity, father's race differs from mother's, mother's and father's age at the focal child's birth, mother's and father's educational attainment, mother's and father's childhood family structure, mother/father thought/suggested abortion, length of the relationship prior to pregnancy, father's employment and father's earnings, and whether the maternal grandmother is coresident). Model 3 adds health and social-behavioral characteristics (mother's and father's self-rated health, mother's and father's substance problem, mother's and father's traditional gender role attitudes, mother's and father's distrust of the other gender, mother's and father's religious attendance, father is physically violent, father was ever in jail, and couple fertility history).
Table 4. Unstandardized Coefficients from Latent Growth Models Estimating Couple Relationship Quality among Unmarried Cohabiting Couples at Child’s Birth

<table>
<thead>
<tr>
<th>All unmarried co-resident couples with a birth (n =1,438)</th>
<th>Intercept</th>
<th>Slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Relationship Quality</td>
<td>2.687 **</td>
<td>-.024 *</td>
</tr>
<tr>
<td>RQ1</td>
<td>RQ3</td>
<td>RQ5</td>
</tr>
<tr>
<td>Couple got married (Unstandardized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between baseline and 1-year waves</td>
<td>-.024</td>
<td>.018</td>
</tr>
<tr>
<td>Between 1- and 3-year waves</td>
<td>.065 *</td>
<td>.107 **</td>
</tr>
<tr>
<td>Between 3- and 5-year waves</td>
<td>.080 *</td>
<td></td>
</tr>
<tr>
<td>Between 5- and 9-year waves</td>
<td></td>
<td>.275 **</td>
</tr>
<tr>
<td>Model fit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMSEA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All stable co-resident couples unmarried at birth (n =505)</th>
<th>Intercept</th>
<th>Slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Relationship Quality</td>
<td>2.679 **</td>
<td>-.004</td>
</tr>
<tr>
<td>RQ1</td>
<td>RQ3</td>
<td>RQ5</td>
</tr>
<tr>
<td>Couple got married (Unstandardized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between baseline and 1-year waves</td>
<td>-.041</td>
<td>-.030</td>
</tr>
<tr>
<td>Between 1- and 3-year waves</td>
<td>.063 *</td>
<td>.052</td>
</tr>
<tr>
<td>Between 3- and 5-year waves</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Between 5- and 9-year waves</td>
<td></td>
<td>.157 **</td>
</tr>
<tr>
<td>Model fit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFI</td>
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</tr>
<tr>
<td>RMSEA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

†p<.10  *p<.05  **p<.01; RQ=relationship quality; 1, 3, 5 and 9 indicate survey year.

Note: Missing data on covariates are estimated using full information maximum likelihood.

Note: Model includes background characteristics (mother's race/ethnicity, father's race differs from mother's, mother's and father's age at the focal child's birth, mother's and father's educational attainment, mother's and father's childhood family structure, mother/father thought/suggested abortion, length of the relationship prior to pregnancy, father's employment and father's earnings, and whether the maternal grandmother is coresident) and health and social-behavioral characteristics (mother's and father's self-rated health, mother's and father's substance problem, mother's and father's traditional gender role attitudes, mother's and father's distrust of the other gender, mother's and father's religious attendance, father is physically violent, and father was ever in jail, and couple fertility history).