

*The Fragile Families and Child Wellbeing Study changed its name to The Future of Families and Child Wellbeing Study (FFCWS). Due to the issue date of this document, FFCWS will be referenced by its former name. Any further reference to FFCWS should kindly observe this name change.*

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

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

### 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. This paper uses data from the Fragile Families and Child Wellbeing Study ( $N=2,108$ ) 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 cohabitators who do not marry—though again, not compared to stably-cohabiting couples.

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 & Kelly, 1994; Cowan & Cowan, 1992; Glenn & McLanahan, 1982; Gottman & Notarius, 2000; Michaels & 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 & Cowan, 1992; Cowan et al., 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 & Huston, 1985; Umberson, Williams, Powers, Chen, & Campbell, 2005) and depends on various other individual and couple characteristics (Doss, Rhoades, Stanley, & 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, & 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 et al., 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 & 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, & 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. 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, as well as to the sub-set who continue cohabiting but do not legally marry. 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 & McLanahan, 2007); homogeneity along key dimensions (living arrangements in this case) is important when conducting research on couple relationship quality (Karney & Bradbury, 1995).

## PREVIOUS RESEARCH

### *Relationship Quality of Married and Cohabiting Couples after Childbirth*

Life course theory draws our attention to the fact 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, 1998). Among family ties, the marital relationship has historically been viewed as central to nuclear family dynamics (Cummings & 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 (Howard & Brooks-Gunn, 2009; Wolfinger & Wilcox, 2008). As noted above, the trajectory of marital quality typically declines with the transition to parenthood (Belsky & Hsieh, 1998; Belsky & Rovine, 1990; Cowan & Cowan, 1992; MacDermid, Huston, & McHale, 1990; Shapiro, Gottman, & Carrère, 2000), although not all couples become less satisfied with their marriages during this transition; there is significant variability (Belsky, 1986; Belsky & 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 & Wilcox, 2011; MacDermid et al., 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, 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 & 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 & Joyner, 1999; England & 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 & Booth, 1996; Nock, 1995; Stanley, Whitton, & Markman, 2004; Wiik, Bernhardt, & Noack, 2009), although such differences are not observed between the sub-set of cohabitors with plans to marry versus married couples (Brown, 2004; Brown & Booth, 1996; Wiik et al., 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, & 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 & Milkie, 2003)—and among unmarried parents, for cohabitors versus

those who are single (Woo & 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, cohabitators' relationship quality declined more quickly up to five years after a birth. Our study builds on this prior work by using a more detailed measure of relationship quality over a longer time period and considering both prior and prospective marriage in order to further identify the extent to which marriage differentiates co-resident couple relationship quality over time.

#### *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, 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 & 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, & Snyder, 2010), it is important to understand the extent to which getting married may enhance couples' relationship quality after a nonmarital birth.

### *Confounding Variables*

In order to eliminate spurious correlations 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), which we summarize below. With respect to demographic characteristics, education (Goldstein & Kenney, 2001; Lichter, McLaughlin, Kephart, & Landry, 1992), better physical health (Lillard & Panis, 1996), and older age are associated with a greater likelihood of marriage (Lichter & Graefe, 2001), while being African



American (Lichter, LeClare, & McLaughlin, 1991) and having grown up without both biological parents present (South, 2001) are associated with a reduced probability of marriage. 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 & Carmalt, 2009; Wilcox & Wolfinger, 2007). 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, & Knab, 2006; McLanahan, 2009). Also, married mothers and fathers are less likely to have had children by more than one partner (Carlson & 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 & Peyton, 2002); couples with a greater number of children are shown to experience a steeper decline in marital quality over time (Kurdek, 1999).

### *Our Paper*

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 2,108 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 cohabitators—but will not differentiate those who marry from stable cohabitators.

#### METHOD

The data come from the Fragile Families and Child Wellbeing Study, a longitudinal, survey designed to track the conditions and capabilities of unmarried parents—and comparison group of married parents—and their children over time (Reichman, Teitler, Garfinkel, & 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 oversamples 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 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 2,108 couples that were co-resident at the time of the baby's birth (844 married and 1,264 cohabiting couples) and where the mother was interviewed at the 9-year follow-up survey. We also focus on the sub-set of 885 couples who were stably co-resident over the 9-year time period (543 married and 342 cohabiting at birth).

### *Defining the Appropriate Comparison Group*

This paper focuses on couples living together in order to isolate the role of legal marital status for relationship quality among those within the same living arrangements (co-residence). Yet, after couples break up, they have no reported romantic relationship quality, an instance of a statistical problem commonly known as 'truncation by death' (McConnell, Stuart, & Devaney, 2008; Zhang & 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 relevant/measured—but they are not missing or censored.

We know that cohabiting couples are much more likely to break up than married couples (Bumpass & Lu, 2000). 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. For this reason, we conduct each set of multivariate analyses in two ways – first, comparing relationship quality of all co-resident couples by marital status (including those who broke up—assigning their relationship quality after break-up to the lowest score on the scale), and second, comparing

the relationship quality of only those couples that remained in a co-resident relationship by marital status. To the extent that the link between marriage and union stability reflects both causation and selection, the true effect of marriage on relationship quality likely falls somewhere between results obtained with these two different comparison groups.

### *Measures*

*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*). Mothers provide reports to these questions if they are in a romantic relationship with the father at the time of the survey or if the relationship broke up since the previous survey, in which case they are asked about "the last month of [their] relationship." (At the 9-year survey, mothers whose relationships ended after the 5-year survey did not provide answers to these items; for these mothers [n=267], the relationship quality measures at 9 years are coded as 1 [*never*].) For survey waves after couples had broken up but were not asked about prior relationship quality, their relationship quality is assigned the lowest score (1). It is important to 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 includes the first 4 items; we use all 6 items at each post-birth wave to include more information (but results do not change 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 as measured just after the birth than in later waves.)

*Parents' characteristics.* All control variables are reported at the baseline survey unless indicated otherwise. Mothers' race/ethnicity includes 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 mother's report of father's education if the father isn't 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. 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*). We use mothers' reports about whether they or the father had a problem with substances that interfered with their work or personal relationships. 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*). 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.

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 of: 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. One time-varying covariate related to changes in the couple relationship is included—for cohabiting couples, whether the couple got married by the 1-, 3-, 5-, or 9-year survey.

As with all surveys, attrition and missing data are an important concern. Of the 2,971 co-resident couples included in the baseline survey (1,186 married and 1,785 cohabiting), 862 mothers were not interviewed at the 9-year survey, and hence there is no information about the couple's relationship status or quality at that wave. 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 2,108 couples, three variables have more than 10% missing—fathers' employment (13.8%), fathers' earnings (14.3%), and whether parents have a new child together between years 1 and 3 years (10.4%). 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).

### *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 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 likely 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

### *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 have been identified as particularly instructive for examining processes of change in couple relationships (Karney & 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 & 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 & Bentler, 1999), although a CFI of .90 is also considered acceptable (Raykov & 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 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. Specifically, it estimates the extent to which getting married is associated with change in couples' relationship quality post-birth.

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 use all co-resident couples in our sample (assigning those who broke up to the lowest level of relationship quality—we discuss alternative specifications in the Results section). Second, we use only the sub-set of couples who remain in co-resident relationships over the 9 years subsequent to the focal child's birth.

## RESULTS

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

(2.72 on the 1-to-3 scale), declining somewhat (to 2.10) by year 9. Comparing married and cohabiting couples at birth, we see that relationship quality does not significantly differ by marital status, but the gap grows over time and favors married parents; by the 9-year survey, the difference is about .44 units (2.20-1.76) and statistically significant. The growing magnitude of the gap is largely driven by the greater fraction of cohabiting-at-birth couples that break up (and hence in later waves were assigned the lowest score on the relationship quality measure). As shown in the next set of rows in Table 2, 77% couples married at the time of birth are still together at the 9-year survey, while 53% of couples cohabiting at the time of birth are still living together (and could have gotten legally married—discussed later).

When average relationship quality scores are examined only among these stably co-resident couples (next set of rows), the differences by time-of-birth marital status are much smaller; only at year 9 does the difference even approach statistical significance ( $p=.096$ ), with a mean difference of .14 (about half of a 9-year overall standard deviation). As shown in the bottom row of Table 2, over the post-birth period, an increasing fraction of the unmarried couples who continue living together get married—from 25% at year 1, to fully 67% at year 9. In other words, the majority of cohabiting couples that stay together eventually marry.

#### *Marital Status at Birth and Couples' Relationship Quality Trajectory*

Turning to the latent growth model results, the first (unconditional) model in Table 3 displays the initial relationship quality (intercept) and the rate of change (slope) in relationship quality over time for all co-resident couples at birth (regardless of later relationships status) by marital status at birth. The fit of this initial model is poor, particularly with respect to the RMSEA, although this is not surprising, since there is only one predictor variable (marital status) in the model. We find, however, that couples married at the time of the focal child's birth have a

significantly higher initial level of relationship quality than couples cohabiting at the baby's birth—.049 units higher (a relationship quality of 2.72 vs. 2.67). This translates to one-tenth of a standard deviation unit difference. 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 couple relationship quality following a child's birth; the average change in marital quality is 0.06 units higher (i.e. a slower decline) than the average change in cohabiting relationship quality. This means that by year 9, couples who were married at the time of the child's birth have an average relationship quality of 2.22 whereas couples who were unmarried have an average relationship quality of 1.63. Thus, without adjusting for any confounding characteristics, cohabiting couples at the birth have increasingly lower quality relationships than married couples.

When background characteristics are controlled in Model 2, the marital status difference in the intercept becomes smaller in magnitude, close to zero, and is no longer statistically significant; this is 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 half (from .06 to .03) but remains statistically significant. Adding health and social-behavioral characteristics in Model 3 yields only a modest decrease in the magnitude (but not the significance) of marriage on the slope coefficient. In other words, even net of a host of individual and couple characteristics, relationship quality appears to decline more slowly for couples who were married versus cohabiting at the time of the focal child's birth. Furthermore, when using standardized coefficients (results not shown), marital status at the time of the birth is one of the largest predictors of change in relationship quality over time.

The estimates in the lower panel of Table 3 repeat the results above but are limited to couples who are stably co-resident over the 9-year period following the baby's birth. Since the previous analysis kept all couples in the analysis and assigned those who broke up to the lowest relationship quality in subsequent wave(s), the differences observed in the top panel may reflect differential patterns of breaking up by marital status. That is, cohabiting couples may simply be more likely to break up and break up more quickly than married couples. Limiting the analysis to stably co-resident couples represents a stronger test of whether and how marriage matters for couple relationships because the comparison group has the same living arrangements over the entire time period (but starts off unmarried), controlling for a host of covariates associated with marriage. As shown in Model 1, in this comparison, there is no significant association between marriage and initial relationship quality, but marriage is associated with a very small and significantly higher slope coefficient (.007), indicating that couples married at the baby's birth experience slightly slower average decline in relationship quality over time. However, including the covariates in Models 2 and 3 reduces the overall rate of change in relationship quality to non-significance, suggesting that stably co-resident couples maintain a high level of relationship quality over time, and the rate of change does not significantly differ by marital status.

In supplemental analyses (not shown), we re-estimated our models of prior marriage as linked to relationship quality using an alternative assignment of relationship quality for couples that broke up. Instead of assigning such couples to the lowest value on the relationship quality scale (1 out of 1 - 3), we used whatever was the last prior value reported by mothers before the couple broke up. This analysis allows us to evaluate the relationship between marriage and relationship quality in a counterfactual context where couples who break up simply ended their relationship at the same level of quality. In other words, this analysis asks, how is marriage

related to relationship quality net of the presumed (but unmeasured) decline in quality that likely preceded the dissolution? In these models, as in our main analyses for all couples, marriage is significantly associated with both the intercept and the slope on relationship quality in the unconditional model (Model 1). However, consistent with results in the lower panel of Table 3, with covariates added in Model 2 (and persisting in Model 3), there is no significant difference in the slope by marriage. This suggests that the extent to which marriage differentiates couple relationship quality is with respect to union stability—and not with respect to the level of quality that was in place before relationships (may have) dissolved.

#### *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 initially cohabiting. We start with model 3 from Table 3, but limit the sample to only those couples who were unmarried at the time of the focal child's birth. We 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 shown in the top panel of Table 4, although these models do not appear to fit the data very well, considering all cohabiting couples at birth, those who later get married—regardless of the timing of marriage—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 all 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 (-.112); however, as with the results in Table 3, these results suggest that couples who marry after the focal child's birth also experience slower declines in relationship quality following marriage. This leads to an

increasing gap between those who marry and those who do not. This could indicate that the benefits of marriage persist over time—or that as an increasing share of couples break up over time, the relationship quality of the reference group becomes increasingly worse; mothers provide a relationship quality score in the wave after they broke up (with respect to when they were together) but for subsequent waves are assigned to the lowest value on the measure.

When the sample is limited to only couples that were cohabiting at birth and continued to live together over the next 9 years (bottom panel of Table 4), however, there are fewer observed differences in relationship quality between couples that get married versus those that continue cohabiting. Relationship quality appears to be slightly worse at 1 year for those who got married between the baseline and 1-year surveys (-.072); it could be that the birth was the primary motivator for marriage (much like the ‘shotgun’ weddings of old), but the relationships are in fact of lower quality. 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 results in the top panel of Table 4 show that couples who marry have consistently higher relationship quality than other couples, whereas the bottom panel shows little difference between those who do and do not marry. This suggests that the downward relationship quality trajectory may be driven by those who break up. To directly examine this, we re-estimated the model in the top panel of Table 4 and included a time-varying variable for breaking up between waves (results not shown), essentially combining the top and bottom panels of Table 4. This analysis confirmed that the downward relationship quality trajectory is driven by those who break up. Overall, couples who remain together maintain a high level of relationship quality, though there is some evidence that getting married is linked with improved relationship quality.

It is important to note that we cannot evaluate whether marriage increases relationship quality or whether those with better relationships get married (i.e., selection). In supplemental analyses (not shown), we added a control for relationship quality at baseline in order to see if those who eventually marry simply had better relationships to start with (i.e., at the time of the birth). We found that only those who married between the focal child's birth and year 1 had higher quality relationships; there is no other association between later marriage and initial relationship quality. Also, the overall association between getting married and higher relationship quality at subsequent waves remained unchanged with this additional baseline control. These findings demonstrate that it is not just the couples with the highest quality relationships at the focal child's birth that ultimately marry. Rather, these results suggest that the couples who are able to maintain high quality relationships marry, which is then related to subsequent relationship stability and relationship quality.

To more parsimoniously evaluate aggregate differences in relationship quality for cohabitators who did—versus did not—get married over time, we also estimated a difference-in-difference model (results not shown). By comparing within-group differences over time, this approach is similar to a fixed effects model that eliminates bias due to unobserved heterogeneity between groups. To the extent that marriage has a causal effect on relationship quality, we would expect that the difference in relationship quality between parents cohabiting at birth that will go on to marry (at some point over the next nine years), versus parents cohabiting at birth that do not marry, will be greater *after* marriage occurs than before. We compare relationship quality at the baseline interview ('pre-treatment') and relationship quality at the 9-year interview ('post-treatment') and adjust for the number of waves post-marriage and for whether couples later divorced. These results confirm the results in Table 4: among all cohabiting couples, there is

little difference in initial relationship quality between those who marry and those who do not, but couples who marry have significantly higher relationship quality after marriage than other couples because their relationship quality has declined less than other couples (especially those that broke up). Among stably cohabiting couples, there is no significant difference pre- versus post-marriage in the gap in relationship quality between those who (will) marry versus not.

## DISCUSSION

This paper uses data from the Fragile Families and Child Wellbeing Study to provide new information about how marriage matters for trajectories of co-resident 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 births that occur outside marriage—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 & Burman, 1995) and children's well-being (Heinrich et al., 2010).

An important consideration in this analysis is what should be the appropriate group to whom married couples should be compared: As would be expected, comparing couples who start out as married—or cohabiting couples who get married—to all couples who start out cohabiting (including those who break up) yields much stronger differences by marital status than do



comparisons to couples whose relationship is structurally the same (two biological parents stably living with their common child) except for the legal bond of marriage. In this paper, we conduct analyses using both comparison groups in order to evaluate the consistency of the results.

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 (Howard & 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 bear 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 the biggest difference in relationship quality is (not surprisingly) between couples who stay together versus break up, since there is no significant difference in quality between stably married couples and stable cohabiting couples over nine years. This finding echoes prior

work showing that cohabitators with the most serious commitment—reflected by plans to marry—have similar quality relationships to married couples (Brown 2004). Further, our supplemental analyses (not shown) indicated that had couples who broke up remained at the level of quality they had pre-break-up, there would be no observed difference in the trajectories of married versus cohabiting couples (after accounting for pre-existing characteristics). 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 co-resident.

With respect to the second question—whether getting married post-birth is associated with changes in couple relationship quality, the answer again depends on what is the reference group. Among all cohabiting couples at birth, couples who go on to get married clearly have higher relationship quality than the entire group that starts out cohabiting but does not go on to marry. At the same time, the subset of couples who get married does not have relationship quality trajectories that significantly differ from their unmarried counterparts who remain in long-term cohabiting relationships. As above, this is consistent with related research using the NSFH, suggesting that while married couples have better quality relationships than cohabitators overall, there are no difference observed between married couples and the sub-set of cohabitators that plan to marry in the future (Brown, 2004; Brown & Booth, 1996; Wiik et al., 2009).

While the present 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 go on to live together over the subsequent nine years (whether they later marry or not) represent a very select group of couples. Overall, about 30% of all couples who have an unwed birth in the Fragile Families Study are living together at the 9-year survey, and about 15%

of all unwed couples were stably co-residing over all nine years post birth. Therefore, the couples analyzed in this paper clearly represent the ‘best’ relationships among all unmarried couples. 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 doesn’t 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 couples are included—even those that broke up—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 paint an interesting puzzle: Marriage at the time of birth seems to be (modestly) protective against rapid decline in relationship quality, and yet getting married after the birth does not consistently yield an increase

in relationship quality for those who remain co-resident. These results are not necessarily inconsistent. First, they may underscore the concern about whether the findings are simply due to unobserved heterogeneity: Marriage is the same legal status for all couples, but it may in fact be a very different institution—with a differential effect of marriage on quality—depending on the characteristics of those individuals in it. Second, the benefits of marriage may take time to accrue. Marriage may be protective for couples who have been married for some time (at least nine years for the Fragile Families married-at-birth couples) because it takes time to develop the shared history and ‘marriage-specific capital’ (including children) that positively affect the couple relationship trajectory (England & 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. The generally increasing coefficient size for getting married between waves on subsequent relationship quality (Table 4) suggests that this could be the case, although among those stably co-resident, there is less evidence for such.

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. Fourth, as noted above, since we cannot assess relationship quality for couples who are no longer in a relationship, we cannot disentangle how marriage affects relationship quality versus relationship stability.

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 & Cherlin, 2007; Osborne & 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 overall (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 & Kefalas, 2005; Gibson-Davis, Edin, & 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. Marriage does not seem to provide a unique boost to relationship quality; rather, it signifies the maintenance of high-quality relationships and contributes to continued relationship stability. 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.

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**Table 1. Weighted Sample Descriptives for Co-Resident Couples at Time of Birth,  
by Marital Status (N=2,108)**

	Married % or M (SD)	Cohabiting % or M (SD)
<i>Background characteristics</i>		
Mother's race/ethnicity (ref=black non-Hispanic)		
White non-Hispanic	51.75	28.71
Black non-Hispanic	11.0	30.76
Hispanic	25.8	34.54
Other non-Hispanic	11.4	5.994
Father's race differs	14.4	15.4
Age at child's birth (years)		
Mother	29.33 (3.33)	24.58 (7.35)
Father	31.68 (3.72)	27.33 (9.53)
Mother's education		
Less than high school	13.9	33.6
High school degree	25.7	44.9
Some college or higher	60.4	21.5
Father's education		
Less than high school	11.5	36.4
High school degree	25.1	36.7
Some college or higher	63.4	26.9
Lived with both parents at age 15		
Mother	60.4	46.5
Father	66.4	41.4
Mother thought/Father suggested abortion	9.8	24.5
Length of relationship prior to pregnancy (years)	7.23 (1.83)	3.74 (4.33)
Father is employed regularly	94.1	82.1
Father's Earnings in the past year at baseline		
Less than \$10,000	7.0	23.8
\$10,000-24,999	26.6	49.6
\$25,000+	66.4	26.7
<i>Health and social-psychological characteristics</i>		
Self-rated health (range=1-5)		
Mother	4.09 (.53)	3.73 (1.36)
Father	4.12 (.52)	3.89 (1.35)
Substance problem		
Mother	.2	2.3
Father	.2	2.5

(table continued next page)

**Table 1 (cont.). Sample Descriptives for Co-Resident Couples at Time of Birth,  
by Marital Status (N=2,108)**

	Married % or M (SD)	Cohabiting % or M (SD)
<i>Health and social-psychological characteristics (cont.)</i>		
Traditional gender role attitudes (range=1-4)		
Mother	2.13 (.41)	2.02 (.82)
Father	2.43 (.39)	2.29 (.95)
Distrust of other gender (range=1-4)		
Mother	1.81 (.38)	1.97 (.89)
Father	1.70 (.33)	1.90 (.92)
Religious attendance (range=1-5)		
Mother	3.37 (.77)	2.79 (1.87)
Father	3.27 (.77)	2.42 (1.91)
Father is physically violent	1.9	2.6
Father ever incarcerated	7.3	29.5
<i>Couple fertility history</i>		
Couple first birth	31.9	29.7
Couple 2+ births together (no other births)	45.3	17.2
Father only child by other partner	11.5	16.5
Mother only child by other partner	6.0	17.8
Both parents child by other partner	5.2	18.7
<i>Time-varying variables</i>		
Married post birth		
At 1 year	NA	18.8
At 3 years	NA	26.9
At 5 years	NA	29.8
At 9 years	NA	29.2
Couple has new baby		
Between 1- and 3-year surveys	31.2	27.2
Between 3- and 5-year surveys	24.5	24.9
Between 5- and 9-year surveys	12.1	31.9
Number of cases (n)	844	1,264

Note: Data are weighted by Year-1 national sampling weights.

**Table 2. Relationship Quality Mean Scores for Co-Resident Couples at Birth,  
by Marital Status at Birth (N=2,108)**

	Birth <i>M</i> ( <i>SD</i> )	Year 1 <i>M</i> ( <i>SD</i> )	Year 3 <i>M</i> ( <i>SD</i> )	Year 5 <i>M</i> ( <i>SD</i> )	Year 9 <i>M</i> ( <i>SD</i> )	Change, Birth to 9 Yrs
All ( <i>n</i> =2,108)	2.72 (.27)	2.58 (.40)	2.50 (.44)	2.34 (.53)	2.10 (.72)	-.62 (.69)
Married at birth ( <i>n</i> =844)	2.71 (.19)	2.61 (.26)	2.53 (.30)	2.41 (.34)	2.20 (.50)	-.51 (.46)
Cohabiting at birth ( <i>n</i> =1,264)	2.75 (.41)	2.49 (.80)	2.40 (.80)	2.10 (1.06)	1.76 (1.15)	-.99 (1.16)
Signif. difference (one-tailed <i>t</i> -test)	<i>p</i> =.528	<i>p</i> =.059	<i>p</i> =.057	<i>p</i> <.01	<i>p</i> <.01	<i>p</i> <.01
Percent co-resident at wave						<u>Stable to 9 Yrs</u>
Married at birth	100.0	95.8	88.1	75.9	77.4	75.0
Cohabiting at birth	100.0	77.8	64.7	53.7	53.2	46.9
Stably co-resident, birth to 9 years ( <i>n</i> =885)	2.79 (.19)	2.69 (.22)	2.70 (.23)	2.65 (.25)	2.66 (.28)	-.12 (.31)
Married at birth ( <i>n</i> =543)	2.78 (.15)	2.69 (.18)	2.70 (.19)	2.66 (.19)	2.69 (.23)	-.10 (.25)
Cohabiting at birth ( <i>n</i> =342)	2.80 (.33)	2.69 (.40)	2.68 (.41)	2.60 (.55)	2.55 (.50)	-.24 (.57)
Signif. difference (one-tailed <i>t</i> -test)	<i>p</i> = .754	<i>p</i> = .926	<i>p</i> =.732	<i>p</i> =.268	<i>p</i> =.096	<i>p</i> =.111
Percent of cohabiting at birth, stably co-resident couples married at wave ( <i>n</i> =342)	0.0	24.7	44.6	53.5	66.6	66.6 % pts.

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 Year-1 national sampling weights.

**Table 3. Unstandardized Coefficients from Latent Growth Models Estimating Couple Relationship Quality among Co-Resident Couples at Child's Birth**

	Model 1		Model 2		Model 3	
	Intercept	Slope	Intercept	Slope	Intercept	Slope
<b>All co-resident couples at birth (n =2,108)</b>						
Estimated Relationship Quality	2.668 **	-.115 **	2.763 **	-.185 **	2.773 **	-.152 **
Married at child's birth	.049 **	.060 **	-.005	.030 **	-.017	.025 **
Model fit						
CFI		.897		.898		.897
RMSEA		.122		.054		.042
<b>Stably co-resident couples from birth through 9-year survey (n =885)</b>						
<b>Fixed characteristics (Level 2 variables)</b>						
Estimated Relationship Quality	2.720 **	-.017 **	2.789 **	-.005	2.751 **	.005
Married at child's birth	.021	.007 *	.000	.005	-.016	.006
Model fit						
CFI		.925		.916		.910
RMSEA		.104		.048		.038

† $p < .10$  \* $p < .05$  \*\* $p < .01$

Notes: Missing data on covariates are estimated using full information maximum likelihood. 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). 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**

	Intercept	Slope			
<b>Cohabiting at birth (<i>n</i> =1,264)</b>					
Estimated Relationship Quality	2.725 **	-0.112 **			
	<u>RQ1</u>	<u>RQ3</u>	<u>RQ5</u>	<u>RQ9</u>	
Couple got married					
Between baseline and 1-year waves	.042	.172 **	.251 **	.461 **	
Between 1- and 3-year waves		.302 **	.366 **	.466 **	
Between 3- and 5-year waves			.464 **	.463 **	
Between 5- and 9-year waves				.897 **	
Model fit					
CFI				.835	
RMSEA				.047	
<b>Stably co-resident through 9-year survey (<i>n</i> =342)</b>					
Estimated Relationship Quality	2.719 **	0.026			
	<u>RQ1</u>	<u>RQ3</u>	<u>RQ5</u>	<u>RQ9</u>	
Couple got married					
Between baseline and 1-year waves	-.072 *	-.058 +	-.034	.063	
Between 1- and 3-year waves		.078 *	.027	.034	
Between 3- and 5-year waves			.015	-.043	
Between 5- and 9-year waves				.159 **	
Model fit					
CFI				.906	
RMSEA				.037	

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

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