Published in final edited form as:
Demography. 2004 May ; 41(2): 237–261.

UNION FORMATION IN FRAGILE FAMILIES*

Marcia Carlson,
Columbia University

Sara McLanahan, and
Princeton University

Paula England
Northwestern University

Abstract

In this paper, we use data from a new longitudinal survey—the *Fragile Families and Child Wellbeing Study*—to examine union formation among unmarried parents who have just had a child together. We use multinomial logistic regression to estimate the effects of economic, cultural/interpersonal, and other factors on whether (relative to having no romantic relationship) parents are romantically involved living apart, cohabiting, or married to each other about one year after the child's birth. Net of other factors (including baseline relationship status), women's education and men's earnings encourage marriage. Cultural and inter-personal factors also have strong effects: women's trust of men, both parents' positive attitudes toward marriage, and both parents' assessment of the supportiveness in their relationship encourage marriage. Supportiveness also encourages cohabitation, while fathers' having a problem with alcohol or drugs and reporting higher conflict in the relationship discourage cohabitation. Fathers' physical violence deters couples' remaining in romantic non-resident relationships.

Introduction

Nonmarital childbearing has increased dramatically over the past four decades such that today, one-third of all U.S. births occur outside of marriage (Ventura and Bachrach 2000). Part of the increase is due to delays (and declines) in marriage, which increase the pool of women at risk for a nonmarital pregnancy and birth. Another part is due to declines in so-called "shotgun marriages" (those that occur between conception and the time of birth). In fact, by one estimate, more than half of the increase in nonmarital births between 1960 and 1980 is due to decreases in "shotgun marriages" (Akerlof et al. 1996). Along with delays in marriage and declines in shotgun marriages, cohabitation has increased. Hence, a growing share of nonmarital births now occurs to cohabiting couples, as well as to couples who are living apart but romantically involved. Taken together, these trends have given rise to a new family form - *the fragile family* - defined as unmarried parents raising their child(ren) together.1

The increase in "fragile families" is of great interest to demographers and sociologists. Marriage is one of the oldest institutions in society and, until recently, was closely tied to

*Marcia Carlson (mjc2001@columbia.edu) is Assistant Professor of Social Work and Sociology at Columbia University. Sara McLanahan (mclanaha@princeton.edu) is Professor of Sociology and Public Affairs at Princeton University. Paula England (pengland@northwestern.edu) is Professor of Sociology, and Research Fellow at the Institute for Policy Studies, at Northwestern University.

An earlier version was presented at the annual meetings of the Population Association of America, Washington, D.C., March 2001.

1The term 'fragile families' was first used by Ronald Mincy (Mincy 1994; Mincy and Pouncy 1997).

fertility. Marriage is also associated with a range of positive outcomes for adults and children (Nock 1998; Waite and Gallagher 2000; McLanahan and Sandefur 1994), although some part of this association is due to selection (Cherlin 1999; Sigle-Rushton and McLanahan forthcoming). Finally, remarriage, or living with a social father, does not produce the same benefits for children as living with a biological father (McLanahan and Sandefur 1994; Hofferth 2003). Thus, the relationship trajectories of fragile families are of considerable interest to those concerned about the long-term wellbeing of children.

Changes in marriage are also of interest to scholars who study stratification and mobility (Musick and Mare 2004). Low-income individuals and members of disadvantaged minority groups are much more likely to live in fragile families than other groups. Whereas women with less than a college education have experienced large increases in nonmarital childbearing since 1970, college-educated women have experienced very little increase (Ellwood and Jencks 2002). Finally, fragile families are of great interest to policymakers. The Bush administration is currently proposing to spend more than one billion dollars over five years ($300 million per year) on programs to promote “healthy marriages” (Garfinkel and McLanahan 2003). In order to evaluate the possible role for marriage in welfare reform, it is critical to understand the characteristics of unmarried parents and the factors that influence their relationship trajectories and the intergenerational transmission of poverty.

In this paper, we use data from a new longitudinal survey—the *Fragile Families and Child Wellbeing Study*—to examine union formation among unmarried parents. Our analysis differs from previous research on marriage among single mothers (e.g. Furstenberg et al. 1987, Graefe and Lichter 2002) in that we focus specifically on marriage to the biological father of the child. We also examine the full range of relationship types that may develop (or dissolve) among unmarried parents, including cohabiting unions, romantic relationships that do not involve cohabitation, and non-romantic relationships. In the following section we review theory and empirical research on union formation; we highlight studies that focus on disadvantaged populations and single mothers and, except where noted, that use large, national probability samples.

Theoretical Perspectives and Empirical Research

Economic Resources

Economic theories of marriage emphasize both *income* and *specialization* effects. According to the former, individuals (both men and women) with higher income and assets are more likely to marry because they have more to share and can provide more access to credit and insurance (Lam 1988).2 Since marriage typically involves more pooling and is expected to last longer, we would expect the effects of income to be stronger for marriage than for cohabitation or romantic involvement. According to specialization theory (Becker 1991), the benefits of marriage are greater when there is more specialization, i.e. when partners’ potential wage rates differ; the lower-earning partner (usually the woman) will focus more on home production, while the higher-earning partner (usually the man) invests more in market work. This theory implies that, holding men’s wage rates constant, women’s wage rates may have a negative effect on marriage (Moffitt 2000). The benefits of specialization should be greater for married couples than for cohabiting couples, since specialization is riskier for women without a legal commitment. Thus, we might expect the effect of women’s wage rates to be more negative (less positive) for marriage than for other unions. Sociological perspectives that emphasize norms dictating a male breadwinner also imply

[2]Of course, the opposite logic might also hold: individuals may use their income to “purchase” privacy or freedom from unwanted relationships. This hypothesis has been dubbed the “women’s independence effect” (Oppenheimer 1988; Ruggles 1997; Aassve 2003), but men too might use income to purchase freedom.

that men's (but not women's) earnings promote marriage (Wilson 1987; Oppenheimer 2000). Such norms apply largely to marriage, but may also apply to cohabitation or romantic involvement if these are seen as leading to marriage.

Consistent with both income and specialization theories, the empirical research generally shows that men's earnings have a positive effect on marriage in both cross-sectional MSA analyses and individual-level analyses (Lloyd and South 1996; Oppenheimer 2000; White and Rogers 2000; Lichter et al. 1991; Lichter et al. 1992; Sassler and Schoen 1999; Xie et al. 2003; Sweeney 2002), although Sassler and Goldscheider (2004) find the effect to be smaller in recent cohorts. Most studies also show positive effects of male earnings on the transition from cohabitation to marriage (Smock and Manning 1997; Sanchez et al. 1998), although Sassler and McNally (2003) find negative effects. Finally, two studies show that men's earnings encourage the formation of cohabiting unions (Clarkberg 1999, Smock and Manning 1997), although one study finds that men's education deters entrance to cohabitation (Thornton et al. 1995), while another finds no effect of several measures of men's future economic potential (Xie et al. 2003).

What about the role of men's earnings in disadvantaged populations? Several studies have looked at race differences in marriage. In general, they find that men's employment and/or earnings have a positive effect on marriage for blacks as well as whites (Lichter et al. 1991; Manning and Smock 1995; Lloyd and South 1996; Oppenheimer et al. 1997; Sweeney 2002; Blau et al. 2000). Two studies (Bulcroft and Bulcroft 1993; Tucker 2000) show that black women place more importance than white women on men's earnings in assessing marriage potential, and Edin's (2000) qualitative interviews with poor women show that men's earning power is an important dimension of their suitability for co-residence, and especially marriage. Finally, aggregate and trend studies suggest that the declining earnings of less-educated and African American men in the late 20th century explains some (but not most) of the decline in marriage rates among disadvantaged groups (Oppenheimer 2000; Moffitt 2000).

Only a few researchers have looked at the effects of men's earnings on marriage among couples with a premarital conception or birth. Using a sample of Chicago inner-city men whose first child was conceived out of wedlock, Testa et al. (1989) find that employed men (both blacks and whites) were more likely to marry the mother before (and after) the birth than non-employed men. In contrast, Zavodny (1999) found that men's education and employment predicted "shotgun" marriages among whites but not blacks. Qualitative research also provides support for the male earnings hypothesis among unmarried parents. Based on interviews with unmarried fathers, Sullivan (1989) concluded that white men were more likely than blacks to marry the mothers of their child because they were more able to find jobs through their community connections. Qualitative interviews with unmarried parents analyzed by Gibson et al. (2003) found that both men's and women's earnings were reported to matter, and parents set a much higher economic 'bar' for marriage than for cohabitation.

Given that women's earnings are a proxy for both income and specialization effects, we would expect the empirical evidence to be more mixed for women, and indeed, this is the case. Whereas aggregate data generally find that marriage is less common in areas where women, on average, have higher employment and earnings (Lichter et al. 1991; South and Lloyd 1992; Blau et al. 2000), individual-level studies report conflicting findings. Several studies find negative effects of women's employment, earnings, or potential earnings (Lloyd and South 1996; Schultz 1994); some find no effect (Sassler and Schoen 1999; Manning and Smock 1995; Xie et al. 2003); and many studies find positive effects (McLaughlin and

Lichter 1997; Raley 1996; Lichter et al. 1992; Oppenheimer 1988; Goldstein and Kenney 2001; White and Rogers 2000).

These inconsistencies may be due to the fact that the rationale for marriage is changing. Sweeney (2002) reports that earnings increased marriage for women born in the 1960s but not for those born in the 1950s. Of course, without information on potential partners' earnings in many of these studies, we cannot rule out the possibility that women's economic resources are simply a proxy for potential partners' earning power. Studies that observe both partners' earnings support this interpretation; they find that women's earnings have no effect on the transition from cohabitation to marriage, while men's have a positive effect (Manning and Smock 1995; Sanchez et al. 1998; Sassler and McNally 2003).

Studies of minority and low-income populations find mixed effects of women's earnings (or employment or earnings potential) on marriage when using aggregate-level data. For blacks, living in an area with higher black female employment or predicted earnings has been found to have negative (Cready et al. 1997; Lloyd and South 1996) or no (Blau et al. 2000) effect on blacks' marriage. But individual-level analyses show positive effects; Schultz (1994), finds that women's predicted wages have a positive effect on marriage for blacks, and Sweeney (2002) and Raley (1996) find similar results using black women's actual earnings and employment, respectively. The same pattern holds for young mothers. Landale and Forste (1991) find a positive association between marriage and education among Puerto Rican teens (living on the mainland). Finally, McLaughlin and Lichter (1997) report that employment increased entry into marriage among low-income women. However, some of these positive effects may be picking up the effects of earnings of the women's potential partners.

Only a few researchers have examined the effects of unmarried mothers' earnings potential on marriage to the father of their baby. Lundberg and Rose (2003) find that women's education has no effect on whether they marry the father but a positive effect on whether they marry another man. Qualitative analyses by Gibson et al. (2003) suggest that unmarried cohabiting parents see both parents' income as important to deciding whether or not to marry each other.

Cultural and Inter-Personal Factors

Most researchers agree that the 1960s and 1970s were a watershed period for changes in norms and practices governing union formation (Cherlin 1992). Widespread changes in family-related behaviors, such as increases in premarital sex, cohabitation, nonmarital childbearing, and divorce were accompanied by dramatic increases in the social acceptance of all of these behaviors (Axinn and Thornton 2000). While it is difficult to know which came first—changes in beliefs or changes in practices—there is some evidence that these factors are mutually reinforcing, and that, once in place, cultural forces take on a life of their own, influencing the marital behavior of the next generation of young adults (Axinn and Thornton 2000).

We expect that unmarried parents with more positive attitudes about and expectations for marriage will be more likely to marry (Waller and McLanahan 2003). However, normative change is neither uniform nor uncontested, as some groups hold onto traditional views longer. Religion has been one source of resistance to the liberalization of sexual norms and behaviors. Thus, we would expect religion, particularly fundamentalist doctrines, to encourage unmarried partners to get married (Wilcox 2002). Of course the admonition is really to get married before having sex or having a child, but presumably a post-birth marriage would be favored over continued sexual involvement or cohabitation after the birth. Thus, unlike our predictions for economic variables, where, for example, higher

earnings may make one more attractive for a romantic, cohabiting, or marital union, we predict that religiosity will encourage marriage relative to any of the other options, but make no prediction about its effect on romantic or cohabiting unions relative to no union at all.

Culture has also changed substantially vis-à-vis gender-related norms, and women's employment within marriage has become more accepted. Yet, cultural associations of marriage with male authority may today discourage marriage among women with egalitarian gender beliefs. Although religious views on gender are varied, religion is one cultural source of ideas encouraging the maintenance of traditional gender roles. Cultural lag in men's family gender-related behavior (e.g. participation in housework) may also lead women to distrust men and make marriage less attractive to women (Cherlin 2000). But, while the distrust in the middle class may be about whether men will help at home, other sources of distrust may predominate among the poor. A number of writers have commented on the high level of gender distrust in poor, particularly African American communities. Orlando Patterson (1998) sees the low marriage rates of blacks as a legacy of slavery, which denigrated men's economic role in the family. In his view, gender distrust arises when men are unable to provide the money that white, middle-class men can exchange for some measure of authority over women. Yet, working-class and poor men, whose ability to meet culturally-defined definitions of masculinity through earnings is most threatened, may be more likely to try to seize such authority on the basis of their sex in intimate unions precisely in reaction to their inability to get it anywhere else. If this is true, recent economic changes may have enhanced gender distrust in African American and working-class communities in which fragile families are concentrated.

Together, these arguments suggest that individuals that are more religious, have more pro-marriage values, and endorse traditional gender role attitudes will be more likely to marry relative to any of the other alternatives (including breaking up). Yet, these attitudes may not encourage other kinds of unions vis-à-vis no relationship at all. This argument is consistent with previous research showing that marriage is more selective of conservative ideologies and cohabitation selective of socially liberal ideologies (Sassler and Schoen 1999; Thornton et al. 1992; Smock 2000). However, gender distrust may impede all types of unions.

Three qualitative studies suggest that gender distrust may be especially important in the population of unmarried couples having children. Two studies report that women worry that if they marry their romantic or cohabitating partners, this will increase the men's sense that they have authority over the women (Edin 2000; Gibson et al. 2003). The study by Gibson et al. is from an embedded qualitative study that interviewed a subset of Fragile Families respondents, so the reports are about the prospects of marrying the other parent of their child. Some women feared that the men they were already living with would start ordering them around more if they married, which was seen as a disadvantage of marriage. Another qualitative study using the same data reported that sexual infidelity of the fathers (about 20 percent had "cheated") led women to have substantial distrust (England et al. 2003). Despite this, many of the parents hoped that both their trust and their financial assets would grow in the future so that they might decide to get married. Also, men reported no more reluctance about marriage than women.

We also expect that the quality of the parents' relationship will affect their union formation. We expect satisfying relationships to be more likely to last as romantic involvements and to lead to transitions into cohabitation or into marriage. Forty years ago, the stigma of a nonmarital birth was so strong that nonmarital pregnancies often led to shotgun marriages with an urgency that left little space for consideration of the quality of the relationship. Precisely because the parents we are considering did not feel constrained to marry before the birth, we would expect the quality of their relationship to affect not only whether they stay

in any union, but what level of commitment they choose. Thus, even though cohabitation is less institutionalized and a looser bond than marriage (Nock 1995), and while the standards for moving to or staying in a cohabitation are undoubtedly lower than for marriage, we expect the same relational criteria to predict being in any union relative to no union, with larger effects for marriage. Research by Cowan and Cowan (1992) on married couples shows that having a child often creates strained relationships between parents. However, they find the quality of the relationship before the birth to be a good predictor of how well spouses' relationships can weather the storm of early childrearing to avoid divorce. This may be true in fragile families as well—the strength of their relationship before the birth is likely to affect the future relationship trajectory, which, for them, determines whether they move into marriage.

The importance of relationship satisfaction in decisions to form and stay in unions flows in part from the growing cultural emphasis on male-female relationships and marriage as sources of love and companionship rather than an economic exchange (Goldscheider and Waite 1991). Many studies from psychology and sociology show that partners' perceptions of the emotional quality of marriages affect whether they stay together or break up (Sayer and Bianchi 2000; Cowan et al. 1994; Gottman 1994; Karney and Bradbury 1995), although there is little research on whether this is also true in low-income populations (Fein et al. 2003; Karney and Bradbury 1995) or among unmarried parents who have shared a birth. Drug or alcohol abuse, infidelity, and violence within marriage are strongly associated with low marital quality and with divorce (Sayer and Bianchi 2000; Amato and Rogers 1997). We would expect that the same factors that break up marriages would also break up romantic relationships among unwed parents, and thereby prevent them from moving into cohabitation or marriage.

Other Factors

In addition to theories about economic resources, cultural norms and attitudes, and relationship quality, past research has identified several other important determinants of marriage, some of which are likely to affect parents who have shared a birth. These are discussed only briefly as they are not our major focus and, in most cases, will be used primarily as control variables. First, a large literature shows that blacks have lower marriage rates than whites, and that some but not most of this differential can be explained by economic variables (Lichter et al. 1991). Having grown up without both biological parents present is also associated with a reduced probability of marriage (South 2001). Individuals in better physical health are more likely to marry (Lillard and Panis 1996), and older age is positively related to marriage and union formation, although this is less true for unmarried mothers (Lichter and Graefe 2001).

Another key factor is whether parents have other children. As divorce and nonmarital childbearing have increased, more and more parents have children by two or more partners (Mincy 2002; Carlson and Furstenberg 2003). A growing literature shows that having a nonmarital birth reduces women's chances of subsequently marrying, particularly if she does not marry the father of the baby (Bennett et al. 1995; Lichter et al. 2003; Graefe and Lichter 2002). Excluding women marrying within six months of the birth (used as a proxy for marrying the biological father) increases the magnitude of the estimated negative effect of having had the child on the mother's marriage prospects (Upchurch et al. 2002; Lichter and Graefe 2001). This is presumably because if the two parents don't marry shortly after the birth, they are likely to break up, and the presence of the child is a disincentive for another man to marry the single mother. What is not known, that we will investigate here, is whether mothers' children from a prior partner will also deter union formation with a new man with whom she has a child, and whether men's children from prior partners have a similar effect.

Finally, a large policy literature has examined the effect of welfare benefits on marriage among women with low potential earnings. Economic theory suggests that higher benefit levels will be a disincentive to marriage. If the rules require that cohabitants' income is treated as part of the family's income, higher benefits should, in principle, impede cohabitation as well as marriage. However, as Moffitt et al. (1998) point out, welfare rules are confusing and inconsistent as to how cohabitation is treated. Studies examining effects of state or year variation in benefit levels have often shown negative effects on marriage, but they are often small and sometimes not significant for blacks (Ellwood and Jencks 2002; Moffitt 1998). More recent research on welfare reform (which made benefits more difficult to receive, but in some states increased earnings that one could earn and still retain some benefits) suggests no net effect of welfare benefit levels on marriage (Bitler et al. [forthcoming]; Gennetian and Knox 2003). A full examination of the effects of welfare and other social policies on marriage and cohabitation among fragile families is beyond the scope of this paper (see Carlson et al. 2003). However, we include the state's welfare benefit level in our model to control for alternative sources of income for the mothers in our sample.

Data and Methods

We use data from the Fragile Families and Child Wellbeing Study, a new birth cohort study designed to provide longitudinal information about unmarried parents and their children. The study follows 4,900 children born between 1998 and 2000, including 3,700 children born to unmarried parents and 1,200 children born to married parents. The sample of unmarried parents, when weighted, is representative of all nonmarital births to parents residing in cities with populations over 200,000.

Baseline interviews with mothers and fathers were conducted shortly after their child's birth. Mothers were interviewed in person in the hospital within 48 hours of the birth, and fathers were interviewed in person as soon as possible thereafter, either in the hospital or wherever they could be located. Follow-up interviews with both mothers and fathers occurred when the child was about one and three years old, and another wave will be collected at five years. Response rates for the baseline survey are 87 percent for unmarried mothers and 75 percent for unmarried fathers.3 At the one-year follow-up, 89 percent of unmarried mothers and 79 percent of unmarried fathers who were interviewed at baseline were interviewed again. In this paper, we use data from the baseline interviews with unmarried mothers and fathers, and one-year interviews with mothers, in all twenty cities in the Fragile Families Study.4 Our sample includes 3,285 couples that were unmarried at the time of their baby's birth and for whom the mother provided a report of their relationship status approximately one year later.[5]

Variables

Our dependent variable is union status approximately one year after the child's birth. We combine several pieces of information about parents' relationships reported by mothers at the one-year follow-up survey: mothers are asked about their marital status, cohabitation

[3]The Fragile Families data are most representative of cohabiting fathers (almost 90 percent response rate) and least representative of fathers who are not romantically involved with the child's mother at the time of birth (38 percent response rate). Among the latter group, the men who participated in the study may well be a select group of those unusually committed to the child and/or the mother. (We address this issue in the Conclusions section.)

[4]The twenty cities are: Oakland, CA; San Jose, CA; Jacksonville, FL; Chicago, IL; Indianapolis, IN; Boston, MA; Baltimore, MD; Detroit, MI; Newark, NJ; New York City, NY; Toledo, OH; Philadelphia, PA; Pittsburgh, PA; Nashville, TN; Austin, TX ; Corpus Christi, TX; San Antonio, TX; Norfolk, VA; Richmond, VA; and Milwaukee, WI. For more information about the Fragile Families Study, see: http://crcw.princeton.edu/fragilefamilies.

[5]Throughout the paper, the term 'mother' refers to the focal child's mother, 'father' refers to the focal child's father, and 'parents' refers to the focal child's parents. The parents are the respondents in the Fragile Families Survey.

status, and the type of relationship they have with the baby's father (romantic, friends, separated, or no contact). From this information, we develop mutually exclusive and exhaustive categories of: married, cohabiting, "visiting" (romantically involved but living apart), and not in a romantic relationship (friends, separated, or no contact).6

Our independent variables include background characteristics, indicators of parents' economic resources, parents' attitudes and beliefs, and parents' relationship quality; all variables are from the baseline interview, except parents' fertility history, which was only available at the one-year follow-up. Unless otherwise indicated, we include identical variables for both mothers and fathers. Mothers' and fathers' ages are each specified as continuous variables. As 86 percent of couples are of the same race/ethnicity, we include mothers' race specified as a series of dummy variables: non-Hispanic black (the reference category), non-Hispanic white, Hispanic, and other race. We include a separate dummy variable indicating when the parents differ on race/ethnicity (14 percent). Family background is represented by a dichotomy for whether each parent lived in an "intact" family at age 15 (i.e. with both of their parents). Parents' fertility history is represented by variables indicating whether the parents have other biological children together, whether the mother has other children with another partner, and whether the father has other children by another partner (these are not mutually exclusive).7 We also include measures of mothers' and fathers' self-reported health status as a continuous variable, ranging from 1 "poor" to 5 "excellent." Finally, we include a variable for the length of time between the baseline and one-year interviews (measured in months) to control for differences in exposure to the risk of marriage.

To measure parents' economic resources, we use self-reported level of education and earnings in the past year. Education is specified as three dummy variables—less than high school (reference category), high school degree, and some college or higher. Earnings in the past year are specified as four dummy variables; the categories are zero (reference), which implies the person was not employed for pay in the last year, more than 0 but less than $10,000, $10,000 to $24,999, and $25,000 and higher. In auxiliary results not shown in our tables (but discussed below), we also describe results from a specification using an hourly wage rate, calculated from parents' reports about how much they earned in their most recent job. We measure state-level welfare benefits as the maximum Temporary Assistance for Needy Families (TANF) benefit level (in $100s) in the year prior to the baby's birth.

We include separate variables for mothers and fathers on all attitudinal and relationship quality items. Parents' attitudes toward marriage are measured by the average score of their responses to two statements about the importance of marriage, with "strongly disagree" (1) to "strongly agree" (4) as response choices: 1) "It is better for a couple to get married than to just live together," and 2) "It is better for children if their parents are married." Traditional attitudes toward gender roles are measured by the average of two questions with the same response choices: 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." Parents' distrust of the opposite sex is represented by the average of 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

[6]We use mothers' reports of relationship status instead of fathers', since doing so gives us a larger sample. For couples where both the mother and father were interviewed at 1 year, 79 percent agree on their relationship status. We count as visitors mothers who say they "rarely" or "never" live together with the father; we count as cohabitors those who say they live together "some of the time" or "all or most of the time." Our substantive findings do not change if the "some of the time" cases (for whom the mean number of nights per week is 3.6) are counted as visitors rather than cohabitors.

[7]Fathers' having children by other partners is measured by his report about whether he has "other living children who do not live with him." This information is consistent with mothers' reports about fathers having children by another partner in over 90 percent of cases.

advantage of a woman (man).” Again, response choices range from “strongly disagree” (1) to “strongly agree” (4), and the two items are combined into a single measure. We include the frequency of each parent’s religious attendance as a continuous variable, ranging from 1 “not at all” to 5 “once a week or more.”

We use several variables to measure the quality of parents’ relationship at baseline. Physical violence is represented by a dummy variable coded as 1 if the parent responds that the other parent “often” or “sometimes” “hits or slaps [her/him] when [he/she] is angry.” Frequency of conflict is represented by the mean of parents’ reports about whether they “never” (1), “sometimes” (2), or “often” (3) had conflict over six items in the last month—money, spending time together, sex, the pregnancy, drinking or drug use, and being faithful. Supportiveness in the relationship is measured by each parent’s report about the frequency that the father (mother) exhibits four types of behavior: 1) “is fair and willing to compromise when [they] have a disagreement,” 2) “expresses affection or love toward [her(him)],” 3) “insults or criticizes [her(him)] or [her(his)] ideas” (coding was reversed), and 4) “encourages or helps [her(him)] to do things that are important to [her(him)].” Again, response options are “never” (1), “sometimes” (2), and “often” (3). The four items were averaged to obtain an overall supportiveness score (range=1 to 3), with higher scores indicating a greater level of supportiveness.8 Finally, whether the father has a substance abuse problem is indicated by the mother’s report that the father “[has] problems such as keeping a job or getting along with family and friends because of alcohol or drug use.” Mothers also report on their own substance problems by responding (yes/no) to the question “In the past year, has drinking or using drugs ever interfered with your work on a job or with your personal relationships?”

Finally, parents’ relationship status at the time of the baby’s birth is measured by two dummy variables indicating whether parents were in a visiting or cohabiting relationship at baseline (with not romantically involved as the reference category).

Methods

For our multivariate analyses, we use multinomial logistic regression. This method uses maximum-likelihood estimation to predict the likelihood of being in certain categories of a given variable, relative to a reference category. Our dependent variable is the couple’s relationship status approximately one year after their child’s birth, with categories of not romantically involved (our reference category), “visiting” (romantically involved but living apart), cohabiting, and married. We estimate three models: the first model includes the background and economic variables, model 2 adds relationship status at baseline, and model 3 adds the variables representing parents’ attitudes and quality of relationship at the time of the birth. The coefficients in models 2 and 3 can be interpreted as the effects of parents’ characteristics on relationship status after controlling for relationship status at baseline. None of our respondents was married at baseline, and thus the coefficients for marriage are driven entirely by transitions into marriage. By contrast, the coefficients for visiting and cohabiting relationships (relative to no romantic involvement) are driven by movements from any of the other categories.

Assumptions about causal ordering—As we report our results, we discuss how economic and cultural/inter-personal variables affect union formation and stability, as well as the extent to which attitudes and relationship quality appear to mediate the effects of economic variables (comparing models 2 and 3). In doing so, we assume that the economic

[8]For couples who are no longer romantically involved, they are asked about supportiveness and the frequency of conflict during the last month they were together; since this was likely a contentious time in their relationship, differences between couples still together versus those no longer romantically involved may be exaggerated.

variables (measured at baseline) are exogenous to the attitudinal and relationship quality variables (also measured at baseline). This assumption is based on previous studies, which suggest that changes in economic status affect both marital quality and marital stability (White and Rogers 2000). Of course, it is possible that the causal order goes in the opposite direction, with attitudes and relationship quality affecting economic status. While we believe our specification is correct, we cannot test this assumption with our data.

Missing data—We use several procedures for dealing with missing data.9 Among items reported by mothers, for any variables with more than 10 missing observations, we assign the missing cases to the overall mean for all unmarried mothers at the baseline interview and include a flag variable to indicate the case has missing data on a particular variable. For father-reported variables, we follow a similar procedure and include a dummy to indicate that the father was missing on a particular variable (when he was interviewed). In addition, in cases where the father was not interviewed (and where we had no information on a given variable about the father from the mother), we substitute means and include a dummy variable to indicate that the father did not participate in the baseline survey.

Results

Table 1 reports descriptive statistics (frequencies, means and standard deviations) for our sample of parents who were unmarried at the time of their child's birth (*n*=3,285); we provide overall means as well as separate means by relationship status at birth. As noted above, all variables are reported at the time of the baby's birth (baseline interview), except parents' fertility history, and the relationship status when the baby is about one year old, which come from the one-year follow-up survey. Parents' characteristics vary substantially by relationship status at birth.

Table 2 shows a cross-tabulation of parents' relationship status at the birth of their baby and approximately one year later. Among unmarried couples, cohabiting relationships are much more stable over time than other types of relationships, including those where the parents are romantically involved but living apart. Overall, three-fourths of couples who were cohabiting at the time their child was born remain in a co-residential union about one year later—15 percent are now legally married to each other, and 60 percent are still cohabiting. 10 Being romantically involved but living apart at the time their child was born (which we refer to as "visiting") appears to be a very unstable status: only 14 percent of parents in this category remain there one year after the child's birth. Thirty-seven percent of visitors have "moved closer" in their relational involvement—32 percent are cohabiting, and five percent have gotten married. Yet, nearly half of those who were visiting at baseline are no longer romantically involved—about one-quarter are friends, and another quarter report that they had no relationship (i.e. "hardly ever" or "never" talk to the father, which probably implies that he does not visit the child).11 Of those who began as friends, 44 percent report that they remain friends one year later, and 14 percent report that they are romantically involved one year later (4 percent visiting, 9 percent cohabiting, and 1 percent married). Finally, of the small number of mothers who had no relationship at the time their child was born (indicated by their report that they "hardly ever" or "never" talk to the father), about two-thirds still

[9]Missing data do not pose a serious problem in our sample. There are three variables with more than five percent of interviewed cases missing: whether father has children by another partner (8 percent), fathers' earnings (9 percent), and mothers' earnings (11 percent).
[10]Thirty-one mothers who are no longer in a romantic relationship with the focal child's father report that they have married another partner by the one-year follow-up interview, and 169 are cohabiting with another partner. Since the focus of our analysis is the biological parents' relationship, these cases are coded as not romantically involved.
[11]Few couples moved *into* the visiting category within one year of a nonmarital birth; this is largely because couples who are cohabiting and decide to stop cohabiting typically break up completely, and only a small fraction of all non-romantically involved couples at baseline enter a visiting relationship by one year later.

have no relationship one year later, and 23 percent say they are friends. Surprisingly, a small but non-trivial fraction of such couples (12 percent) are now romantically involved, including 2 percent who got married.

Results from our regression analyses are shown in Table 3; our independent variables of interest are shown in the top half of the table and the other factors (background and control variables) in the bottom half. Model 1 is presented for largely descriptive interest; it includes the earnings-related variables and the other background factors but not baseline relationship status. Model 2 controls for relationship status at baseline and thereby implicitly controls for unobserved variables that may be correlated with baseline characteristics and relationship status at the follow-up survey; it is thus more appropriate for causal inference. We can examine the effects of baseline variables on relationship status approximately one year after the birth—whether unmarried couples stayed in the same relationship status or had a transition up or down the continuum that ranges from no romantic involvement to marriage. Model 3 adds the attitudes and relationship quality variables and allows us to examine their importance for union formation, as well as the extent to which the economic variables are mediated by attitudes and relationship quality.

What is the effect of economic factors on unions? As noted above, past literature suggests that men's employment and earnings facilitate unions but is mixed on what to expect for women's earnings. Model 1 in Table 3, of largely descriptive interest, shows positive associations between women's having higher earnings on being in a visiting or cohabiting relationship (relative to not being romantically involved), but only one effect is statistically significant (on cohabitation). In Model 2, a more stringent test of causal effects because of its control for baseline relationship status, the effect on cohabitation of women having some (under $10,000) versus no earnings gets larger, and dummies for higher earnings categories all retain positive signs, though none are significant. By Model 3, which controls for attitudinal/cultural factors and relationship quality, there is only one marginally-significant effect of mothers' earnings on cohabitation. Yet, the signs of the coefficients of mothers' earnings on visiting and cohabiting relationships are always in a positive direction. Most effects of mothers' earnings (except $25,000 or higher) are negative in sign for predicting marriage, but none are significant. On the other hand, mothers' education has uniformly positive effects, many of which are significant for all three relationship types.[12] Even in the most conservative Model 3, mothers with a high school degree or more are 51 percent more likely to be married (and 28 percent more likely to be cohabiting), relative to breaking up, than mothers who lack a high school education. Effect sizes are nearly the same for mothers having some college (marginally significant). Mothers with some college education are more likely to be in visiting relationships than to be broken up, but having a high school diploma does not appear to differentiate a visiting relationship versus breaking up.

For men, Table 3 shows that the coefficients for higher earnings are large and positive for marriage (although only three are statistically significant): earning $25,000 or more in the past year more than doubles the odds of marriage.[13] Some of the effect on marriage appears to be mediated through the cultural/inter-personal variables, as the earnings coefficients decline between Models 2 and 3. Men's earnings are positively associated with cohabitation but only at higher levels (and never significant). By contrast, men's earnings are consistently negatively related to visiting relationships (versus breaking up). Thus, it appears that men's higher earnings promote relationships moving toward one end of the spectrum (marriage) or

[12]In results not shown, we re-estimated models 2 and 3 without the earnings variables, and the effects of mothers' and fathers' education were of similar magnitude to those in Table 3, except the effects of mothers' education on cohabitation, and of both parents' having some college on marriage, become somewhat stronger.

[13]The effect is not statistically significant at conventional levels (the *p*-value is .161) in Model 3, but given the large odds ratio and the relatively small number of married cases, we believe the evidence suggests a causal effect.

the other (breaking up). Men's college education has significant negative effects on cohabiting relative to breaking up, and positive (but not significant) effects on marriage. These inconsistent effects of men's education contrast with the beneficial effects of women's education on union formation at all levels. In results not shown, we substituted whether fathers were employed in the week prior to the survey for the earnings dummies; employment showed positive (and sometimes significant) effects on both cohabitation and marriage.

To get a more complete picture, in results not shown, we examined the effects of parents' hourly wage rate in their current or most recent job. We limited the sample to couples in which both parents were employed at some point in the year before the birth and reported a wage rate (about half the full sample); we included men's and women's hourly wage rate (excluding the annual earnings variables). Here, fathers' wage has a positive and significant effect on visiting relationships, and mothers' wage has a positive and significant effect on marriage.14 Taken together, these results suggest that women's non-employment does not hurt the chances for marriage, given possibilities of specialization; however, more education encourages union formation of all types, and higher wages encourage marriage, both contrary to the specialization predictions. Men's actual earnings and employment appear to positively affect marriage but are less important at other levels of relationship; in fact, high earnings discourage visiting relationships, and high education discourages cohabitation.

Turning to the cultural/inter-personal variables, Model 3 in Table 3 shows that positive attitudes towards marriage are associated with increases in the chances of marriage but not of visiting or cohabiting relationships. A one-unit increase (on a scale ranging from 1 to 4 with a standard deviation of about .7) in mothers' attitudes increases the odds of marriage by 62 percent; an increase in fathers' attitudes increases the odds by 48 percent. Traditional gender role attitudes have no effect on union formation for either mothers or fathers. Mothers' reports of gender distrust, however, are a strong deterrent to co-residential unions, particularly marriage: each one-point increase on the gender distrust index (scaled from 1 to 4 with a standard deviation of .5–.6) decreases the odds of marriage by 43 percent and cohabitation by 13 percent. In contrast, fathers' distrust of women has no effect. Church attendance by mothers is positively associated with marriage but has no effect on the other relationship statuses; fathers' church attendance decreases (marginal significance) the odds of cohabitation (relative to no relationship) but has no effect on other union types.15 In sum, positive attitudes toward marriage encourage marriage, and women's church attendance encourages marriage, while women's gender distrust discourages both cohabitation and marriage. The attitudinal variables have no significant effects on being in visiting relationships relative to breaking up.

The next set of variables in Table 3 measures the effects of parents' perceptions of relationship quality on union formation and stability. Our measures of relationship quality include: (1) physical violence, (2) conflict, (3) supportiveness, and (4) problems with substance abuse. Substance abuse is included with the relationship variables because of its association with physical violence and abuse. Unlike the attitudinal measures, all of the relationship quality indicators are couple-specific; that is, they are based on what parents say about how they get along and how they treat one another. Fathers' physical violence is a significant deterrent to couples' being in visiting relationships; if the mother reports that the father sometimes or often hits her, the odds of staying in (or moving up to) a visiting

[14]We get the same positive effect of women's wage rate on marriage if we enter men's earnings as in Table 3 rather than men's wages (thus not excluding cases where the man is currently not employed).

[15]We also estimated models without controlling for earnings and relationship quality. We found that the effects were generally the same, except that mothers' distrust more strongly discourages cohabitation and marriage, and fathers' marriage attitudes and mothers' church attendance have bigger positive effects on marriage.

relationship are fully 78 percent lower, relative to breaking up. Surprisingly, men's violence has no statistically significant effect on either cohabitation or marriage (and has a positive sign for marriage). Women's violence toward men is in a negative direction but is never significantly associated with union formation.

Supportiveness has a powerful effect on parents' relationship status, and these effects are significant for union types that involve living together (cohabitation and marriage). Each parent was asked how frequently the other parent was supportive in ways such as expressing love and affection and providing encouragement. Since the two measures are of different constructs (him about her supportiveness and her about his), it is not surprising that the correlation is quite low (r=.26). Yet, each parent's report of the supportiveness of the other has a strong positive effect on both cohabitation and marriage. These effects are *net of* the couple's initial relationship status, indicating that living arrangements are not a perfect proxy for the quality of interaction between the couple. In all cases, "better" relationships promote staying together or moving "up" to a cohabiting or marriage relationship. Reports of conflict have less consistent effects; mothers' reports are never significant, while fathers' reports of conflict strongly deter cohabitation and have non-significant (but negatively signed) effects on marriage.

Fathers' problems with alcohol and drugs (as reported by the mother) hinder moving into or maintaining a cohabiting union; holding constant the parents' relationship at the time of the baby's birth, mothers who report that the father has a substance problem are 39 percent less likely to be living with the father a year later. Effects on marriage are in a negative direction but not significant. Her report of her own substance abuse shows no significant effect.

Not surprisingly, couples that were cohabiting or in a visiting relationship at birth are much more likely to be together one year later in any type of union compared to couples who were not in a romantic relationship. The cohabitation coefficients are of a larger magnitude, except with respect to being in a visiting relationship one year later.

The effects of the other factors are shown in the lower half of Table 3. Parents who have another child together are much more likely to stay together in all three union types. What is surprising is that if the mother has a child by another man it deters visiting relationships but has no effect on cohabitation or marriage, whereas fathers' children by previous partners have a negative effect on both cohabitation and marriage (but no significant effect on visiting). We expected women's children to have a stronger effect on relationship status, since it is her children that generally co-reside with the couple. Future research should explore whether men's children deter future relationships because of child support obligations, because they index his disinclination to commit to one woman, or because women are wary of his possible continuing romantic involvement with his other children's mother; the latter is suggested by one qualitative study (England et al. 2003).

Whites are more likely than blacks to marry, and Hispanics are more likely than blacks to cohabit or marry (but are less likely to be in a visiting relationship). Race/ethnic differences between the parents are associated with lower odds of marriage (but no significant effect remains once baseline relationship status is controlled). Growing up with both parents generally increases the odds of union formation (not always significant), with the exception that fathers from intact families are not more likely to marry; we suspect that this is because the stigma of nonmarital childbearing is greater for men from intact homes. There is little effect of parents' self-reported health status on union formation. State TANF benefit levels are positively related to cohabitation, but not to visiting or marriage relationships (see Carlson et al. [2003] for further analyses of how public policies affect union formation among unmarried parents). The length of time between the baseline and follow-up

interviews is negatively related to visiting and cohabitation but not marriage; in other words, the more time that passes, the more likely it is that couples will break up rather than stay in nonmarital romantic union. As we might expect, couples where the father did not participate in the baseline survey are less likely to be cohabiting or married one year later.

We conducted analyses to determine the robustness of our results by examining what difference it would make to include so-called "shotgun marriages" (those that occur between conception and time of birth) in our sample of unmarried parents. Adding these couples to the sample did not alter the pattern of results in our main analyses. (Results not shown but available upon request.) However, attitudes about marriage and especially reports of supportiveness in the relationship became more strongly associated with marriage at one year. This is not surprising, since couples who are more positive about marriage and their relationship are more likely to have married between conception and birth. Also, we find that mothers' education and mothers' having earnings above $25,000 have bigger effects on marriage once those that marry before the birth are included (although some of the earnings effect is mediated by relationship quality). Thus, women's resources particularly increase the likelihood of marrying soon after a nonmarital conception.

Conclusions

We have examined the effects of economic and cultural/inter-personal factors on union formation among unmarried parents who have recently had a child together. We find evidence that the economic resources of *both* parents are generally associated with union formation and stability, but different aspects of economic capabilities matter for mothers versus fathers. Men's annual earnings encourage marriage, but men's education actually deters cohabitation (relative to not relationship at all). Mothers' education encourages union formation of all types, and auxiliary analyses show that, among the employed, women's hourly wage rate also has a positive effect on marriage. Since annual earnings are a function of both labor supply and hourly wages, and since education strongly affects wages, together these findings suggest to us that some fragile families do associate marriage with the specialization that entails women's non-employment. At the same time, the fact that some measures of both parents' earnings capacities have positive effects on marriage suggests that economic resources of both partners promote marriage in many cases. Whether resources help in terms of providing public goods and/or insurance, as depicted by economic theories, or whether they help by reducing stress and improving relationship quality is an important question for future research.

Cultural and inter-personal factors have powerful effects, net of economic status and net of couples' relationship status at the time of birth. Men and women's pro-marriage attitudes and women's church attendance increase the chances of marriage, whereas women's distrust of men decreases both cohabitation and marriage. As far as we know, ours is the first study to document this effect of gender distrust using data that are nationally representative of unmarried parents in urban areas. (See Edin [2000] for a qualitative account.) We also find strong evidence that the emotional quality of relationships affects union formation and stability. Although psychological and sociological studies have documented strong associations between relationship quality and relationship duration among married couples, these findings have not been replicated on a sample of unmarried parents or in low-income populations generally (Karney and Bradbury 1995). Feeling supported by a partner is very important for union formation and stability, even after we control for parents' earlier relationship status. Moreover, supportiveness helps relationships more than conflict hurts. The latter is consistent with psychologists' findings that disagreement and conflict among married couples do not generally lead to breakup if they occur in the context of a generally supportive relationship with a high ratio of positive to negative affect (Gottman 1994). Our

findings are also consistent with psychological research showing that men are more conflict-averse than women (Gottman 1994).

Overall, our results suggest both similarities and differences in the most salient predictors of romantic involvement, cohabitation, and marriage for couples who have shared a nonmarital birth. Our findings support previous literature demonstrating that marriage is selective of individuals with the most socioeconomic resources, with the caveat that marriage is sometimes also selective of (or the expectation of marriage encourages) women who specialize in home rather than market production. At the same time, contrary to specialization theories, we find that mothers' education, a good predictor of future employment and earnings, facilitates unions of all three types. Also, our results support earlier research demonstrating that marriage is selective of couples with more pro-marriage ideology and higher quality relationships. Yet, our results extend this with the finding that relationship quality encourages maintenance of romantic involvement and cohabiting unions as well (relative to breaking up).

We recognize several limitations of our research. First, our sample is composed of couples that chose *not to marry* before their child was born. Thus, our results cannot be generalized to all unmarried couples but only to unmarried couples who have had a child together. Moreover, the effects of variables that we would expect to be strongly associated with marriage prior to birth may be weaker because of our particular sample. For example, we would expect—and our auxiliary analyses suggest—that high economic resources lead to marriage prior to birth. Thus, couples with high economic resources that do not marry before birth are likely to be different from other couples in ways that we do not measure. In turn, this difference may weaken the effect of economic resources on marriage *after* birth for our sample. Ideally we would model (1) the decision to have a nonmarital birth and (2) the decision to marry after having a nonmarital birth together, so that we could control for unobserved variables that are correlated with both decisions. Unfortunately, the Fragile Families data do not allow us to model the first decision since the sample consists entirely of new parents.

A second limitation of our analysis is missing information on unmarried fathers. Only 75 percent of the unmarried fathers completed a baseline interview. For some variables, such as fathers' age, education, and employment status, the mothers provided the necessary information about the fathers. For other variables, such as attitudes, earnings, and reports of relationship quality, only the (interviewed) fathers provided information. As noted in the Data section, the problem of non-response (missing data) becomes more serious as we move down the relationship hierarchy, with cohabiting fathers having the highest response rates (90 percent) and non-romantic fathers having the lowest rates (38 percent). Although separate analyses suggest that the fathers who participated in the study are no different from other men in terms of their demographic characteristics (age, education and race), they are very different in terms of their commitment to the mothers and children. Since some of these characteristics associated with selection into our sample are measured directly—relationship quality, attitudes, and living arrangements at birth—the bias may not be a large problem. However, to the extent that bias exists, it is most likely to affect the results for the transitions into (and out of) visiting and non-romantic relationships where non-response is more serious. Finally, our analysis only examines union transitions during the first year after a nonmarital birth. Although most marriages between biological parents who shared a nonmarital birth occur during this period, a longer time frame may provide new information on relationship trajectories. We plan to conduct additional analyses once the three-year data are available.

With respect to the current policy initiatives to promote marriage, our findings suggest that programs designed to increase marriage among unmarried parents could usefully focus on a range of factors.16 Encouraging women's positive attitudes toward marriage and reducing mothers' distrust of men may well require changing the behavior by men that leads to distrust or negative attitudes in the first place. Also, programs should attend to the complications in family dynamics that arise from multi-partnered fertility and the fact that particularly men's previous children are a strong deterrent to marriage. Reducing conflict and violence, addressing substance problems, and especially promoting supportive behaviors between partners could help keep couples together and encourage marriage. Our results also suggest that increasing both parents' education and economic capacities—historically more typical targets of policy intervention—would likely increase union formation as well.

Acknowledgments

Sara McLanahan worked on this paper while a Fellow at the Center for Advanced Study in the Behavioral Sciences with support from the William and Flora Hewlett Foundation. This research is funded in part by a grant to Marcia Carlson from the National Institute of Child Health and Human Development, Demographic and Behavioral Sciences Branch (#1K01 HD042776-01A1). We are grateful to Kevin Bradway for excellent research assistance. We thank the editor, three anonymous reviewers, members of the MacArthur Network on the Family and the Economy, and many seminar and conference participants for very helpful comments. We appreciate the generous financial support of the Fragile Families and Child Wellbeing Study provided by NICHD (#R01HD36916) and a consortium of private foundations and government agencies (see end of paper for list).i

References

Akerlof, George A.; Yellen, Janet L.; Katz, Michael L. An Analysis of Out-of-Wedlock Childbearing in the United States. Quarterly Journal of Economics. 1996; 111(2):277–317.

Amato, Paul R.; Rogers, Stacy J. A Longitudinal Study of Marital Problems and Subsequent Divorce. Journal of Marriage and the Family. 1997; 59:612–624.

Aassve, Arnstein. The Impact of Economic Resources on Premarital Childbearing and Subsequent Marriage Among Young American Women. Demography. 2003; 40:105–126. [PubMed: 12647516]

Axinn, William G.; Thornton, Arland. The Transformation in the Meaning of Marriage. In: Waite, Linda J., editor. The Ties that Bind: Perspectives on Marriage and Cohabitation. New York: Aldine de Gruyter; 2000. p. 147-165.

Becker, Gary S. A Treatise on the Family. Cambridge, MA: Harvard University Press; 1991.

Bennett, Neil G.; Bloom, David E.; Miller, Cynthia K. The Influence of Nonmarital Childbearing on the Formation of First Marriages. Demography. 1995; 32(1):47–62. [PubMed: 7774730]

Bitler, Marianne P.; Gelbach, Jonah B.; Hoynes, Hilary W.; Zavodny, Madeline. The Impact of Welfare Reform on Marriage and Divorce. Demography. (forthcoming).

16In order to investigate the possible effects of policy changes, we conducted a simulation of how the proportion married would change if we could alter particular independent variables, holding everything else constant. To do so, we raised (or lowered, depending on which direction encouraged marriage) individual-level values on key variables by one standard deviation from the overall sample mean. With all variables at their observed means (i.e. the baseline situation), the model predicts that 9.0 percent of couples marry (very close to the observed level of 9.1 percent). We then changed variables one at a time. Raising both parents' reports of supportiveness by one standard deviation would yield 12.4 percent married; raising attitudes toward marriage would yield 11.0 percent married; decreasing women's gender distrust would yield 11.0 percent married; and raising fathers' earnings (and then assigning them to the appropriate dichotomous category, which is over $25,000 for 73 percent of cases and $10,000–24,999 for the other 27 percent) would result in 10.6 percent married. If all four changes were made simultaneously, the proportion married would be 20.5 percent. Thus, even policies that produced very large changes on particular variables would result in relatively modest changes in marriage.

[i]The Fragile Families and Child Wellbeing Study is funded by: the National Institute of Child Health and Human Development (NICHD), the California Healthcare Foundation, the Commonwealth Fund, the Ford Foundation, the Foundation for Child Development, the Fund for New Jersey, the William T. Grant Foundation, the Healthcare Foundation of New Jersey, the William and Flora Hewlett Foundation, the Hogg Foundation, the Christina A. Johnson Endeavor Foundation, the Kronkosky Charitable Foundation, the Leon Lowenstein Foundation, the John D. and Catherine T. MacArthur Foundation, the A.L. Mailman Family Foundation, the Charles S. Mott Foundation, the National Science Foundation, the David and Lucille Packard Foundation, the Public Policy Institute of California, the Robert Wood Johnson Foundation, the St. David's Hospital Foundation, the St. Vincent Hospital and Health Services, and the U.S. Department of Health and Human Services (ASPE and ACF).

Blau, Francine D.; Kahn, Lawrence M.; Waldfogel, Jane. Understanding Young Women's Marriage Decisions: The Role of Labor and Marriage Market Conditions. Industrial and Labor Relations Review. 2000; 53:624–647.

Bulcroft, Richard A.; Bulcroft, Kris A. Race Differences in Attitudinal and Motivational Factors in the Decision to Marry. Journal of Marriage and the Family. 1993; 55:338–355.

Carlson, Marcia J.; Furstenberg, Frank F, Jr. Center for Research on Child Wellbeing. Princeton University; 2003. Complex Families: Documenting the Prevalence and Correlates of Multi-Partnered Fertility in the United States. Working Paper #2003-14-FF

Carlson, Marcia; Garfinkel, Irwin; McLanahan, Sara; Mincy, Ronald; Primus, Wendell. Center for Research on Child Wellbeing. Princeton University; 2003. The Effects of Welfare and Child Support Policies on Union Formation. Working Paper #2002-10-FF

Cherlin, Andrew J. Marriage, Divorce and Remarriage. Cambridge, MA: Harvard University Press; 1992.

Cherlin, Andrew J. Toward a New Home Socioeconomics of Union Formation. In: Waite, Linda J.; Bachrach, Christine; Hindin, Michelle; Thomson, Elizabeth; Thornton, Arland, editors. The Ties that Bind: Perspectives on Marriage and Cohabitation. New York: Aldine de Gruyter; 2000. p. 126-147.

Cherlin, Andrew J. Going to Extremes: Family Structure, Children's Well-Being, and Social Science. Demography. 1999; 36:421–428. [PubMed: 10604072]

Clarkberg, Marin. The Price of Partnering: The Role of Economic Well-Being in Young Adults' First Union Experiences. Social Forces. 1999; 77(3):945–968.

Cowan, Carolyn P.; Cowan, Philip A. When Partners Become Parents: The Big Life Change for Couples. New York: Basic Books; 1992.

Cowan, Philip A.; Cowan, Carolyn P.; Schulz, MS.; Heming, G. Prebirth to Preschool Family Factors in Children's Adaptation to Kindergarten. In: Parke, RD.; Kellam, SG., editors. Exploring Family Relationships with Other Social Contexts. Hillsdale, NJ: Erlbaum; 1994. p. 75-114.

Cready, Cynthia M.; Fossett, Mark A.; Kiecolt, K Jill. Mate Availability and African American Family Structure in the U.S. Nonmetropolitan South, 1960–1990. Journal of Marriage and the Family. 1997; 59:192–203.

Edin, Kathryn. What Do Low-Income Single Mothers Say about Marriage? Social Problems. 2000; 47(1):112–133.

Ellwood, David T.; Jencks, Christopher. The Growing Differences in Family Structure: What Do We Know? Where Do We Look for Answers?. J. F. Kennedy School of Government; 2002. Unpublished working paper

England, Paula; Edin, Kathryn; Linnenberg, Kate. Love and Distrust among Unmarried Parents. Paper presented at the National Poverty Center Conference on Marriage and Family Formation Among Low-income Couples; September 4 – 5, 2003; Washington, DC. 2003.

Fein, David J.; Burstein, Nancy R.; Fein, Greta G.; Lindberg, Laura D. Final Report: Marriage and Family Formation Data Analysis Project. Abt Associates, Inc.; 2003. The Determinants of Marriage and Cohabitation among Disadvantaged Americans: Research Findings and Needs.

Furstenberg, Frank F., Jr; Brooks-Gunn, Jeanne; Morgan, S Philip. Adolescent Mothers in Later Life. Cambridge, UK: Cambridge University Press; 1987.

Garfinkel, Irwin; McLanahan, Sara. Strengthening Fragile Families. In: Sawhill, I., editor. One Percent for the Kids: New Policies, Brighter Futures for America's Children. Washington DC: Brookings Institution; 2003.

Gennetian, Lisa A.; Knox, Virginia. The Next Generation Working Paper Series, No. 13. New York: MDRC; 2003. Staying Single: The Effects of Welfare Reform Policies on Marriage and Cohabitation.

Gibson, Christina; Edin, Kathryn; McLanahan, Sara. Center for Research on Child Wellbeing. Princeton University; 2003. High Hopes but Even Higher Expectations: The Retreat from Marriage among Low-Income Couples. Working Paper # 2003-06-FF

Goldscheider, Frances K.; Waite, Linda J. New Families, No Families? The Transformation of the American Home. Berkeley, CA: University of California Press; 1991.

Goldstein, Joshua R.; Kenney, Catherine T. Marriage Delayed or Marriage Foregone? New Cohort Forecasts on First Marriages for U.S. Women. American Sociological Review. 2001; 66:506–519.

Gottman, John M. What Predicts Divorce? The Relationship Between Marital Processes and Marital Outcomes. Hillsdale, New Jersey: Lawrence Erlbaum Associates; 1994.

Graefe, Deborah R.; Lichter, Daniel T. Marriage among Unwed Mothers: Whites, Blacks and Hispanics Compared. Perspectives on Sexual and Reproductive Health. 2002; 34(6):286–293. [PubMed: 12558091]

Hofferth, Sandra L. Are Stepfathers Bad for Children?. Paper presented at the National Poverty Center Conference on Marriage and Family Formation Among Low-income Couples; September 4 – 5, 2003; Washington, DC. 2003.

Karney, Benjamin R.; Bradbury, Thomas N. The Longitudinal Course of Marital Quality and Stability: A Review of Theory, Method, and Research. Psychological Bulletin. 1995; 118:3–34. [PubMed: 7644604]

Lam, David. Marriage Markets and Assortative Mating with Household Public Goods. Journal of Human Resources (Fall). 1988:462–487.

Landale, Nancy S.; Forste, Renate. Patterns of Entry into Cohabitation and Marriage among Mainland Puerto Rican Women. Demography. 1991; 28:587–607. [PubMed: 1769404]

Lichter, Daniel T.; Graefe, Deborah Roempke. Finding a Mate? The Marital and Cohabitation Histories of Unwed Mothers. In: Wu, Lawrence L.; Wolfe, Barbara, editors. Out of Wedlock: Causes and Consequences of Nonmarital Fertility. New York: Russell Sage Foundation; 2001.

Lichter, Daniel T.; Graefe, Deborah Roempke; Brown, J Brian. Is Marriage a Panacea? Union Formation Among Economically Disadvantaged Unwed Mothers. Social Problems. 2003; 50:60–86.

Lichter, Daniel T.; LeClere, Felicia B.; McLaughlin, Diane K. Local Marriage Markets and the Marital Behavior of Black and White Women. American Journal of Sociology. 1991; 94(4):843–867.

Lichter, Daniel; McLaughlin, Diane K.; Kephart, George; Landry, David J. Race and the Retreat from Marriage: A Shortage of Marriageable Men? American Sociological Review. 1992; 57:781–799.

Lillard, Lee A.; Panis, Constantijn WA. Marital Status and Mortality: The Role of Health. Demography. 1996; 33(3):313–327. [PubMed: 8875065]

Lloyd, Kim M.; South, Scott J. Contextual Influences on Young Men's Transitions to First Marriages. Social Forces. 1996; 74:1097–1119.

Lundberg, Shelly; Rose, Elaina. Child Gender and the Transition to Marriage. Demography. 2003; 40(2):333–349. [PubMed: 12846135]

Manning, Wendy; Smock, Pamela. Why Marry? Race and the Transition to Marriage among Cohabitors. Demography. 1995; 32:509–520. [PubMed: 8925943]

McLanahan, Sara; Sandefur, Gary. Growing Up with a Single Parent: What Hurts? What Helps?. Cambridge: Harvard University Press; 1994.

McLaughlin, Diane K.; Lichter, Daniel T. Poverty and the Marital Behavior of Young Women. Journal of Marriage and the Family. 1997; 59:582–594.

Mincy, Ronald B. Strengthening Fragile Families: A Proposed Strategy for the Ford Foundation Urban Poverty Program. New York: Ford Foundation; 1994.

Mincy, Ronald B. Center for Research on Child Wellbeing. 2002. Who Should Marry Whom?: Multiple Partner Fertility among New Parents. Working Paper No. 2002-03-FF

Mincy, Ronald B.; Pouncy, Hillard. Paternalism, Child Support Enforcement, and Fragile Families. In: Mead, Lawrence M., editor. The New Paternalism: Supervisory Approaches to Poverty. Washington, DC: Brookings Institution; 1997. p. 130-160.

Moffitt, Robert A. The Effect of Welfare on Marriage and Fertility. In: Moffitt, Robert, editor. Welfare, The Family, and Reproductive Behavior. Washington, D.C: National Academy Press; 1998. p. 50-51.p. 59-97.

Moffitt, Robert A. Female Wages, Male Wages, and the Economic Model of Marriage: The Basic Evidence. In: Waite, Linda J., editor. The Ties that Bind: Perspectives on Marriage and Cohabitation. New York: Aldine de Gruyter; 2000. p. 320-342.

Moffitt, Robert A.; Reville, Robert; Winkler, Anne E. Beyond Single Mothers: Cohabitation and Marriage in the AFDC Program. Demography. 1998; 35:259–278. [PubMed: 9749319]

Musick, Kelly; Mare, Robert D. California Center for Population Research. University of California – Los Angeles; 2004. Recent Trends in the Inheritance of Poverty and Family Structure. Working Paper #CCPR-002-04

Nock, Steven L. A Comparison of Marriages and Cohabiting Relationships. Journal of Family Issues. 1995; 16:53–76.

Nock, Steven L. Marriage in Men's Lives. New York: Oxford University Press; 1998.

Oppenheimer, Valerie Kincade. A Theory of Marriage Timing. American Journal of Sociology. 1988; 94(3):563–591.

Oppenheimer, Valerie K. The Continuing Importance of Men's Economic Position in Marriage Formation. In: Waite, Linda J., editor. The Ties that Bind: Perspectives on Marriage and Cohabitation. New York: Aldine de Gruyter; 2000. p. 283-301.

Oppenheimer, Valerie K.; Kalmijn, Matthijs; Lim, Nelson. Men's Career Development and Marriage Timing During a Period of Rising Inequality. Demography. 1997; 34(3):311–330. [PubMed: 9275242]

Patterson, Orlando. Rituals of Blood: Consequences of Slavery in Two American Centuries. New York: Basic Civitas; 1998.

Raley, R Kelly. A Shortage of Marriageable Men: A Note on the Role of Cohabitation in Black-White Differences in Marriage Rates. American Sociological Review. 1996; 61:973–983.

Ruggles, Steven. The Rise of Divorce and Separation in the United States, 1880–1990. Demography. 1997; 34:455–466. [PubMed: 9545625]

Sanchez, Laura; Manning, Wendy D.; Smock, Pamela J. Sex-Specialized or Collaborative Mate Selection? Union Transitions among Cohabitors. Social Science Research. 1998; 27:280–304.

Sassler, Sharon; Goldscheider, Frances. Revisiting Jane Austen's Theory of Marriage Timing: Union Formation among Men in the Late 20th Century. Journal of Family Issues. 2004; 25(2) [forthcoming].

Sassler, Sharon; Schoen, Robert. The Effect of Attitudes and Economic Activity on Marriage. Journal of Marriage and Family. 1999; 61:147–159.

Sassler, Sharon; McNally, James. Cohabiting couples' economic circumstances and union transitions: a re-examination using multiple imputation techniques. Social Science Research. 2003; 32:533–578.

Sayer, Liana C.; Bianchi, Suzanne M. Women's Economic Independence and the Probability of Divorce. Journal of Family Issues. 2000; 21:906–943.

Schultz, T Paul. Marital Status and Fertility in the United States. The Journal of Human Resources. 1994; 29:637–669.

Sigle-Ruston, Wendy; McLanahan, Sara. Father Absence and Child Wellbeing: A Critical Review. In: Moynihan, D.; Rainwater, L.; Smeeding, T., editors. Public Policy and the Future of the Family. New York: Russell Sage Foundation; (forthcoming.)

Smock, Pamela J. Cohabitation in the United States: An Appraisal of Research Themes, Findings, and Implications. Annual Review of Sociology. 2000; 26:1–20.

Smock, Pamela J.; Manning, Wendy D. Cohabiting Partners' Economic Circumstances and Marriage. Demography. 1997; 34:331–341. [PubMed: 9275243]

South, Scott J. The Variable Effects of Family Background on the Timing of First Marriage: United States, 1969–1993. Social Science Research. 2001; 30:606–626.

South, Scott J.; Lloyd, Kim M. Marriage Markets and Nonmarital Fertility in the United States. Demography. 1992; 29:247–264. [PubMed: 1607051]

Sullivan, Mercer. Absent Fathers in the Inner City. The Annals of the American Academy of Political and Social Science. 1989; 501:48–59.

Sweeney, Megan M. Two Decades of Family Change: The Shifting Economic Foundations of Marriage. American Sociological Review. 2002; 67:132–147.

Testa, Mark Nan Marie Astone; Krogh, Marilyn; Neckerman, Kathryn. Employment and Marriage among Inner-City Fathers. Annals of the American Academy of Political and Social Science. 1989; 501(87):90–91.

Thornton, Arland; Axinn, William G.; Hill, Daniel H. Reciprocal Effects of Religiosity, Cohabitation, and Marriage. American Journal of Sociology. 1992; 98(3):628–651.

Thornton, Arland; Axinn, William G.; Teachman, Jay D. The Influence of School Enrollment and Accumulation on Cohabitation and Marriage in Early Adulthood. American Sociological Review. 1995; 60:762–774.

Tucker, M Belinda. Marital Values and Expectations in Context: Results from a 21-City Survey. In: Waite, Linda J., editor. The Ties that Bind: Perspectives on Marriage and Cohabitation. New York: Aldine de Gruyter; 2000. p. 283-301.

Upchurch, Dawn; Lillard, Lee A.; Panis, Constantijn WA. Nonmarital Childbearing: Influences of Education, Marriage and Fertility. Demography. 2002; 39(2):311–329. [PubMed: 12048954]

Ventura, Stephanie J.; Bachrach, Christina A. National Vital Statistics Reports. Vol. 48. Hyattsville, MD: National Center for Heath Statistics; 2000. Nonmarital Childbearing in the United States, 1940-99.

Waite, Linda J.; Gallagher, Maggie. The Case for Marriage: Why Married People Are Happier, Healthier, and Better Off Financially. New York: Doubleday; 2000.

Waller, Maureen R.; McLanahan, Sara S. Center for Research on Child Wellbeing. Princeton University; 2003. Do Unmarried Parents' Expectations Predict Marriage? Evidence from the Fragile Families and Child Wellbeing Study. Working Paper #2001-03-FF

White, Lynn; Rogers, Stacy J. Economic Circumstances and Family Outcomes: A Review of the 1990s. Journal of Marriage and Family. 2000; 62:1035–1051.

Wilcox, W. Bradford Center for Research on Child Wellbeing. 2002. Then Comes Marriage? Religion, Race, and Marriage in Urban America. Working Paper #2002-13-FF

Wilson, William J. The Truly Disadvantaged. Chicago: The University of Chicago Press; 1987.

Xie, Yu; Raymo, James; Goyette, Kimberly; Thornton, Arland. Economic Potential and Entry into Marriage and Cohabitation. Demography. 2003; 40:351–367. [PubMed: 12846136]

Zavodny, Madeline. Do Men's Characteristics Affect Whether a Nonmarital Pregnancy Results in Marriage? Journal of Marriage and the Family. 1999; 61:764–773.

Demography. Author manuscript; available in PMC 2011 September 8.

Table 1

Sample Frequencies and Means by Relationship Status at Time of Child's Birth [1]

	Total		Cohabiting		Visiting		Not Romantic	
Background and Other Characteristics								
Parents' other children								
Parents have other biological children together	28.0		36.0		20.0		19.4	
Mother has children with another man	41.9		39.4		47.3		39.4	
Father has children with another woman	32.0		29.6		38.0		27.8	
Mother's race/ethnicity								
Non-Hispanic white	17.4		23.8		7.9		16.2	
Non-Hispanic black	44.3		31.5		64.5		45.2	
Hispanic	34.8		39.9		25.9		36.0	
Other	3.5		4.9		1.7		2.7	
Parents are of different race/ethnicity	13.0		13.1		12.4		14.0	
Mother's age								
Under 20	26.7		21.3		31.4		33.3	
20–24	38.9		41.0		37.8		35.1	
25–29	16.7		18.8		12.0		19.0	
30 and older	17.7		19.0		18.8		12.6	
Mean age	23.75	(5.81)	24.12	(5.65)	23.51	(6.12)	23.15	(5.66)
Father's age (mother report)								
Under 20	12.5		10.0		16.7		12.1	
20–24	35.3		34.7		35.1		37.5	
25–29	24.4		24.5		22.3		28.0	
30 and older	27.8		30.8		25.9		22.5	
Mean age	26.69	(7.58)	26.97	(6.84)	26.51	(8.98)	26.20	(6.91)
Family background								
Mother lived with both parents age 15	37.7		42.5		30.9		36.1	
Father lived with both parents age 15	40.5		41.5		38.5		40.1	
Mother's self-reported health								
Poor	0.8		0.5		1.0		1.0	
Fair	8.1		8.5		7.6		8.0	

	Total		Cohabiting		Visiting		Not Romantic	
Good	29.3		31.1		27.6		27.5	
Very good	34.3		33.7		33.6		37.4	
Excellent	27.5		26.1		30.3		26.2	
Father's self-reported health								
Poor	1.1		0.3		2.4		2.1	
Fair	8.1		7.6		8.5		10.1	
Good	22.3		22.4		21.4		24.1	
Very good	37.8		39.0		38.4		27.4	
Excellent	30.7		30.7		29.3		36.3	
Mean maximum state TANF benefit (in $100s)	3.44	(1.43)	3.46	(1.53)	3.45	(1.25)	3.36	(1.44)
Earnings-Related Variables								
Mother's earnings past year								
Zero	32.2		28.9		38.0		31.3	
Under $10,000	41.6		41.0		41.1		44.1	
$10,000–24,999	22.6		25.7		17.8		22.1	
$25,000 and higher	3.7		4.4		3.2		2.5	
Father's earnings past year								
Zero	3.7		2.2		6.1		6.0	
Under $10,000	29.7		25.5		37.4		33.5	
$10,000–24,999	46.5		48.4		42.0		48.9	
$25,000 and higher	20.1		23.8		14.4		11.5	
Mother's education								
Less than high school	43.3		40.7		42.0		52.8	
High school or the equivalent	36.2		36.7		37.7		32.1	
Some college or higher	20.5		22.5		20.4		15.1	
Father's education								
Less than high school	39.2		38.8		38.7		41.4	
High school or the equivalent	37.3		36.2		40.5		34.2	
Some college or higher	23.6		24.9		20.9		24.3	
Attitudes and Beliefs								
Positive attitudes about marriage (range=1–4)								

	Total		Cohabiting		Visiting		Not Romantic	
Mother	2.73	(.70)	2.74	(.70)	2.77	(.71)	2.65	(.70)
Father	2.93	(.70)	2.94	(.68)	2.94	(.74)	2.81	(.71)
Traditional gender role attitudes (range=1–4)								
Mother	2.03	(.59)	2.05	(.60)	2.02	(.60)	1.97	(.58)
Father	2.37	(.65)	2.33	(.64)	2.41	(.64)	2.42	(.71)
Distrust of other gender (range=1–4)								
Mother	2.05	(.56)	1.97	(.52)	2.08	(.54)	2.20	(.65)
Father	1.96	(.54)	1.95	(.53)	1.97	(.52)	2.04	(.65)
Frequency of church attendance (range=1–5)								
Mother	2.91	(1.31)	2.80	(1.28)	3.03	(1.37)	3.01	(1.26)
Father	2.63	(1.30)	2.53	(1.28)	2.84	(1.32)	2.53	(1.31)
Parents' Relationship Quality								
Physical violence								
Father hits/slaps (reported by mother)	3.9		1.3		2.6		13.6	
Mother hits/slaps (reported by father)	13.8		12.3		17.8		9.8	
Frequency of conflict between them (range=1–3)								
Mother's report	1.48	(.41)	1.42	(.36)	1.51	(.43)	1.58	(.46)
Father's report	1.46	(.38)	1.42	(.36)	1.54	(.42)	1.43	(.36)
Level of supportiveness of other parent (range=1–3)								
Mother's report about father	2.59	(.42)	2.72	(.32)	2.60	(.38)	2.19	(.47)
Father's report about mother	2.64	(.37)	2.68	(.33)	2.62	(.38)	2.38	(.51)
Substance problems (both reported by mother)								
Mother has a problem	4.4		2.8		4.9		7.7	
Father has a problem	6.2		3.3		5.6		16.8	
Mean # of months between mother interviews	13.22	(2.83)	13.05	(2.65)	13.26	(2.96)	13.63	(3.06)
Unweighted # of total cases	3,285		1,582		1,139		564	
Unweighted # of cases in the national sample	2,359		1,172		769		418	

[1] Standard deviations on means are shown in parentheses. All figures are weighted by national sampling weights.

Demography. Author manuscript; available in PMC 2011 September 8.

Table 2

Relationship Status at Birth and One Year Later for Mothers Unmarried at Baby's Birth

	One Year after Birth of Child					
Time of Birth	**Married**	**Cohabiting**	**Visiting**	**Friends**	**No Rel.**	**Number of Cases (*n*)**
Cohabiting	14.6	59.6	4.6	10.9	10.4	1,582
Visiting	5.3	32.1	14.0	25.7	22.9	1,139
Friends	1.2	9.2	3.5	44.1	42.2	261
No Relationship	1.7	6.3	4.3	22.8	65.0	303
Number of cases (*n*)	299	1,352	253	649	732	3,285

Notes: Cohabitation is measured with more detail at 1 year than at the baseline interview. At the time of the baby's birth, couples are counted as cohabiting if the mother answers "yes" to the question of whether they are living together; at 1 year, they are counted as cohabiting if the mother reports that they live together "all or most of the time" or "some of the time. " Visiting couples are those who report they are romantically involved but living separately. Couples considered as friends reported they are "just friends. " Parents' having "no relationship" at baseline is determined by the mother reporting that she "hardly ever" or "never" talks with the father; at 1 year, this category is based on the mother reporting that she is "not in any kind of relationship" with the father or "separated/divorced" from him. Figures are unweighted.

Table 3

Results from Multinomial Logit Models (Odds Ratios) Predicting Parents' Relationship Status about One Year after Nonmarital Birth

	Visiting			Cohabiting			Married		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Earnings-Related Variables									
Earnings last year (reference=zero)									
Mother									
Under $10,000	1.21	1.33	1.33	1.15	1.24+	1.22+	.91	.98	1.01
$10,000–24,999	1.26	1.30	1.34	1.43*	1.28	1.28	.84	.75	.79
$25,000 and higher	1.17	1.31	1.30	1.37	1.26	1.18	1.32	1.21	1.04
Father									
Under $10,000	.85	.82	.78	.92	.90	.87	1.31	1.28	1.04
$10,000–24,999	.47*	.46*	.41*	1.12	1.01	.92	2.40+	2.17	1.60
$25,000 and higher	.47+	.52	.47	1.26	1.20	1.08	2.94*	2.86*	2.16
Education (reference = less than high school)									
Mother high school degree	1.07	1.08	1.13	1.18	1.23+	1.28*	1.44*	1.50	1.51*
Mother some college	1.59*	1.66*	1.64*	1.10	1.23	1.28+	1.37	1.56*	1.54+
Father high school degree	1.34+	1.32	1.32	.89	.89	.87	.89	.88	.84
Father some college	.98	.98	.91	.71**	.69**	.67**	1.31	1.23	1.14
Attitudes and Beliefs									
Positive attitudes about marriage -- Mother			1.09			1.00			1.62**
Father			1.07			1.03			1.48**
Traditional gender role attitudes -- Mother			1.05			1.12			1.17
Father			1.24			1.14			1.05
Distrust of other gender -- Mother			1.02			.87+			.57**
Father			1.02			1.04			.97
Frequency of church attendance (1–5) -- Mother			1.08			.97			1.17*
Father			1.02			.92+			1.06
Parents' Relationship Quality									

	Visiting			Cohabiting			Married		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Physical violence									
Father hits/slaps (reported by mother)			.22*			.99			1.28
Mother hits/slaps (reported by father)			.66			.99			.65
Frequency of conflict between them									
Mother's report			.88			.88			.85
Father's report			.75			.64**			.70
Level of supportiveness of other parent									
Mother's report about father			1.38			1.80**			3.21**
Father's report about mother			1.18			1.78**			1.81*
Substance problems (both reported by mother)									
Mother has a problem			.92			.88			.86
Father has a problem			1.03			.61*			.77
Relationship at baseline (reference=non-romantic)									
Visiting		6.01**	5.41**		5.72**	4.42**		8.16**	5.68**
Cohabiting		4.73**	4.09**		19.22**	13.28**		30.36**	19.02**
Other Factors									
Other children (reference = none)									
Parents have other children together	1.47*	1.43*	1.52*	1.71**	1.38**	1.55**	1.81**	1.44*	1.74**
Mother has children with another man	.75+	.74+	.74+	1.03	1.01	1.02	.86	.84	.84
Father has children with another woman	.95	.90	.91	.75**	.73**	.73*	.52**	.51**	.49**
Mother's race (reference = black non-Hispanic)									
White non-Hispanic	.62+	.74	.80	1.38*	1.12	1.07	2.70**	2.17**	2.88**
Hispanic	.60*	.65*	.64*	1.67**	1.37*	1.31*	3.43**	2.79**	3.10**
Other non-Hispanic	.60	.65	.69	1.05	.88	.86	2.42*	1.98	2.11
Parents are of different race	.98	.99	1.09	.86	.96	1.02	.62*	.70	.71
Age									
Mother's age	1.01	1.01	1.01	.99	.99	.99	1.02	1.01	1.02

	Visiting			Cohabiting			Married		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Father's age	.99	.99	.99	1.01	1.01	1.01	1.01	1.01	1.01
Family background									
Mother in intact family age 15	1.22	1.22	1.18	1.26*	1.24*	1.20+	1.36*	1.36*	1.28
Father in intact family age 15	1.67**	1.63**	1.50*	1.26*	1.24*	1.19	.97	.95	.82
Self-reported health status (range=1–5)									
Mother's health	1.07	1.04	1.02	1.07	1.05	1.00	1.06	1.04	.99
Father's health	.90	.88	.85+	.94	.94	.91	.98	.98	.91
TANF benefit level ($100s)	1.01	.99	.99	1.08*	1.07+	1.06+	1.02	1.00	1.01
Months since birth	.95*	.94*	.94*	.96**	.95**	.94**	.99	.98	.98
Father not interviewed	1.00	1.37	1.32	.38**	.74*	.75+	.29**	.60+	.62

+ $p \leq .10$

* $p \leq .05$

** $p \leq .01$ (two-tailed tests)