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Is Maternal Marriage Beneficial for Low-Income Adolescents?

Heather J. Bachman,
University of Pittsburgh

Rebekah Levine Coley, and
Boston College

P. Lindsay Chase-Lansdale
Northwestern University

Abstract

The present study investigated the association of mothers' marriage and changes in young adolescents' cognitive and socioemotional development and changes in family processes. Analyses employed longitudinal data from the *Three-City Study* to track maternal partnerships for 860 lowincome adolescents (10–14 years-old in Wave 1) across a 16 month period. No short-term benefits or risks emerged for youth when mothers entered marriage, with few changes in family or maternal functioning linked with marriage formation as well. In contrast, adolescents in stably married families experienced improved academic, behavioral, and psychological well-being compared to youth in stable cohabiting or single-parent families. Stable marriage was similarly linked to improvements across multiple domains of home and mothers' functioning. These patterns were not moderated by the male partner's identity (biological father or stepfather). Results support the benefits of stable marriage on youth development, but suggest that policies supporting movements into new marriages may not result in improved adolescent or family functioning, at least in the short term.

Keywords

ADOLESCENT; FAMILY STRUCTURE; LOW-INCOME; MARRIAGE

Several notable demographic shifts have occurred over the last few decades that have important implications for current public policies and the well-being of American children. In the 1990s, the number of single-mother households modestly declined, while the incidence of births and childrearing in cohabiting-couple families grew, particularly among low-income families (Bumpass & Lu, 2000; Seltzer, 2000). At the same time, divorce remained common, with increasing numbers of children experiencing multiple transitions in parental partnering, especially among low-income families (Ellwood & Jencks, 2004; Manning, Smock, & Majumdar, 2004; McLanahan, 2004).

In the midst of these unfolding trends, the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), commonly known as welfare reform, instigated sweeping changes to discourage welfare dependency and encourage economic self-sufficiency among low-income families. In the years following the enactment of PRWORA, states concentrated most of their efforts on moving welfare recipients into the labor force with less attention paid to the legislation's other goals: reducing the incidence of nonmarital pregnancies and

Address correspondence to: Heather J. Bachman, University of Pittsburgh, School of Education, 5938 Posvar Hall, Pittsburgh, PA 15260. hbachman@pitt.edu.

encouraging the formation and maintenance of two-parent married families (Horn & Sawhill, 2001). However, when the Temporary Assistance for Needy Families (TANF) program was reauthorized through the Deficit Reduction Act of 2005, funds were allocated to support programs aimed at promoting healthy marriages and responsible fatherhood (Administration for Children and Families, 2006). The goals of these programs include increasing the stability and quality of existing marriages, as well as encouraging parents of children to move into marriage, with the expectation that married parent families will provide the most beneficial context for child development. As social scientists respond to these public policy initiatives and changing demographic trends, the influence of maternal partnerships and family structure changes on low-income children's well-being warrants further investigation.

Maternal Marriage and Adolescent Well-Being in Low-Income Families

The key question emerging from current policy debates is whether marriage is a better family structure for low-income children and youth than single-parenting or cohabitation. Although a substantial body of research has addressed the influence of family structure on children's well-being, the vast majority of this research has been conducted with nationally representative samples or with middle-class, European American samples, with less attention paid to the variability in family structure within low-income populations, the target of new policy initiatives (but see Ackerman, D'Eramo, Umylny, Schultz, & Izard, 2001; Cherlin, Burton, Hurt, & Purvin, 2004; Edin & Kefalas, 2005).

Prior research shows a variety of benefits of being raised in a married biological-parent home, including greater academic success and behavioral competence among adolescents in nondivorced, two-parent families than peers raised in single-parent homes (McLanahan & Sandefur, 1994). The detrimental influences of divorce, remarriage, and multiple family structure changes for children have also been detected (Chase-Lansdale, Cherlin, & Kiernan, 1995; Hetherington, Bridges, & Insabella, 1998; Najman et al., 1997). Marriage offers families higher economic resources than do other family structures, and marriage is more likely to confer stability in family relationships, support consistent and productive parenting, and build trust and a sense of security among children (Waite & Gallagher, 2000). Marriage also supports biological fathers' ongoing connection to partners and children (Graefe & Lichter, 1999).

However, there are a number of reasons to suggest that family structure may operate differently in low-income and minority families. First, among low-income and less-educated parents, marriage may confer less of a financial advantage (Edin & Kefalas, 2005; Wells & Zinn, 2004). Second, given the high prevalence of relationship dissolutions and multiple partner fertility in low-income populations (Mincy, 2002), staying single may offer important consistency and stability for children. Third, low-income, unmarried African American fathers in particular are more likely to sustain involvement with their children over time than are other unmarried fathers (Stier & Tienda, 1993). Moreover, men cohabiting with a partner's children may form close and positive relationships with them, which are related to enhanced child development (Jayakody & Kalil, 2002). Together, these arguments suggest that marriage may provide less of a comparative advantage over other family forms for children within a low-income context.

In order to address the broad question of whether marriage provides benefits over cohabitation or single-parent status for children in low-income families, the present study will address the following four issues: (a) Assess the prevalence of mothers' marriage, cohabitation, and single-parent status, and the stability of these relationship statuses over time, in a representative sample of low-income families with young adolescent children; (b) Examine whether mothers' marriage to the same partner over time benefits adolescents' cognitive and psychosocial development compared to adolescents remaining in cohabiting and single-parent families; (c) Examine whether marriage formation is associated with improvements in adolescents' well-

being; and (d) Examine whether processes such as household income, and family and maternal functioning are also related to maternal partnership patterns and mediate links with adolescents' functioning. Throughout these comparisons, the study also will assess whether the identity of the father (biological or stepfather) qualifies links between maternal partnership experiences and youth well-being.

Family Structure Comparisons

Why might marriages provide a benefit over cohabitations or single-parent status? Cohabiting relationships are more short-lived and precarious than marriages (Bumpass & Lu, 2000; Manning, Smock, & Majumdar, 2004), and typically include greater economic insecurity (Brown, 2000; Manning & Brown, 2006). For example, male cohabiting partners tend to contribute less financially to the household than do married men (Graefe & Lichter, 1999, Manning & Brown, 2006), and cohabiting partners pool less of their income than do married spouses (Bauman, 1999). Cohabiting relationships are also characterized by poorer relationship quality than marriages, even after controlling for the economic differences between these family structures (Brown & Booth, 1996; Smock & Gupta, 2002). It is possible that longer and more stable cohabiting partnerships may be characterized by more positive relations and greater investments. Moreover, most research on cohabitation has focused on families in which the mother's partner, not the biological father of all the children in the household, comes into the family, thus introducing a father-figure and greater family complexity. However, in low-income families, mothers' cohabitation with the biological father of their children is more common (Mincy & Pouncy, 1999), although less so among mothers of adolescents (Brown, 2002), and this family structure may provide a better environment for children than a cohabitating stepfamily.

On the other hand, the stability of single-mother status may present unexpected benefits in low-income households. In the context of low-income communities where stable, long-term marriages are relatively uncommon, and nonmarital childbearing and single parenting are more prevalent, stable single motherhood may present fewer risks to children than to their more affluent counterparts. Moreover, romantic relationships in some low-income communities are characterized by extensive gender conflict, infidelity, and instability (Anderson, 2003; Edin & Kefalas, 2005). Within such an environment, the stability and consistency of a single-parent home may decrease relationship conflict and focus more attention on children, hence leading to beneficial outcomes.

Marital Formation and Adolescent Well-Being

In addition to assessing how long-term and stable marriages may benefit low-income children, it is also important to assess whether movements into new marriages are advantageous. As researchers and commentators have noted (e.g., Mincy & Pouncy, 1999), policies that encourage marriage among low-income adults must acknowledge that many such adults already have children, and hence a marriage will typically entail the entry of a new parent into an existing family system. But additional complexities abound. Partnership formation and childbearing in low-income families are characterized by multiple partner fertility, first marriages to stepfathers, and later marriages to biological fathers (Cherlin & Furstenberg, 1994; Moore & Chase-Lansdale, 2001; Mincy, 2002; Sweeney, 2007). These trends differ from patterns of family formation in middle- and upper-class households where marriages are typically formed prior to childbirth, divorces involve children's biological fathers, and remarriages introduce stepfathers into the family. Given the number and complexity of issues surrounding maternal partnerships in low-income households, the expected benefits of marriage for children and families in poverty may be attenuated.

Past research on remarriage and stepfamily formation following the divorce of biological parents generally does not provide support for hypotheses about the benefits of marriage in families with adolescents. In earlier approaches to this topic, researchers expected that remarriage would be supplement household income and provide emotional and parenting resources for mothers and children. However, the detrimental effects of parental divorce on child functioning generally were not ameliorated when the custodial parent remarried (Chase-Lansdale, 1994; Cherlin & Furstenberg, 1994; Cooksey, 1997; Hetherington & Clingempeel, 1992). Instead, adolescents in stepfamilies resembled youth from single-parent households more than nondivorced households in their disengagement from school and higher drop-out rates (Astone & McLanahan, 1991), as well as in their tendency to leave home at earlier ages (Cooney & Mortimer, 1999; Kiernan, 1992). Consequently, the benefits of mothers' marriage for children and adolescents appear fairly circumscribed, such that stepfamily formation does not seem to offer the same developmental advantages as marriages between biological parents formed prior to childbirth. As noted above, however, different demographic patterns among low-income and minority populations may alter the norms and effects of new marriages, perhaps providing greater benefits to low-income adolescents. Furthermore, later marriages to biological fathers may show differential influence on adolescents' well-being than marriages to stepfathers.

Together, these arguments suggest that marriage may provide limited benefits for children within a low-income context, particularly transitions into new marriages. Scholarship assessing this proposition, however, is very limited. Two recent papers have identified few associations between current family structure or recent changes in family structure and child well-being among economically disadvantaged families with young children (Acs, 2007; Foster & Kalil, 2007). Although Acs (2007) found that married biological parent status was linked concurrently with behavioral well-being for low-income children in comparison to other family structure types, neither of these papers showed benefits of low-income mothers moving into marriage or into residence with the biological father of the focal child. Even less is known about disadvantaged families with adolescent children. Other recent work on family structure instability has also generally found more negative than positive associations among maternal partnership transitions and child and adolescent well-being, although the goal of this research is to address the cumulative effect of multiple partnership formations and dissolutions rather than isolating the influence of a new union (Cherlin, 2009; Fomby & Cherlin, 2007; Osborne & McLanahan, 2007).

The Present Study

In order to address the implications of maternal partnership patterns for adolescents in low-income families, this study employs longitudinal survey data from the *Three-City Study* (Winston et al., 1999). In comparison to other research, typically with nationally representative samples, these data allow within-group comparisons focused on low-income, urban families using a large, representative sample of low-income young adolescents and their caregivers. In contrast to prior research which has often relied on short, single-reporter measures of adolescent functioning, the current dataset includes a rich assortment of extensive, well-validated assessments of adolescents' cognitive, socioemotional, and behavioral functioning using data from multiple reporters and sources. Finally, the *Three-City Study* has two waves of data available, affording a short-term longitudinal design that allows controls for earlier family characteristics and adolescent functioning.

In addition to a targeted look at low-income families, analyses also focus particularly on the years of early adolescence, a key developmental period characterized by marked changes within relatively brief windows of time, during which the influence of family structure changes appears to be elevated (Amato, 2001). Specifically, young adolescents encounter a number of

biological, social, cognitive and school transitions to which they and their families must adjust (Graber & Brooks-Gunn, 1996; Simmons & Blyth, 1987). The onset of puberty and expansions in cognitive skills and processes transform how adolescents view and relate to those around them, as well as the responses they elicit from others (Brooks-Gunn & Reiter, 1990). Parent–child relations evolve as young adolescents seek to establish autonomy and an individuated sense of self (Daniels, 1990; Sessa & Steinberg, 1991). In addition, school transitions are common during early adolescence, as youth move to middle or high schools (Entwisle, 1990). Theories about cumulative changes (Coleman, 1974; Simmons, Burgeson, Carlton-Ford, & Blyth, 1987) have maintained that the combination of these normative developmental transitions with family structure changes may exacerbate the adverse effects of maternal partnership instability for young adolescents. The challenges of adolescent developmental transitions may also activate delayed responses to earlier familial disruptions and stresses (Adam & Chase-Lansdale, 2002). Finally, changes in family structure may impose expectations and responsibilities on youth that they are not yet behaviorally, cognitively, or emotionally ready to manage (Sessa & Steinberg, 1991). Clearly, early adolescence is an important developmental period for tracking the influence of family structure changes, especially for adolescents facing the added risks of economic hardship. Three major developmental domains in adolescence have been widely associated with maternal partnerships: cognitive, socioemotional, and behavioral skills. The present study includes multi-method assessments of each of these domains, although past literature would suggest that greater effects will emerge for socioemotional rather than cognitive skills (Amato, 2005; McLanahan, 1997).

Family and Child Influences on Maternal Partnerships and Adolescent Outcomes

Because this study seeks to isolate the relations between maternal partnership experiences and changes in adolescent well-being, it is also important to consider family characteristics which might co-vary with or be affected by particular partnership patterns and might also influence adolescent well-being.

First, we control for a range of child and family characteristics that are likely to covary with or select families into particular partnership patterns. These characteristics include maternal age, education, and number of children, which are linked to partnership patterns and child development in the extant literature, primarily via their influence on parenting practices, parental psychological health, and neighborhood characteristics (McLoyd, 1990; Brooks-Gunn, Duncan, & Aber 1997). Adolescent characteristics such as age and gender as well as race/ethnicity also contribute to patterns of development (e.g., NCES, 2003), as well as to adolescents' response to marital transitions (Cherlin & Furstenberg, 1994; Dunifon & Kowaleski-Jones, 2002; Hetherington et al., 1998; McLanahan & Sandefur, 1994).

Second, we consider four arenas of maternal and family functioning that may mediate associations among maternal partnership patterns and adolescent well-being: economic contexts, maternal functioning, home contexts, and parenting. Economic disparities in married, cohabiting, and single-parent households are commonly found, although as previously mentioned, it remains unclear whether marriage confers significant financial benefits for low-income families. In the present study, the household income-to-needs as well as perceived financial strain among mothers across partnership groups will be examined. Maternal functioning also has been strongly linked to changes in both maternal partnerships and child well-being. The maternal psychological distress and parenting stress reported by single and divorced mothers (Johnson & Wu, 2002), and less consistently found among cohabiting mothers (Brown, 2000; Horowitz & White, 1998), is expected to influence adolescents' adjustment to marital transitions (Davies & Windle, 1997). In the home and parenting contexts, the quality of cognitive stimulation and regularity of family routines, as well as parental

monitoring and harsh or insensitive discipline practices may change with corresponding partnership transitions and relate to changes in adolescent well-being. For example, single and divorced mothers tend to utilize harsher discipline, provide less emotional and cognitive support, and maintain less consistent supervision with their children than partnered mothers (Amato, 2005; Thomson, Mosely, Hanson, & McLanahan, 2001). Together, these four sets of factors are possible mediating processes which might explain associations between maternal partnership patterns and adolescent adjustment in cognitive, psychological, and behavioral realms.

Method

Participants and Procedures

Data are drawn from the survey component of *Welfare, Children, and Families: A Three-City Study*, a longitudinal, household-based, stratified random sample of approximately 2,400 children and their primary caregivers from low-income neighborhoods in Boston, Chicago, and San Antonio (Winston et al., 1999). The majority of these families are African-American (42%) or Hispanic (47%). In randomly selected households with incomes below 200 percent of the federal poverty line, interviewers randomly selected one focal child (ages 0–4 or 10–14) and conducted interviews and assessments with the focal child and the female primary caregiver (90% were biological mothers). Two waves of data were collected in 1999 and 2000-2001, with an average length of 16 months elapsing between interviews (range 11–26 months). In Wave 1, the screening response rate was 90% and the interview completion response rate was 83%, yielding a total response rate of 74%. In Wave 2, the response rate was 88% of the wave 1 sample. Probability weights that adjust for sample selection and nonresponse create a sample that is representative of low-income children and their families in low-income neighborhoods in the three cities.

The present sample was restricted to 77% of adolescents in the Three-City Study whose primary caregivers were their biological mothers at both time points ($n = 860$), to exclude youth who experienced familial disruptions other than maternal partnership instability, such as a relative assuming custodial care due to parental incarceration or abandonment. The analysis sample also excludes 44 cases with incomplete longitudinal partnership status information. Attrition analyses were conducted and very few differences on key demographic characteristics (e.g., gender, income, number of children in the household) emerged, although it should be noted that mothers in the analysis sample were younger ($M = 37$ vs. $M = 43$, $p < .001$) and more likely to be Hispanic (50% vs. 38%, $p < .001$) than mothers in the excluded sample.

Missing data—When missing data occurred, we employed maximum likelihood estimation methods for imputing missing data (Schafer & Graham, 2002). The expectation-maximization (EM) algorithm in SPSS was utilized to estimate missing values on the covariates and outcomes (Dempster, Laird, & Rubin, 1977) but not the maternal partnership variables. Only a small amount of missing data was apparent on the covariates or outcomes (0–3.8%).

Measures

An array of demographic, economic, psychological, parenting, cognitive and socioemotional measures were obtained from mothers and adolescents at both waves.

Partnership Transition Variables

Partnership status and identity of the male partner—Information about current maternal partnerships was obtained at each wave of data collection in several ways. Mothers provided a roster of every member in their household that included each individual's age, gender, relationship to the mother, and relationship to the focal child. Mothers also identified

the residential status of children's fathers. From this information, mothers were coded as being married, cohabiting, or single in each wave. Across the two waves, six categorical partnership patterns were observed which incorporate both stability and change. The comparison group (the omitted group in analyses described below) is women who remained single across both waves, which we term the stable single group. The other partnership groups include mothers who were married at Waves 1 and 2 (stable marriages), cohabiting at Waves 1 and 2 (stable cohabitations), mothers who transitioned into marriage, and those who transitioned into cohabitation (see Table 1). The groups reporting the same partnership status at both waves (married or cohabiting) represent mothers with the same male partner at both waves. The marriage formation group is comprised primarily of mothers who were single at Wave 1 and were married by Wave 2, although a small number of mothers who transitioned from cohabiting to married partnerships are also included ($n = 7$). Finally, there is also a category of relationship dissolutions, including both marriage and cohabitation dissolutions. Since this partnership pattern is not of central interest in the current study, it is used as a control variable.

It is important to point out that although we term the mothers who were single, or married or cohabiting with the same partner across the two waves as "stable," we were not able to assess the duration or full history of these family structure types. Finally, we also assessed the identity of maternal partners, identifying both marital and cohabiting partners as either the biological father or stepfather of the focal adolescent.

Partnership history with the biological father—Although the data do not include full partnership histories for mothers in this sample, we controlled for the history of marriage or cohabitation with the biological father of the adolescent. Respondents who were not married to the focal adolescent's biological father at Wave 1 reported whether they had ever been married to or cohabited with the biological father. Approximately 82% of these respondents were previously married to or cohabiting with their adolescent's biological father. Responses were coded as 1 = *previous partnership with the biological father* or 0 = *no prior partnership with the biological father*. Data were not obtained about partnership histories with stepfathers.

Maternal and Family Variables

A second set of variables captured four central arenas of family and maternal functioning, including economic functioning, maternal functioning, home contexts, and parenting. Each of these four arenas was assessed through two composite measures drawn from maternal or youth reports.

Economic contexts—The first measure of economic context assessed families' cash resources. Income-to-needs ratios were calculated from maternal reports of each household member's income from a variety of sources, using federal poverty designations dependent on household size. The second measure assessed families' experiences of economic pressure using the Financial Strain Index (Coley & Chase-Lansdale, 2000). Items assessed mothers' perceptions of financial hardship and ability to pay bills and afford basic necessities. Five items were reported using 4- or 5-point Likert scales (e.g., *How often does your household have to borrow money to pay bills? Does your household have enough money to afford the kind of housing, food and clothing you feel you should have?*); items were standardized and averaged to create a total score of Financial Strain ($\alpha_{Wave1} = .72$, $\alpha_{Wave2} = .73$).

Mothers' psychological functioning—Two variables assessed mothers' psychological functioning. Psychological distress was measured with the 18-item version of the Brief Symptom Inventory (BSI 18, Derogatis, 2000), which asks how much respondents had been distressed or bothered by symptoms in the past 7 days using a 5-point scale ranging from "not at all" (0) to "extremely" (4). The BSI 18 assessed three aspects of psychological distress:

depression (e.g., "*During the past 7 days, how much were you distressed or bothered by feeling hopeless about the future?*"), anxiety (e.g., "During the past 7 days, how much were you distressed or bothered by suddenly feeling scared for no reason?"), and somatization (e.g., "During the past 7 days, how much were you distressed or bothered by nausea or upset stomach?"). Items were averaged into a total score with higher scores indicating greater psychological distress (α_{Wave1} = .91; α_{Wave2} = .93).

A composite of mother's parenting stress was created from 7 items drawn from New Chance and the Panel Study of Income Dynamics (PSID) assessing mother's stress related to challenges in parenting. Exemplar items included "*Parenting is such a big job, it cuts me off from other people,"* and "*Being a parent is harder than I thought it would be*." Items were averaged, with higher scores indicating greater parenting stress (α_{Wave1} =.75 α_{Wave2} =.75).

Home contexts—Two measures also assessed central aspects of the home environment which have been shown to be important for the development and well-being of children: the quality and cognitive stimulation of the home environment, and the regularity of family routines. The quality of the home environment was assessed using mother report and interviewer observation items from the cognitive stimulation subscale of the Home Observation for Measurement of the Environment–Short Form (HOME-SF, revised from the original HOME, Caldwell & Bradley, 1984). Each item on the HOME–SF was scored dichotomously to indicate the presence or absence of a developmentally supportive aspect in the child's home environment. Scores were summed, age-standardized, and transformed into standard scores. The short form of the HOME has been found to have adequate validity in low-income and ethnically diverse samples (Bradley, Corwyn, Pipes McAdoo, & Garcia Coll, 2001).

Family routines, a measure of the regularity of strength-promoting family activities, were assessed through items selected from the Family Routines Inventory (Jensen, James, Boyce, & Hartnett, 1983). Four items were rated using a Likert scale (e.g., "*Children go to bed at the same time each night*." "*The family has a time during the day or evening when everyone talks or plays quietly*." 1 = almost never to 4 = always) and were averaged into a total score of family routines (α_{Wave1} = .66; α_{Wave2} = .64).

Parenting—Finally, youth reported on two central aspects of parenting: parental monitoring and harsh parenting. Adolescents reported on maternal monitoring and knowledge using items drawn from the Behavioral Control measure, which has been used in other low-income samples to predict adolescent behavioral outcomes (Steinberg, Mounts, Lamborn, & Dornbusch, 1991; Pittman & Chase-Lansdale, 2001). Five of the items assessed mothers' knowledge of the adolescents' friends and activities (e.g., *How much does your (mother) know about where you are most afternoons after school?* 1 = *doesn't know* to 3 = *knows a lot*). Items were averaged into a total score of monitoring at each wave (α_{Wave1} = .68 and α_{Wave2} = .76).

Youth also report on maternal punishment using McLoyd's Harsh Punishment scale (McLoyd, Jayaratne, Ceballo, & Borquez, 1994) which consists of 5 items assessed on a 1 (*never*) to 5 (*almost every day*) scale (α_{Wave1} = .78 and α_{Wave2} = .77). Items assessed the frequency with which the mother used harsh or punitive disciplinary techniques (e.g.,. *During the past 12 months, how often has your mother scolded or yelled at you? … spanked or hit you?*).

Adolescent Functioning

The central dependent variables of interest in this study cover primary arenas of adolescent functioning across cognitive, psychological, and behavioral domains, using well-validated and reliable measures drawn from youth reports, parent reports, and direct assessments.

Cognitive achievement—Adolescents were administered two subscales from the Woodcock-Johnson Psycho-Education Battery–Revised (WJ-R; Woodcock & Johnson, 1989, 1990): Letter-Word Identification (e.g., word decoding and reading skills) and Applied Problems (e.g., mathematics and problem-solving). The Spanish version of the Woodcock-Johnson was administered if the child or parent reported that Spanish was the child's primary language (Wave 1, $n = 18$; Wave 2, $n = 20$; Woodcock & Munoz-Sandoval, 1996). Analyses were conducted on the W scores from each of these measures. Raw scores were converted into W scores, which are a special transformation of the Rasch ability scale. The W scale for each test is centered on a value of 500, which has been set to approximate the average performance of beginning fifth-grade students. Estimation of change with W scores will reduce the likelihood of adolescents displaying negative growth, which is a limitation of using standard scores. In addition to the direct assessment measures of adolescents' academic skills, mothers reported adolescents' grades on the most recent report card, which were rated on an 8-point rating scale (1 = *mostly failing* to 8 = *mostly A's*).

Psychological functioning—Measures of psychological functioning were drawn from both mother and youth reports. Mothers were administered the 4-18 version of the Child Behavior Checklist (CBCL; Achenbach, 1991). The CBCL has been used extensively to assess socioemotional and behavioral problems and has high internal and predictive validity and test–retest reliability (Achenbach, 1991). We used standard scores (t-scores) from the Internalizing Problems subscale (e.g., depressive, withdrawn, or somatic behaviors; $\alpha_{Wave1} = .87$ and $\alpha_{Wave2} = .88$). Adolescents also self-reported on psychological distress using an Audio Computer-Assisted Self-Interview (ACASI) procedure to increase the validity of their reports for this sensitive information. Adolescents completed the Brief Symptom Inventory 18 (BSI 18; Derogatis, 2000), the same measure used with mothers to assess psychological distress ($\alpha_{Wave1} = .89$, $\alpha_{Wave2} = .90$).

Behavioral functioning—Finally, both mothers and youth also reported on adolescents' externalizing behaviors. Mother reports were derived from the Externalizing Problems scale of the Child Behavior Checklist (CBCL; Achenbach, 1991), which assesses aggressive and destructive behaviors ($\alpha_{Wave1} = .89$ and $\alpha_{Wave2} = .90$). Youth also reported on the frequency of delinquent or illegal activities that they engaged in during the past 12 months, using items drawn from the National Longitudinal Study of Youth (NLSY; Borus, Carpenter, Crowley, & Daymont, 1982) and the Youth Deviance Scale (Gold, 1970; Steinberg, Mounts, Lamborn, & Dornbusch, 1991). A six-item subscale was employed that captures engagement in Serious Delinquency (e.g., stealing, vandalizing, fighting). Items were standardized, averaged, and then transformed by taking the natural log to correct for skewness. Higher scores represent greater engagement in serious delinquency ($\alpha_{Wave1} = .65$ and $\alpha_{Wave2} = .82$).

Control Variables

Finally, we also included measures of maternal, child, and family characteristics likely to be associated with partnership transitions and adolescent functioning in order to control for spurious relationships. Control variables believed to be exogenous to the causal link between partnership transitions and adolescent functioning were selected. These include adolescents' age in months ($M_{Wave1} = 149.7$, $SD = 17.2$; $M_{\Delta score} = 16.2$, $SD = 3.0$), maternal educational attainment (*no high school diploma or GED at Waves 1 and 2* (omitted), 41%; *attained higher degree between waves*, 4%; and *high school education or higher at both waves*, 51%), and the number of children younger than 18 years of age in the household ($M_{Wave1} = 3.2$, $SD = 1.5$; $M_{\Delta score} = -.14$, $SD = .97$). Time-invariant characteristics were also selected for robustness checks in some model specifications, including maternal age ($M_{Wave1} = 36.8$, $SD = 6.1$), adolescents' race/ethnicity (non-Hispanic Black, 42%; Hispanic, 50%; or non-Hispanic White/Other, 8%), adolescents' gender (53% female, 47% male), and mothers' previous partnership

history with the biological father at Wave 1 (82% of the respondents not currently married to the adolescent's biological father were previously married to or cohabiting with him).

Results

Descriptive statistics comparing the stable and transitioning partnership groups on initial levels and change in adolescent outcomes and maternal and family functioning are presented, followed by a description of the multivariate analytic strategy and results.

Describing Maternal Partnership Patterns and Adolescent Well-Being

Table 1 presents the longitudinal frequencies for each partnership group. Within this analysis sample, 22% of the adolescents experienced a change in maternal partnership between waves. Notably, the formation of maternal partnerships occurred at approximately twice the rate of partnership dissolutions, although the dissolution rate for this 16 month period remains higher than would be expected from national norms (Cherlin & Fomby, 2002). Table 1 also displays the number of stable and transitioning partnerships that involved the focal child's biological father or a stepfather.

Adolescents' cognitive and socioemotional functioning at Wave 1 and change scores across waves are shown in Table 2. Separate one-way MANOVAs were conducted with Wave 1 and change scores of each outcome as the dependent variables and partnership group as the independent variable. When the *F* test was significant, planned contrasts were performed comparing each stable and partnership formed group to the stable single group. In general, the five partnership groups displayed similar academic skills at Wave 1 and comparable rates of change over time. The one exception to this pattern was that youth from the stably married group began the study with significantly higher math scores and grades than youth in stable single homes. Moreover, youth from stably married households began the study with significantly lower externalizing behaviors and serious delinquency than youth in stable single-parent families, and showed significantly lower increases in externalizing problems over time. However, adolescents in stably married homes also showed greater increases in psychological distress than adolescents in stable single families. The remaining behavioral comparisons among the partnership groups revealed mixed evidence regarding initial risks of single-parent status. Overall, youth in stable single-parent families did not differ in initial status or rates of change compared to youth whose single mothers married across waves or stably cohabited, and youth in single-parent households tended to show lower levels and change rates in behavioral and psychological problems compared to the cohabitation formation group.

Average maternal and family functioning at Wave 1 and change across waves are displayed in Table 3. Again, separate one-way MANOVAs were conducted with Wave 1 and change scores of each outcome as the dependent variables and partnership group as the independent variable, with planned contrasts performed among the stable single group and the other partnership groups. Few significant differences emerged among the partnership groups across the four maternal and family functioning arenas. However, in the economic context, youth whose single mothers married across waves experienced greater income gains but greater increases in financial strain than youth with stable single parents. Single-parent families also differed from stably married families in economic and family functioning domains, showing higher financial strain, psychological distress, and parenting stress, as well as lower family routines. In addition, single-parent families showed lower initial psychological distress but also lower income gains than families that formed new cohabitations. Following this descriptive view of maternal partnerships, adolescent functioning, and maternal and family functioning, we turn to our longitudinal multivariate analyses.

Analytic Strategy

The primary goal of this paper is to assess links between maternal partnership patterns and changes in adolescent functioning over time. We also considered whether the identity of the male partner (adolescent's biological father or stepfather) moderated these relationships. Secondarily, we assessed whether partnership patterns were linked to maternal and family process changes, and whether the latter might mediate links with adolescent functioning. To address these questions, we employed change analyses based upon a semidifference modeling approach. Change models, commonly delineated as individual fixed effects models, assess whether changes in one domain (e.g., partnerships) are related to changes in another domain (e.g., adolescent functioning; see Equation 1).

$$\Delta\text{Adolescent Functioning}_{1-2i}=B_0+B_1\Delta\text{Maternal Partnership}_{1-2i}+B_2\Delta\text{Controls}_{1-2i+\varepsilon t,} \quad (1)$$

In this model changes in adolescent functioning from Wave 1 to Wave 2 for individual *i* are regressed upon changes in maternal partnerships for *i* over this same time period. This model can also control for changes in other time-varying variables, here including factors such as the number of children in the household and child age. Individual fixed effects models which assess within-person change provide numerous advantages over other analytic methods (Duncan, Magnuson, & Ludwig, 2004; Johnson, 1995; 2005). Change models difference out, and hence control for, all time-invariant unmeasured factors that have a persistent effect on the dependent variable of interest, thus providing an important control over potential selection and omitted variable biases. For example, change models control for factors such as genetic predispositions and the influence of early childhood partnership transitions that have a consistent link with children's functioning across early adolescence, as well as time-invariant selection characteristics that may discriminate families with different partnership patterns. Change models are also robust to measurement error in the dependent variable (Johnson, 2005).

Although change models have many strengths, it also is important to acknowledge their weaknesses. One weakness is an inability to assess links between stable factors and change in the dependent variable of interest (e.g., to ask if a stable marital relationship is linked to stronger improvements or declines in adolescent functioning in comparison to a stable single status). A second notable concern with change models is that change scores are often correlated with the initial levels of the variables, driven by ceiling or floor effects (Knoester, Petts, & Eggebeen, 2007).

To address these potential biases, we employed a semidifference model, which adds the Wave 1 measures of both the dependent variable and the primary independent variables to the right hand side of the equation. All other covariates in the model are change scores (Equation 2).

$$\begin{aligned}\Delta\text{Adolescent Functioning}_{1-2i} &= B_0+B_1\text{Stability \& }\Delta\text{Maternal Partnerships}_{1-2i}\\ &+B_2\Delta\text{Controls}_{1-2i}\\ &+B_3\text{Adolescent Functioning}_{1i+\varepsilon t},\end{aligned} \quad (2)$$

In this equation, change in adolescent functioning is assessed as a function of both change and stability in maternal partnerships, as well as the Wave 1 level of the adolescent functioning measure, and changes in control variables. The addition of the Wave 1 level of adolescent functioning and the initial partnership type helps to adjust for concerns that changes in these constructs may be constrained by initial values. This analytic strategy employing

semidifference models has been used in recent papers in the field assessing the effects of marital transitions on parental health (Wu & Hart, 2002) and effects of paternal relationships on fathers' functioning (Knoester et al., 2007).

After identifying the pattern of associations among maternal partnerships and changes in adolescents' cognitive, behavioral, and psychological functioning, we examined how these maternal partnerships were linked with family processes and maternal well-being to better understand the adolescent findings. Semidifference models of the same form as noted above (Equation 2) were conducted to predict changes in economic contexts, maternal functioning, home contexts, and parenting.

As a third step in the analyses, interaction terms were added to the adolescent and maternal/family semidifference models to assess whether links between maternal marriage and adolescent/family/maternal functioning were moderated by the identify of the partner (biological father or stepfather). Since most cohabitations were formed with stepfathers, similar moderation tests could not be performed for the cohabitation groups (see Equation 3).

$$\begin{aligned}\Delta\text{Adolescent Functioning}_{1-2i} &= B_0 + B_1\,\text{Stability \& }\Delta\text{Maternal Partnerships}_{1-2i} \\ &+ B_2\,\Delta\text{Controls}_{1-2i} \\ &+ B_3\,\text{Adolescent Functioning}_{1i} \\ &+ B_4\,\text{StableMarried} \\ &\times \text{PartnerID} \\ &+ B_5\,\text{Marriage Formed} \times \text{PartnerID} + \varepsilon t,\end{aligned} \tag{3}$$

Finally, our fourth step of multivariate analyses incorporated mediation models. Changes in family and maternal characteristics were added to the semidifference models predicting adolescent outcomes to examine potential mediation (see Equation 4).

$$\begin{aligned}\Delta\text{Adolescent Functioning}_{1-2i} &= B_0 + B_1\,\text{Stability \& }\Delta\text{Maternal Partnerships}_{1-2i} \\ &+ B_2\,\Delta\text{Controls}_{1-2i} \\ &+ B_3\,\text{Adolescent Functioning}_{1i} \\ &+ B_4\,\Delta\text{Maternal \& Family Functioning} + \varepsilon t,\end{aligned} \tag{4}$$

To check the robustness of our results, we also assessed an additional specification. The Wave 1 measure of all control variables as well as time-invariant controls such as adolescent race/ethnicity, gender, maternal age, and the history of coresidence with the biological father were added to the right hand side of the equations. All results remained virtually identical (because of space limitations, these findings are not included in this article, but they may be obtained from the authors upon request).

The Association of Maternal Partnerships and Adolescent Well-Being

In the first series of semidifference regression models, changes in adolescent functioning were predicted by maternal partnership groups, change in time-varying controls, and initial adolescent functioning at Wave 1. Results from these regression models are presented in Model 1 of Table 4. The group of mothers who were single across both waves comprised the omitted

group (stable single), with all other partnership categories entered as dummy variables. Two sets of planned contrasts between the groups that were stably married or cohabiting, and between the marriage and cohabitation formation groups, were conducted using adjusted Wald *F* tests, with results denoted with superscripts in Table 4.

One central question of this study is whether any short-term benefits emerged for adolescents whose single mothers married between waves or attained new cohabiting partners. Assessing coefficients for the marriage formation group, we see that all coefficients are null. Similarly, none of the cohabitation formation coefficients were significant, indicating that no benefits or risks were evident for low-income adolescents whose mothers married or entered cohabiting unions compared to youth whose mothers remained single. There also were no significant differences between the two formation groups, as seen by the lack of significant superscripts.

The second central question in this study is whether stable marriages provide benefits for youth compared to adolescents in cohabiting or single-parent families. Among the stable partnership groups, the results in Model 1 indicate the developmental benefits of longer term maternal marriages as well as the developmental risks associated with longer term cohabitations. Notably, significant differences emerged across all three domains of adolescent functioning, including cognitive achievement, behavioral functioning, and psychological functioning. In comparison to youth in stably single mother households, adolescents in stably married families showed greater gains in mathematics skills and school grades as well as steeper declines in both adolescent reports and mother reports of behavior problems. In contrast, adolescents in stable cohabiting families showed greater increases in mother-reported externalizing problems and youth reports of psychological distress in comparison to youth in single mother households. Comparing the stably married and stably cohabiting groups, we see that the behavioral functioning of youth in stably married families also was significantly advantaged over their peers in stably cohabiting families. In short, these results indicate a significant advantage for youth in married parent families, and a significant disadvantage for youth in cohabiting couple families in comparison to each other and to youth who lived with single mothers through the time period under study.

Biological versus Stepfather Comparisons—In addition to examining whether maternal marriages were associated with adolescents' developmental progression, we also sought to ascertain whether marriage showed differential links with adolescent well-being when the partner was the biological father of the adolescent in comparison to a stepfather. To assess this question, we included interaction terms into the base regression models, focusing in delineating the marriage formation and the stably married groups by the identity of the male partner. Since mothers of adolescents experienced stable or new cohabitations almost exclusively with social fathers, the influence of the male partner's identity could not be tested in these partnerships (see Table 1). The interaction results are presented in the second panel (Model 2) of Table 4. Results showed no benefit of marriages to biological fathers in comparison to marriages to stepfathers. Only one of the 14 interaction terms was significant, indicating that the pattern of findings was not significantly different for both new and longer-term marriages involving a biological father versus a stepfather. The one exception indicated that adolescents reported increases in psychological distress when mothers were married at both waves to their biological father and decreases when mothers were married to a stepfather.

The Association of Maternal Partnerships and Maternal and Family Functioning

The results presented above indicated that youth whose mothers experienced an entry into a married or cohabiting union showed no relative changes in functioning in comparison to their peers in stable single mother households. In contrast, adolescents in longer-term married families showed improved psychological health in comparison to youth in single and

cohabiting parent families, whereas adolescents in longer-term cohabiting families showed declines in functioning in comparison to youth in single and married mother families. To help understand these patterns in adolescent well-being we next explored whether changes in the home environment or maternal well-being were linked to the maternal partnership patterns and furthermore, whether home or maternal processes could mediate, or explain, the links between maternal partnership experiences and adolescent development.

Regression analyses predicting changes in home and maternal functioning from maternal partnership patterns are presented in Model 1 of Table 5. Results indicated that every maternal partnership group experienced significant increases in income-to-needs relative to the omitted group of stable single mothers. Notably, with the exception of the stably married group, maternal partnership patterns showed no significant links to changes in all other arenas of functioning measured here: no changes in maternal psychological functioning, the home context, or maternal parenting in comparison to the stable single group. Stable marriage, however, was associated with numerous advantages in addition to increased income. Stably married mothers showed significant improvements in both the home environment (increased cognitive stimulation) as well as in maternal functioning (decreased psychological distress and parenting stress) in comparison to mothers who remained single across both waves, although no benefits of marriage were observed for youth reports of parenting quality. Stably married mothers also showed greater increases in family routines compared to stably cohabiting mothers.

Biological versus Stepfather Comparisons—The second panel (Model 2) of Table 5 presents results from the interaction models in which we assessed whether links between longer-term marriages or new marriages with home and maternal functioning differed for mothers in biological versus stepfather marriages. Similar to the interaction results predicting adolescent functioning, here again we see a pattern of null results.

Mediational Analyses for Maternal Partnerships and Adolescent Well-Being

Thus far, the results indicated that movements into new partnerships, both marriages and cohabitations, showed no significant relationships with either adolescent functioning or with maternal and home functioning, with the exception of predicting increases in family income. In contrast, longer-term marriages were associated with relative improvements in adolescent well-being, home contexts, and maternal well-being, whereas longer-term cohabitations were associated with relative declines in adolescent outcomes but with no significant changes in home or maternal characteristics beyond income. As a final step in our analyses, we assessed whether changes in home or maternal functioning might mediate the effect of stable marriages and cohabitations on adolescent development. As described earlier, changes in economic and home contexts, maternal functioning, and parenting were entered into the adolescent semidifference models to determine whether these processes explained associations between maternal partnerships and adolescent well-being (see Model 3 in Table 4). For youth in stably married families, the results quite strikingly show that these maternal and family processes did not appear to explain adolescents' advantaged functioning in comparison to their peers in single mother households. Coefficients for stable marriage predicting gains in math and grades as well as declines in behavior problems were not reduced following the addition of mediating home and maternal functioning variables. Coefficients on delinquency were reduced by a very modest 4% after controlling for changes in family and maternal characteristics. For adolescents in stably cohabiting households, increases in externalizing problems were reduced by 30%, with increases in financial strain and parenting stress showing significant, positive associations with increased externalizing problems. In contrast, coefficients for delinquency and psychological distress among adolescents with stable cohabiting parents were not notably changed following the addition of home and maternal factors (delinquency, 0% reduction;

psychological distress, 3% reduction). This pattern of mediation findings, or lack thereof, generally persisted even after adding Wave 1 status on all the maternal and family process mediators to the regression equations (data not shown but available from authors upon request).

Discussion

The present study examined the relationship between mothers' partnership patterns and children's well-being during a developmental period characterized by tremendous change and adjustment: early adolescence. This study provides new insights into the repercussions of such partnership experiences and transitions on young adolescents' development in cognitive, behavioral, and psychological domains. In this representative sample of low-income urban families, family structure changes were quite prevalent, with 22% of mothers in the sample experiencing a change in marital or cohabitation status within a 16 month period. Although patterns of maternal partnering were associated with changes in young adolescents' functioning more consistently than would be expected by chance (19% of comparisons in Model 1 of Table 4 were significant), all of these differences were related to stable partnership patterns. Overall, three primary patterns of results emerged.

The first finding is a notable lack of significant links between mothers' new marriages or cohabitations and changes in adolescent functioning across multiple developmental domains assessed from multiple data sources. When adolescent development was compared across families in which mothers remained stably single versus families in which mothers entered new marriages or new cohabiting unions, no statistically significant differences emerged. This implies that policy efforts to increase marriage rates among low-income mothers may be unlikely to show substantial benefits or risks, at least in the short-term, for young adolescents. Most research cited by proponents of the current marriage policy is drawn from studies examining children whose biological parents married prior to childbirth. Since low-income mothers of adolescents in our study were more likely to form married or cohabiting partnerships with stepfathers, policymakers' expectations of improvements in child well-being in response to new marriages may need to be attenuated, at least for older children and adolescents and in the short-term.

Introducing a new adult into the family system at a time when young adolescents are already experiencing numerous developmental and educational changes may make integration of the male partner difficult or disruptive (Hofferth & Anderson, 2003; Manning & Lamb, 2003). In past remarriage research with middle class families, children in middle childhood and adolescence did not incorporate stepfathers into the family system as readily as younger children (Hetherington, Bridges, & Insabella, 1998; Hetherington & Clingempeel, 1992). Our results also suggest that mothers did not function more healthily or effectively as parents or provide more supportive home environments following entry into a new marriage or cohabiting partnership, in comparison to mothers who remained single (note the important finding that declines in the home environment, parenting quality, or psychological health were also not detected among newly partnered mothers). Although household income increased when single mothers partnered, no other changes in the home environment or maternal well-being were detected, a pattern which might help to explain why adolescent functioning did not change either.

Yet, it remains unclear whether greater benefits might emerge for adolescents whose mothers marry for the first time (rather than remarry) or marry the adolescents' biological father versus a stepfather (Moore & Chase-Lansdale, 2001; Sweeney, 2007). Although we did not detect differences between new marriages to a biological versus stepfather, these subsamples were very small, and replication with other samples is necessary to support this finding. Benefits for youth also may emerge over a longer time period if new partnerships remain stable. Indeed,

patterns related to stable marriage suggest numerous benefits for adolescent functioning. Furthermore, we were unable to account for adolescents' relationship quality with their biological and social fathers. Past research has demonstrated positive developmental outcomes for low-income and minority children in middle childhood and adolescence when higher relationship quality with social fathers was experienced (Coley, 1998; 2003). In the present study, unmeasured variation in adolescents' positive or negative relationship quality with their fathers and social fathers may have averaged out to contribute to the null effects of new maternal partnerships.

The second notable pattern of findings suggested that stable marital unions were linked with improved adolescent well-being in comparison to other types of stable relationships structures. One argument concerning the benefits of parental marriage states that marriage confers stability and consistency for children (Waite & Gallagher, 2000). By comparing stably married unions to other stable structures (controlling for earlier marital/cohabitation histories with the biological father), we assessed this argument specifically. Results supported the claim that stable marriages are linked to better youth outcomes than stable single or stable cohabiting structures, although benefits were not apparent for every area of well-being. Low-income adolescents in stably married households in the *Three-City Study* displayed more growth in math and school grades and greater declines in externalizing behavior problems and delinquency than adolescents in stably single families, replicating results in previous national samples (e.g., McLanahan & Sandefur, 1994; Najman et al., 1997).

In contrast to stably married unions, stable cohabitations were linked to declines in adolescent development in a variety of socioemotional arenas. Mothers reported that living in stably cohabiting-couple households was linked to escalated externalizing behaviors for yuth compared to teenagers in stably married or stably single-mother families. Teenagers in stably cohabiting families also reported relative increases in psychological distress in comparison to peers in stably single mother homes. Although these findings stem from a relatively small subgroup of adolescents, past research from regional and national samples corroborates the present pattern of results, demonstrating greater socioemotional and behavior problems for youth in cohabiting-couple households (Ackerman et al., 2001; Dunifon & Kowaleski-Jones, 2002).

Why might stable maternal marriage be beneficial for adolescent functioning? We had hypothesized that differences in adolescent functioning related to maternal marriage, cohabitation, or single status might be driven by discrepancies in proximal family contexts including economic resources, maternal functioning, and parenting and home contexts. These proximal contexts have been identified in previous research as important mediating processes, through which stable marriage has been found to be beneficial, and cohabitation, single status, and parental transitions detrimental for child and adolescent well-being (see Amato, 2005 for review). Assessment of changes in all of these contexts in relation to maternal partnership patterns found that stably married and stably cohabiting mothers both experienced significant income gains in comparison to stably single mothers. Stably married mothers also reported significant improvements in psychological health and home environments in comparison to stably cohabiting and stably single mothers, though no differences in the quality of their parenting. Although stably married families showed numerous arenas of relative improvement in functioning, it is important to reiterate that these differences did not mediate the links between stable marriage and improved adolescent well-being. That is, increases in financial, maternal, and home measures did not significantly decrease the links between stable marriage or stable cohabitation status and changes in youth functioning.

This leaves open the thorny question of why adolescents in stably married families did progressively better and adolescents in stably cohabiting families did progressively worse than

each other and than youth in stable single-mother families. One leading possibility is the role of fathers. Notably, differences in adolescent functioning related to stable maternal marriage and cohabitation were not significantly differentiated by the identity of the father- that is, whether he was a biological father or stepfather of the adolescent. Yet, the benefits of stable marriage and detriments of cohabitation may be related to the quality of adolescents' relationship with their father or stepfather. Research evidence is growing concerning beneficial effects of involved paternal parenting and positive youth-father relationships on adolescent development (e.g., Coley & Medeiros, 2007; Coley, Votruba-Drzal, & Schindler, 2008; Ream & Savin-Williams, 2005). Youth in married parent families, particularly biological father married families, are shown to have more positive relations and more productive paternal parenting than youth in stepfamilies, cohabiting, or single mother families. More involved parenting by fathers, in turn, has been shown to mediate a significant portion of the links between family structure and adolescent functioning (Carlson, 2006).

A second possible explanation for the benefits of stable maternal marriage is the quality of the mother–partner relationship. Problematic adolescent functioning is exacerbated by interparental conflict, which tends to be higher in cohabiting-couple households. Cohabiting couples have higher rates of financial insecurity (Graefe & Lichter, 1999, Manning & Brown, 2006) and poorer relationship quality (Brown & Booth, 1996) than do married couples, which are risk factors for poor functioning among youth. Unfortunately, our models could not include assessment of adolescent father or mother–father relationship quality, because these data were not available for all family structure types. Future research should seek to assess the relative importance of these two sets of factors.

Finally, a third possible explanation for the benefits of stable maternal marriage relates to the stability of the family structure. Research and theory argue for the importance of stability and predictability in children's lives, with multiple parental relationship transitions being particularly detrimental for children (Fomby & Cherlin, 2007; Najman et al., 1997; Osborne & McLanahan, 2007). Marriages are, on average, more stable and long-lasting than cohabiting unions (Bumpass & Lu, 2000; Manning et al., 2004). In our data we also identified prevalent instability in the histories of the stably single mother group, with 80% of this group reporting an earlier marriage or cohabitation with the biological father of the adolescent. Future research should more carefully attend to the history of maternal partnership patterns in low-income families and links with child and family functioning. It is likely that current partnership status, recent instability, and long-term instability might all have independent effects on both children's and families' trajectories.

Finally, it possible that our patterns of results are related in part to selection effects. The modeling employed in the present study, namely semidifference models, afforded us the ability to examine within-individual changes in maternal partnerships and developmental outcomes while simultaneously considering the influences of initial starting points and stability in partnerships as well. These change models thus controlled for unmeasured factors which had a time-invariant influence on adolescent development, controlling for unmeasured heterogeneity and potential selection bias from some, but certainly not all, sources. If unmeasured variables had a time-varying influence on adolescent functioning, these factors could have biased our results. Our models also had the added strength of distinguishing different types of stable family structures. In traditional fixed effects models, stable groups are collapsed with comparable rates of change assumed (e.g., Foster & Kalil, 2007; Dunifon & Kowaleski-Jones, 2002). In the current results, distinguishing among the three stable groups clearly proved useful in our understanding of low-income adolescents' development since distinct patterns of change were evident. However, the continued improvement of adolescents and families in stably married households relative to other stable groups during this short window of time, as well as a general lack of mediation, suggests that selection may still be

operating, even within a conservative semidifference modeling approach. Despite our attempts to control for a wide range of child and maternal characteristics, we captured only modest amounts of within-child change (17–32%). Other sources of influence, such as genetic predispositions, early childhood experiences, or other aspects of maternal functioning may be important sources of influence on adolescent development which are correlated with maternal partnership patterns.

Several limitations should be noted when reviewing these findings. First, all of the partnership patterns were measured over a relatively short period of time. Although the data included a rich array of information from a diverse sample of low-income families, adolescents' adjustment over the long-term to these familial transitions is not yet known. Moreover, while analyses controlled for partnership histories with the adolescents' biological fathers, full histories that include the type and duration of every partnership were not available. The semidifference models employed in the analyses include adolescents' functioning at Wave 1 as a strong step toward controlling for pre-existing differences due to unmeasured genetic or other factors as well as past variations in living arrangements. Still, our statistical models do not fully control for family histories or unmeasured characteristics of mothers or fathers that might be correlated with both maternal partnership patterns and changes in adolescent development. Furthermore, given our nuanced approach for identifying variations in low-income families' living arrangements, some family structure groups contained a small proportion of cases. Although discussion was focused on statistically significant patterns that were robust across several outcomes or reporters, the range in sample sizes among the groups, coupled with the number of analyses performed, warrants a cautious interpretation of the findings. Lastly, the effect sizes of most of our findings are small, averaging about .10, which is common among more methodologically rigorous family structure studies that utilize random sampling, multiple-item measures, and larger samples (Amato, 2001). In sum, cross-validation is necessary to replicate these findings with other data sets that offer more statistical power and more timepoints to better discriminate change or growth over time and to further substantiate the null findings in the current study.

In summary, growing evidence concurs that marriage appears beneficial for adolescent well-being when marriages are stable. However, many marriages are not stable, particularly among low-income families. Moreover, issues such as multiple partner fertility, marital conflict and violence, and the timing of marriages (before or after childbirth) with biological fathers or stepfathers, likely compromise some of the advantages of maternal marriage for adolescent well-being. Thus, although stable marriages offer many benefits for children and families, more understanding of how to create and sustain stable marriages is still needed, especially for adults facing chronic adversities such as poverty (Dion, Avellar, Zaveri, & Hershey, 2006; MDRC, 2005). In addition, new marriages have not shown discernable short-term benefits for adolescent well-being, which further increases the complexities surrounding this issue. We view this study as a first step in understanding the complexities of family structures in low-income families. Future work on other samples should examine whether these patterns are replicated and extended over longer time frames. Further research should also address the dynamic family processes that might explain the links between family structure and adolescents' well-being.

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TABLE 1

Longitudinal Frequencies of Family Structures and Partner Identity (N = 860)

	N	Biological Father	Stepfather
Stably Married	198	166	32
Stably Cohabiting	23	6	17
Stably Single	449	---	---
Marriage Formed	88	29	58
Cohabitation Formed	46	3	43
Partnership Dissolved (Marriage or Cohabitation)	56	29	27

TABLE 2

Descriptive Statistics on Adolescent Outcomes at Waves 1 and Changes between Waves 1 and 2

	Single (S) Waves 1&2 (n = 449)	Married (M) Waves 1&2 (n = 198)	Cohabiting (C) Waves 1&2 (n = 23)	Marriage Formed (MF) (n = 88)	Cohabitation Formed (CF) (n = 46)	F[a]	Planned Comparisons[b]
Reading							
Wave 1	508.20 (28.10)	512.60 (24.20)	500.90 (25.10)	509.50 (28.50)	506.30 (30.00)	1.40	
Δ scores	5.40 (17.30)	6.10 (18.40)	6.90 (14.50)	4.50 (16.00)	5.90 (15.30)	0.41	
Mathematics							
Wave 1	503.80 (20.10)	512.10 (13.80)	510.80 (25.30)	507.10 (15.60)	501.20 (20.90)	6.50***	S < M
Δ scores	3.60 (17.00)	5.10 (10.50)	−0.76 (23.30)	2.40 (14.20)	7.40 (16.50)	1.30	
Grades							
Wave 1	5.40 (1.70)	6.10 (1.50)	4.90 (2.10)	5.80 (1.70)	5.10 (1.80)	7.20***	S < M
Δ scores	−0.26 (1.90)	0.03 (1.40)	0.11 (1.80)	−.26 (1.60)	−0.68 (1.70)	2.00	
Externalizing Problems							
Wave 1	52.80 (10.80)	49.20 (8.60)	55.00 (10.60)	51.70 (9.90)	57.40 (7.90)	8.70***	S > M; S < CF
Δ scores	0.62 (10.40)	−2.30 (7.90)	3.70 (8.30)	−1.30 (10.60)	−1.20 (8.60)	5.00***	S > M
Serious Delinquency							
Wave 1	−0.11 (00.47)	−0.27 (0.44)	−0.32 (0.35)	−0.18 (0.38)	0.18 (0.62)	11.40***	S > M; S >C; S < CF
Δ scores	0.03 (00.52)	−0.01 (0.39)	0.37 (0.42)	−0.01 (0.48)	−0.23 (0.57)	5.70***	S < C; S > CF
Internalizing Problems							
Wave 1	51.80 (11.50)	52.10 (9.40)	58.40 (12.40)	55.00 (10.00)	56.50 (10.80)	5.40***	S < MF
Δ scores	−1.40 (11.10)	−2.40 (9.60)	−0.45 (11.00)	−2.30 (10.80)	−5.50 (11.10)	2.40*	S < CF
BSI- Total							
Wave 1	1.50 (1.10)	1.30 (1.00)	1.60 (1.50)	1.80 (0.98)	1.60 (1.00)	3.10*	
Δ scores	−0.02 (1.10)	0.23 (1.00)	0.46 (1.10)	.010 (1.00)	−0.31 (1.20)	5.50***	S < M

Note: Weighted means and standard deviations in parentheses are presented.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

[a] The weighted degrees of freedom for the *F* tests were 5, 813.

[b] Planned comparisons were conducted with each partnership group compared to the single (S) group; significant ($p < .05$) contrasts are presented.

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TABLE 3

Descriptive Statistics on Home Environment and Maternal Functioning at Waves 1 and Changes between Waves 1 and 2

	Single (S) Waves 1&2 (n = 449)	Married (M) Waves 1&2 (n = 198)	Cohabiting (C) Waves 1&2 (n = 23)	Marriage Formed (MF) (n = 88)	Cohabitation Formed (CF) (n = 46)	F[a]	Planned Comparisons
Economic Context							
Income-to-needs							
Wave 1	0.84 (0.480)	0.93 (0.54)	0.890 (0.30)	0.960 (0.54)	0.96 (0.45)	1.68	
Δ scores	0.13 (0.610)	0.33 (0.84)	0.430 (0.40)	0.390 (0.71)	0.37 (0.55)	7.03***	S < C; S < MF
Financial Strain							
Wave 1	0.06 (0.690)	−0.34 (0.53)	0.060 (0.42)	0.300 (0.60)	0.23 (0.91)	15.6***	S > M; S < MF
Δ scores	−0.01 (0.740)	0.14 (0.66)	0.020 (0.40)	−0.110 (0.66)	−0.28 (0.66)	3.34**	
Maternal Functioning							
Psychological Distress							
Wave 1	1.60 (1.100)	1.20 (0.95)	2.200 (0.72)	1.700 (1.10)	2.10 (0.99)	9.92***	S > M; S < C
Δ scores	0.05 (0.950)	−.150 (1.10)	−0.240 (0.59)	0.110 (1.10)	−0.37 (1.10)	4.44**	
Parenting Stress							
Wave 1	2.90 (0.870)	2.60 (0.81)	2.600 (0.65)	3.000 (1.00)	2.80 (0.83)	7.15***	S > M
Δ scores	−0.12 (0.925)	−.160 (0.69)	0.100 (0.57)	−0.280 (1.30)	0.04 (0.85)	3.76**	
Home Context							
Cognitive Stimulation							
Wave 1	84.20 (24.300)	87.40 (26.40)	81.700 (26.70)	87.100 (23.30)	86.30 (23.40)	2.58*	
Δ scores	−6.90 (31.300)	−0.42 (25.50)	−2.600 (23.50)	−10.300 (28.20)	−3.10 (16.80)	2.66*	
Family Routines							
Wave 1	2.80 (0.670)	3.00 (0.62)	2.900 (0.60)	2.900 (0.59)	2.50 (0.70)	7.88***	S < M
Δ scores	−0.14 (0.710)	−0.12 (0.77)	−0.450 (0.83)	−0.120 (0.63)	0.05 (0.75)	3.01*	
Parenting							
Parental Monitoring							
Wave 1	0.88 (0.130)	0.90 (0.11)	0.870 (0.12)	0.880 (0.10)	0.87 (0.13)	1.66	
Δ scores	−0.010(.140)	−0.03 (0.12)	0.003 (0.14)	−0.004 (0.16)	0.04 (0.13)	2.99*	
Harsh Punishment							

	Single (S) Waves 1&2 (n = 449)	Married (M) Waves 1&2 (n = 198)	Cohabiting (C) Waves 1&2 (n = 23)	Marriage Formed (MF) (n = 88)	Cohabitation Formed (CF) (n = 46)	F[a]	Planned Comparisons
Wave 1	1.90 (0.680)	1.70 (0.58)	2.000 (0.75)	1.900 (0.70)	1.70 (0.49)	2.40*	
Δ scores	−.030 (0.790)	−0.09 (0.63)	13 (0.95)	−0.160 (0.51)	0.16 (0.49)	2.20	

Note: Weighted means and standard deviations in parentheses are presented.

*$p < .05$,

**$p < .01$,

***$p < .001$.

[a]The weighted degrees of freedom for the *F* tests were 5, 813.

[b]Planned comparisons were conducted with each partnership group compared to the single (S) group; significant ($p < .05$) contrasts are presented.

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TABLE 4

Weighted Semidifference Models Examining the Association between Maternal Partnerships and Adolescent Well-Being (N = 860)

	ΔReading	ΔMathematics	ΔGrades	ΔExternalizing Behavior Problems	ΔSerious Delinquency	ΔInternalizing Behavior Problems	ΔPsychological Distress
Model 1: Semidifference models[1]							
Marriage Formed (*n=88)*	−0.29 (2.58)	−0.25 (2.44)	0.24[a] (0.22)	−2.23 (1.84)	−0.09 (0.08)	0.72 (2.26)	0.15 (0.23)
Cohabitation Formed *(n=46)*	−0.85 (3.20)	1.69 (2.47)	−0.56[a] (0.42)	−0.53 (1.89)	−0.12 (0.12)	−.2.42 (2.27)	−0.26 (0.23)
Stably Married (*n=198)*	1.76 (2.32)	5.09** (1.53)	0.58** (0.19)	−4.30***[b] (1.14)	−0.12*[b] (0.05)	−0.85[a] (1.42)	0.16[a] (0.15)
Stably Cohabiting (*n=23)*	0.17 (3.37)	−1.53 (4.83)	0.18 (0.40)	3.93*[b] (1.72)	0.21[b] (0.12)	3.98[a] (2.38)	0.54**[a] (0.16)
F	5.20***	9.56***	10.71***	5.59***	10.08***	7.13***	12.79***
R^2	0.20	0.32	0.24	0.17	0.29	0.19	0.29
Model 2: Model 1 + Interaction Terms							
Stably Married x Biological Father	1.95 (4.06)	1.89 (2.26)	0.37 (0.51)	0.07 (1.94)	0.01 (0.11)	2.39 (1.82)	0.65** (0.24)
Stably Married	0.12 (3.26)	3.48 (1.98)	0.26 (0.50)	−4.38* (1.77)	−0.12 (0.10)	−2.82* (1.31)	−0.38 (0.20)
Marriage Formed × Biological Father	1.74 (4.75)	6.49 (4.42)	0.39 (0.41)	2.87 (4.21)	−.014 (.014)	−5.06 (4.52)	0.05 (0.47)
Marriage Formed	−0.91 (3.20)	−2.54 (2.38)	0.11 (0.26)	−3.24 (1.69)	−0.04 (0.09)	2.50 (1.91)	0.13 (0.27)
F	4.51***	8.24***	9.76***	4.85***	8.52***	6.59***	11.66***
R^2	0.20	0.33	0.24	0.17	0.30	0.20	0.30
ΔR^2	0.00	0.01	0.00	0.00	0.01	0.01	0.01
Model 3: Model 1 + Δ in Family and Maternal Functioning							
	ΔReading	ΔMathematics	ΔGrades	ΔExternalizing Behavior Problems	ΔSerious Delinquency	ΔInternalizing Behavior Problems	ΔPsychological Distress
Marriage Formed	−0.51 (2.55)	−0.42 (2.59)	0.21 (0.22)	−.1.94 (1.84)	−0.06 (0.07)	1.04 (1.63)	0.18 (0.23)
Cohabitation Formed	−0.02 (3.18)	0.74 (2.46)	−.052 (0.41)	−0.33 (1.71)	−0.09 (0.11)	−1.19 (1.88)	−0.22 (0.21)
Stably Married	1.74 (2.28)	5.15** (1.48)	0.59** (0.20)	−4.39*** (1.09)	−.011* (0.05)	−.088 (1.21)	0.13 (0.14)
Stably Cohabiting	0.57 (3.64)	−2.34 (4.85)	0.11 (0.36)	2.73 (1.58)	0.22* (0.11)	3.25 (2.23)	0.52* (0.23)
F	4.89***	6.66***	7.24***	6.22***	9.45***	8.83***	10.03***
R^2	0.21	0.34	0.27	0.27	0.40	0.32	0.35
ΔR^2	0.01	0.02	0.03	0.10	0.11	0.13	0.06

Note: Unstandardized coefficients and standard errors of main effects of maternal partnership groups are presented. The omitted comparison group includes mothers who were stably single *(n = 449)*. Results for the partnership dissolution group (*n* = 56) not shown.

*$p < .05$,

** $p < .01$,

*** $p < .001$.

[1] Adjusted Wald tests were performed to test two planned comparisons between the stable groups' coefficients and the partnership formation groups' coefficients. Superscripts within a column indicate a difference at

[a] $p < .10$ or

[b] $p < .01$.

TABLE 5

Weighted Semidifference Models Examining the Association between Maternal Partnerships and Maternal Well-Being (N = 860)

	ΔIncome-to-Needs	ΔFinancial Strain	ΔPsychological Distress	ΔParenting Stress	ΔCognitive Stimulation	ΔFamily Routines	ΔParental Monitoring	ΔHarsh Punishment
Model 1: Semidifference models[1]								
Marriage Formed (*n=88)*	0.32** (0.10)	0.005 (0.100)	0.07 (0.20)	−0.10 (0.23)	−1.01 (5.26)	0.04 (0.15)	0.010 (0.030)	−0.09 (0.09)
Cohabitation Formed *(n=46)*	0.24* (0.12)	−0.200 (0.120)	−0.24 (0.22)	0.06 (0.17)	2.04 (3.24)	0.01 (0.14)	0.040 (0.030)	0.08 (0.11)
Stably Married (*n=198)*	0.25* (0.10)	−0.080 (0.110)	−0.37* (0.14)	−0.27** *a* (0.10)	7.94* (3.58)	0.17*b* (0.09)	−0.010 (0.020)	−0.12 (0.08)
Stably Cohabiting (*n=23)*	0.32** (0.12)	0.060 (0.090)	−0.05 (0.18)	0.01*a* (0.16)	2.52 (4.76)	−0.28*b* (0.21)	0.010 (0.040)	0.25 (0.30)
F	11.22***	12.990***	9.68***	14.64***	10.63***	14.23***	12.910***	11.58***
R^2	0.29	0.270	0.23	0.36	0.28	0.36	0.240	0.34
Model 2: Model 1 + Interaction								
Stably Married × Biological Father	−0.11 (0.21)	0.230 (0.170)	−0.04 (0.30)	−0.14 (0.17)	1.93 (4.43)	−0.08 (0.22)	−0.020 (0.030)	−0.24 (0.16)
Stably Married	0.34(0.20)	−0.270* (0.130)	−0.33 (0.27)	−0.16 (0.16)	6.27 (3.39)	0.24 (0.20)	0.001 (0.020)	0.09 (0.14)
Marriage Formed × Biological Father	0.07 (0.22)	− 0.310 (0.200)	−0.64 (0.37)	−0.17 (0.46)	15.69* (7.27)	0.37 (0.29)	0.030 (0.060)	−0.22 (0.13)
Marriage Formed	0.30* (0.12)	0.110 (0.120)	0.29 (0.16)	−0.04 (0.24)	−6.53 (6.97)	−0.09 (0.10)	0.001 (0.050)	−0.02 (0.11)
F	9.52***	11.320***	8.70***	12.48***	9.25***	12.34***	11.020***	10.55***
R^2	0.29	0.270	0.24	0.36	0.29	0.37	0.240	0.34
ΔR^2	0.00	0.000	0.01	0.00	0.01	0.01	0.000	0.00

Note: Unstandardized coefficients and standard errors of main effects of maternal partnership groups are presented. The omitted comparison group includes mothers who were stably single *(n = 449)*. Results for the partnership dissolution group (*n* = 56) not shown.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

[1] Adjusted Wald tests were performed to test two planned comparisons between the stable groups' coefficients and the partnership formation groups' coefficients. Superscripts within a column indicate a difference at

a $p < .10$ or

b $p < .01$.