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Can We Promote Child Well-Being by Promoting Marriage?

by

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Abstract

This paper uses data from the National Longitudinal Survey of Youth 1979 Mother-Child files to examine how the relationships between children's well-being and their living arrangements are affected to by the quality of their parents' marriages and turbulence in their living arrangements. Using the future marital status of children's parents to measure the quality of parents' marriages, I find that children living with parents in a "poor" marriage have more behavioral problems than children living with parents in "good" marriages. Parental marriage quality does not affect children's math and reading scores. Interestingly, even children living with parents in a "poor" marriage have fewer behavioral problems and higher math and reading scores than children living with single mothers. Evidence on the impact of recent changes in living arrangements on child well-being is mixed.

Can We Promote Child Well-Being by Promoting Marriage?

Conventional wisdom and considerable social science research hold that children who live with their married biological or adoptive parents fare better on a host of indicators and outcomes than children in any other living arrangement (e.g. McLanahan & Sandefur, 1994). In public policy circles, this happy convergence of ideology and research has given momentum to the "marriage movement"—policy makers who believe that government should actively promote healthy marriages. Indeed, the Bush Administration has proposed spending $1.5 billion over five years to encourage states to design and implement policies and programs to promote marriage.

The ultimate success of this translation of research findings to policy prescriptions depends upon the answers to two key questions. First, if marriage promotion efforts are successful, children who otherwise would live in an alternative arrangement will live with married parents. Can one reasonably expect that children living in families formed as a result of marriage promotion will fare as well as their counterparts living with married parents today? Second, for some children, moving into a marital family represents a disruption in their living arrangements and perhaps a change in residence and/or the introduction of a stepparent. Does this turbulence or volatility have negative consequences for children which may offset some of the benefits of marriage?

This paper examines how the relationships between children's well-being and their living arrangements are affected to by the quality of their parents' marriages and turbulence in their living arrangements using data from the National Longitudinal Survey of Youth 1979 Cohort Mother-Child files. These data are ideal for this investigation because they contain detailed measures of child well-being, living arrangements and

other socio-economic information, and these factors are measured at several points in time. The key innovation introduced here is using the future marital status of a child's mother to measure the quality of the relationship between married parents. The home environment for children whose parents ultimately separate and divorce is likely to be of poorer quality than that of children in stable married parent families. Including this measure of adult relationship quality helps to account for the possibility that children in marriage-promoted families may be in poorer home environments than the average child with married parents today.

I find that children ages 4 to 11 exhibit fewer behavior problems and have higher cognitive test scores if they live with their married biological parents than children living with single mothers even if their parents' marriage is about to dissolve. In general, children living with their stably married biological parents fare better than children living with poorly matched parents as well as children living in other living arrangements.

BACKGROUND

A substantial amount of research exists on the relationship between living arrangements and children's well-being. The research considers a wide variety of outcomes for children across several different domains and explores different mechanisms by which living arrangements can affect these outcomes.

Children's outcomes can be broadly grouped into three domains: cognitive, school-based, and behavioral. Cognitive outcomes are usually measured by test scores (e.g. Cooksey, 1997, Carlson & Corcoran, 2001, and Dunifon & Kowaleski-Jones, 2002). School-based outcomes focus on years of schooling comleted, engagement in extra-

curricular activities, and/or whether a child has been suspended or expelled (e.g. Hill, Yeung, & Duncan (2001), Manning & Lamb (2003), and Nelson, Clark, & Acs 2001)). Behavioral outcomes comprise a wide range of measures. For example, some researchers use a behavioral problem index (BPI) to detect behavioral problems (e.g. Carlson & Corcoran (2001) and Nelson, Clark, & Acs (2001)) while others use the Child Behavior Checklist (CBCL) (e.g. Vandewater & Lansford (1998)). These indexes are based on parental reports of child conduct (e.g. does the child act too young for his/her age? Does he/she get along with other children?). Research on adolescents examines risk-taking behavior such as alcohol and drug use (e.g. Stern, Northman, & Van Slyck, 1984) and initiation of sexual activity (e.g. Davis & Friel, 2001, and Wu & Thomson, 2001). Research on young adult outcomes such as non-marital childbearing, dropping out of school, employment, criminal activity has also examined the role played by childhood living arrangements.

The most basic distinction made in comparing the well-being of children across living arrangements is between children living with single parents and those living with married parents. Increasingly, however, more nuanced theories of how living arrangements affect children has led to finer distinctions. For example, researchers recognize that living with a stepparent has different implications for children than living with their two married biological parents (e.g. Lansford et al., 2001). Similarly, unmarried mothers may have a cohabiting partner who may or may not be the father of her child(ren), and children living in cohabiting families may fare differently than children living with a single mother alone and children living with married parents (e.g. Acs & Nelson, 2002 , and Brown, 2002).

Living arrangements can affect children's outcomes through two principal mechanisms: (1) the income or material resources available to children and (2) the environment or context in which children reside. The role played by income is straightforward: low income has negative consequences for children (Duncan & Brooks-Gunn 1997) and material resources vary considerably across living arrangements with single mothers having substantially lower incomes than married parents, for example.

Family context influences child outcomes through the level and type of interactions children have with their parents. For example, research shows that a stimulating home environment enhances children's outcomes (Bradley & Rock, 1998). In two parent families as compared with single parent families, childrearing and breadwinning activities can be shared; thus, adults in two-parent families likely have more time and energy to provide such an environment for children. Similarly, single mothers experience more stress than other mothers (Kalil et al., 1998), and this takes a toll on their parenting practices and their children's behavior (Downey & Coyne, 1990).

Even among children living with married parents, stressful home environments adversely affect their well-being (Vandewater & Lansford, 1998). A key potential source of stress arises from living with parents who are poorly matched with one another. Indeed, research shows that parental relationship quality affects their parenting practices (Carlson & McLanahan, 2005). This may well explain why several researchers examing the effects of divorce on children find that even years before a divorce/separation actually occurs, children and adolescents whose parents eventually divorce fare worse than those whose parents remain married on a host of outcomes and well-being measures (e.g.

Block, Block, & Gjerde, 1986, Cherlin, Chase-Lansdale, & McRae, 1998, and Sun, 2001).

Children's well-being does not just depend on their living arrangements at a point in time but also how much time and at what ages (developmental stages) they spent in different arrangements. For example, researchers using a "life course" approach and find some evidence that among children living with single parents, those who had lived with married parents at some point in the past show fewer behavioral problems and have higher cognitive test scores (Carlson & Corcoran, 2001, and Dunifon & Kowaleski-Jones 2002). In addition, disruptions in living arrangements may create stress for children and adversely affect their well-being (Wu & Martinson, 1993, and Amato, 1993).

CURRENT INVESTIGATION

As policy makers seek to improve children's well-being by promoting marriage, it is important to account for the potential quality of marriages that would be promoted as well as the consequences of the turbulence induced by changes in living arrangements even if these changes are considered ex ante. This paper builds on and extends the existing literature to address these concerns. By using longitudinal data on mothers and their children, this paper examines the relationships between living arrangements and child well-being at a given point in time while controlling for the future status of the current arrangement. Thus, one can distinguish between high quality marriages that remain intact and lower quality marriages that contribute to stressful home environments and eventually end in separation and divorce. Presumably the marriages sustained through marriage enhancement activities and generated through marriage promotion

("marginal marriages") will provide home environments that are somewhat more stressful than the average environment in married parent families today. In addition, the paper partially incorporates a "life course approach" that takes into account living arrangements prior to the current period and can detect the effects of changes in living arrangements on children. Finally, the paper examines child well-being in both the cognitive and behavioral domains and for children in different age ranges. Ultimately, the findings will improve our understanding of the impacts of living arrangements and family process on multiple measures of child well-being.

DATA AND METHODS

Data

Longitudinal data can be used to assess relationship quality and turbulence in children's living arrangements and enhance our understanding of the potential benefits of marriage promotion and approaches to marriage promotion. The National Longitudinal Survey of Youth 1979 cohort (NLSY-79) Mother-Child data set provides an excellent source of information for this analysis. Not only does it provide a rich set of outcome and well-being measures for children, it also provides longitudinal relationship history information on the children's mothers as well as detailed socio-economic information on the children's families. Further, information recently made available to the public allows researchers to determine if a mother's current partner is the biological father of the child in question.

The NLSY-79 began in 1979 with a cohort of over 12,000 youth between the ages of 14 and 21. The youth have been reinterviewed annually between 1979 and 1994, and

biannually since 1994. In 1986, the NLSY-79 began collecting detailed information on the children of female members of the cohort; these child data have been collected every other year since then. This study uses data through the 2000 wave. Broadly speaking, the sample used in this study consists of children born to women in the NLSY-79 cohort who are assessed in at least three consecutive survey rounds (e.g. 1986, 1988, and 1990 or 1988, 1990, and 1992 and so on). It is necessary to have at least three observations on each child to construct the measures of parental relationship quality and living arrangement turbulence used in this analysis. Note, the same child can appear in the sample at different ages and that the outcomes considered are each appropriate for children in certain age ranges. The full sample consists of 22,584 observations on 7,825 children between the ages of 2 and 11.

Outcomes/Dependent Variables

Because living arrangements likely have differing effects on different domains of child outcomes and the effects may vary with the age of the child, the study considers several indicators of child well-being for select age-groups of children. The analysis focuses on the behavioral and cognitive domains.

To examine differences in children's behavior, I use different measures for young children (ages 2 to 6) and for older children (ages 4 to 11). For young, children, two separate components of the temperament scale are used: compliance and insecure attachment. Both measures are based on mothers' reports of children's behavior. Compliance behavior is based on six items asking whether child exhibits non-compliant behavior relating to activities such as eating, going to bed, and turning off the TV rated on 5 point scales ranging from almost never (1) to almost always (5). Similarly, insecure

attachment is based on seven items asking about behaviors such as whether the child is difficult to sooth, upset when the parent leaves, and stays close to the mother when at play rated on a five point scale from almost always (1) to almost never (5). Research shows that these compliance and insecure attachment scales are significantly correlated with children's global self-worth and that the compliance scale is also correlated with children's scholastic competence (Mott et al. 1995).

For older children, behavior is also measured using the Behavior Problem Index (BPI) developed by Zill and Peterson (1986). The BPI is derived from 28 items asking about conduct and attitudes the child has exhibited in the past three months such as bullying behavior or feeling worthless. The responses are rated on 3 point scales (often, sometimes, or not true). The scores are summed with higher values indicating more behavior problems; this studies uses scores that are normed by age and sex to a national mean of 100 with a standard deviation of 15.

To examine differences in cognitive ability, the study focuses on children ages 5 to 11 and uses their scores on the Peabody Individual Achievement Tests (PIAT) in math, reading recognition, and reading comprehension. The PIAT test scores are widely used to assess children's cognitive abilities. The PIAT scores are normed to a national historical mean of 100 with a standard deviation of 15.

Independent Variables

The key explanatory variables involve living arrangements. At the time of the interview, children are considered to live in one of 6 arrangements: (1) two married biological or adoptive parents; (2) blended or step family; (3) unmarried biological parents (cohabiting parents); (4) unmarried biological mother and non-parent partner

(cohabiting partners); (5) single mother, no partner present; and (6) married spouse absent. Since the NLSY-MC sample is based on children born to women in the NLSY-79 cohort, children living with single fathers and in no parent families are excluded from this analysis. Also, for certain children, the data suggested implausible patterns of living arrangements over time (e.g. married parent in year t, cohabiting parent in year t+2, and back to married parent in year t+4). When implausible patterns were encountered, the data were edited. A total of 215 child-year observations (less than 1 percent of the entire sample) were edited.

To distinguish between children living with stably married parents from those living with married parents who are less well-suited to one another, I also use a marriage quality indicator. The future marital status of married parents is used to measure relationship quality. Those who eventually separate have poorer relationships in the present and this poorer relationship quality likely has independent effects on children's outcomes. This "bad marriage" indicator equals one if a child's parents are known to separate or divorce in the next two years (i.e. by the next child survey round). This variable is constructed by taking advantage of the longitudinal information in the NLSY-MC files.

Finally it is important to note that a child's outcomes are not only affected by his living arrangements today but also by the arrangements in which he lived in the past. In addition to the time spent in a given arrangement, changes in arrangements or turbulence may be disruptive for children, and the effects of these disruptions may affect their well-being for many years in the future (Wu and Martison 1993 and Wu and Thompson 2001).

To control for the time horizon and the effects of turbulence, I include a measures indicating if the child's living arrangement differed two years prior to the observation. Because some disruptions may be less harmful or potentially beneficial, indicators if the change was toward living with married parents or to a blended family are also included.

In addition to the key independent variables measuring living arrangements, the quality of the relationship between a child's married parents, and recent volatility in living arrangements, I include several other variables that may influence children's behavioral and cognitive outcomes. These variables include measures of the child's age, race/ethnicy, and sex, the number of children in the family, and measures of the mother's educational attainment and cognitive ability.

Children's age is measured using a series of unique age-interval dummies spanning two or three years (i.e. ages 5 to 6 or ages 9 to 11); race/ethnicity is measured using indicators for black, non-Hispanic, and Hispanic; and sex is measured using an indicator for male. The number of children present in the family is measured using indicator variables for exactly two children and for three or more children.

Mother's educational attainment is measured using a series of indicator variables for less than high school, some college, and college degree; mothers with exactly 12 years of schooling make up the reference category. Mothers' cognitive ability is measured using the Armed Forces Qualification Test (AFQT). The AFQT test was administered to NLSY-79 cohort members and is generally considered to be a reliable measure of adults cognitive ability. Previous research on women's employment prospects suggests that very low cognitive ability is associated with worse labor market outcomes for women and that there is less of distinction between moderate and high

ability women (Pavetti and Acs 1999). Here, a low-ability mother is denoted using a variable indicating whether she scored below the 25th percentile on the AFQT.

Because the goal of this analysis is to determine the extent to which the benefits of marriage accrue to children even if their parents are poorly matched, this paper does not try to assess the mechanisms by which living arrangements influence children. Thus, factors that may mediate the effects of marriage on child well-being are not included in the model. For example, research shows that maternal stress influences child well-being and that single mothers experience more stress (Wu & Martinson, 1993). Because lower stress levels are (potentially) a benefit of marriage, this analysis does not include any direct measures of maternal stress.

Similarly, income differences also affect child well-being, however, higher family income is one of the benefits of two adult families relative to single mother families. Because marriage enhancement initiatives target lower income families, this paper considers models in which the sample is restricted to children in families with incomes below twice the federal poverty line. For the purposes of this analysis, the income a cohabiting partner brings to the household as well as his needs are taken into account in determining if family is low income.

Method

To gain a better understanding of the potential benefits of marriage promotion and enhancement for children's well-being, it is important to take into account relationship quality as well as the potential adverse of effects of turbulence in living arrangements. Indeed, children living with well-matched parents likely fare better than children with

poorly matched parents and some of the benefits of marriage may be offset by the disruption caused when a father or stepfather enters a child's family.

Four linear regression models are estimated for all six outcomes considered. The first, most basic, model can be expressed as:

$$Y_{it} = \alpha_0 + \beta LA_{it} + \delta X_{it} + \varepsilon_{it} \qquad [1]$$

where LA_{it} is a vector of living arrangements with married parents omitted as a reference category and X_{it} denotes the control variables included in the model. One would expect that $\beta<0$ for all living arrangements if living with married parents is consistently associated with better outcomes for children.

Yet β likely misstates the impact of living arrangements on child outcomes if the quality of the parental relationship is not taken into account. If couples who marry have stronger relationships and are more committed to their families and to their children than couples who do not marry, then one would reasonably expect that children with married parents benefit from this underlying parental trait. As such, the average outcomes of children living with married parents may well overstate the benefits of marriage for children living with single or unmarried parents.

Model 2 addresses this problem by directly measuring the quality of a child's parents' relationship. Specifically, to control for the effects of relationship quality, the model includes an indicator of the future status of children living in married parent families. Model 2 can be expressed as:

$$Y_{it} = \alpha_0 + \beta LA_{it} + \gamma Q_i + \delta X_{it} + \varepsilon_{it} \qquad [2]$$

where $Q_i = 1$ indicates that a child's married parents will separate or divorce two or more years in the future. If poorer quality marriages lead to poorer outcomes for children, one

would expect $\gamma<0$. In effect, "poor quality marriage" becomes a unique living arrangement, and the reference category becomes "good marriage." Thus, one would expect that the βs from model 2 capturing the correlations between cohabiting, step, and father-absent arrangements and child well-being would be more negative than those from the basic model 1.

While marriage promotion and enhancement initiatives encourage couples to marry before having children and also seek to help already married couples stay together, these iniatives also may encourage cohabiting and dating couples to marry. Even if living with married parents is the preferred arrangement for children, the transition to a married parent or stepparent family and the turbulence it entails may have negative consequences for children, offsetting some of the benefits of marriage. Model 3 takes this turbulence into account by including a measure indicating if the child's living arrangement differed two years prior to the observation. Because some disruptions may be less harmful or potentially beneficial, variables indicating if the change was toward living with married parents or to a blended family are included.

$$Y_{it} = \alpha_0 + \lambda_1 V_{i,t-2} + \lambda_2 MV_{i,t-2} + \lambda_3 BV_{i,t-2} + \beta LA_{it} + \gamma Q_{i,} + \delta X_{it} + \varepsilon_{it} \quad [4]$$

where $V_{i,t-2}$ indicates if there has been any change in the child's living arrangements in the past two years, $MV_{i,t-2}$ indicates if the change led to the child living with married parents, and $BV_{i,t-2}$ indicates if the change led to living in a blended family. To the extent that turbulence in living arrangements is harmful, one would expect $\lambda_1<0$; to the extent that gaining a second parent may partially offset any ill-effects of disruption, one would expect $\lambda_2>0$. Finally, if some of the benefits of living with married biological or adoptive parents is due to the relative stability of this arrangement, then including measures of

turbulence should move the estimates of β toward 0 relative to those estimated in models 1 and 2.

Finally, model 4 is identical to model 3 except the sample is restricted to only children living in low-income households.

All models are estimated using the cluster option in STATA so the estimated standard errors account for the fact that the same child can be observed at multiple points in time (e.g. at ages 6, 8, and 10). Also, all models are estimated using the NLSY child sampling weights.

RESULTS

Descriptive Results

Table 1 shows mean values for the six child well-being measures considered by children's living arrangements. Children ages 2 to 6 living with stably married parents exhibit higher levels of compliant behavior than children living in cohabiting or single mother families. Distinguishing between children living with parents who will remain married and those with parents whose marriage will dissolve two years hence, table 1 shows that children living with poorly matched parents are less compliant than children with well-matched parents. Surprisingly, children living in married stepparent families show higher levels of compliance than even those with well-matched parents. The insecure attachment scale shows that children ages 2 to 6 living with their happily married biological parents exhibit lower levels of insecure attachment than children in all non-marital and spouse absent arrangements. Children whose parents are in "poor marriages" have higher levels of insecure attachment than children living with well-matched parents and those living with married stepparents; they have lower levels of

insecurity than those living with cohabiting parents, single mothers, and in married spouse-absent families.

For older children (ages 4 to 11), behavior is also measured using the BPI. Again, living with married parents has clear advantages in this simple comparison; their BPI of 102.8 is lower than that of children in all other arrangements. Interestingly, children whose parents are in a "poor marriage" have fewer behavioral problems than children living with married stepparents (BPI of 106.1 v. 107.5).

Cognitive test scores also show an advantage for children living with their married parents. Their average PIAT math score is 104.0 while children living with married stepparents score 102.1 and those with their cohabiting biological parents score 94.9. Distinguishing between children living in "poor marriage" and "good marriage" families, I find that children in "poor marriage" families have average PIAT math scores of 101.3; this higher than children in cohabiting families, single mother families, and married spouse absent families who all have average scores below 100.

PIAT scores for reading recognition and comprehension also show an advantage for children living with their married parents, especially their happily married parents. Interestingly, even children living with their parents who are about to break up have higher reading comprehension scores than those living with married stepparents. Children in living with their married biological or adoptive parents have higher average reading test scores than children in cohabiting, single mother, and spouse absent arrangements.

These simple comparisons of group means, however, do not take into account observable differences between children and parents across living arrangements nor do

they consider the effects of changes in living arrangements on children. The following multivariate models address these concerns.

Multivariate Results

Table 2 shows the mean values of the independent variables used in the regressions for the full sample of children as well as those for low-income children. Nearly seven in ten children ages 2 to 11 live with their married biological or adoptive parents and one in twenty of these children (3.9/69.0) will see their parents break up in two years time. About one in five children live in single mother families and the balance are spread across the other arrangements. Among low-income children, two out of five live with their married parents, and about one in thirteen of these children live with poorly matched parents (3.3/43.0). About two in five low-income children live with single mothers, and the balance are spread across the other arrangements.

Among all children ages 2 to 11, 11.3 percent experienced a recent change in their living arrangements; 1.2 percent experienced a transition to living with their married biological parents, and 2.3 moved into a married stepparent family. One out of five low-income children changed living arrangements in the past two years, with 1.5 percent transitioning into married biological parent families and 1.8 percent transitioning into married stepparent families.

Over 80 percent of children live with mothers who have at least a high school degree and over 40 percent of their mothers have schooling beyond high school. About 30 percent of their mothers have low-ability based on their AFQT scores. Among children in low-income families, 30.0 percent of the mothers have less than a high school

education, and about one-quarter have some post-secondary education. 45.6 percent of the mothers of low-income children have low-ability.

The children are reasonably equally divided across age and sex groups regardless of income. More than three quarters of the children are white while 14.6 percent are black and 7.5 percent are Hispanic. Low-income children are less likely to be white and more likely to be black than all children. Finally, 42.3 percent of all children and 53.9 percent of low-income children live in families with 3 or more children.

Regression results for the six outcome measures considered appear in tables 3 through 8. For each outcome, the correlations between living arrangements, marriage quality, turbulence and the outcome are discussed first; then the relationships between the outcome and the control variables are discussed.

Compliance. When other differences are taken into account, the advantage of children living with their married parents in terms of compliance behavior is greatly reduced. Table 3's model 1 shows that there are no statistically significant differences between children living with their married parents and children living with cohabiting stepparents, single mothers, or married spouse absent families. They are slightly more compliant than children living with cohabiting parents and, surprisingly, less compliant than children living with married stepparents.

Taking marital quality into account (model 2) demonstrates that children in "poor marriage" families are less compliant than children in "good marriage families." Interestingly, even children in "poor marriage" families show lower levels of compliance than those living in single mother families. Again, even when compared against "good

marriages," children living with their married stepparents have higher levels of compliance although the advantage shrinks.

Model 3 adds measures of recent volatility to the regression. In general recent volatility does not have a significant effect on compliance; however, children who recently entered a married stepparent family have significantly lower compliance scores than other children. When the volatility measures are included, there no longer is a statistically significant difference between children with poorly matched parents and children with single mothers. The benefits of a good marriage over a poor marriage and biological cohabitation remain as does the surprising advantage of living with married stepparents over happily married biological parents.

Model 4 is identical to model 3 except the sample is restricted to children living in low-income families. Low-income children living with happily married parents do not have significantly higher levels of compliance than children living with poorly matched married parents, cohabiting stepparents, single mothers, or in married spouse absent families. They are more compliant than those living with cohabiting biological parents and less compliant than those living with married stepparents. Like the full sample of children, low-income children who recently transitioned into a married stepparent family have significantly lower levels of compliance; however, those who have experienced a transition, on average, are slightly more compliant.

Beyond living arrangements, other factors influence mothers' reports of children's compliance behavior. Compared with mothers who have exactly 12 years of schooling, mothers who have not completed high school and mothers who have attended but not completed college report lower levels of compliance. There are no significant

associations between mother's education and child compliance among low-income children. Lower ability mothers and low-income low ability mothers report lower child compliance. The mothers of non-white children report lower compliance than mothers of white children; among low-income mothers, only Hispanics have significantly lower levels of compliance than whites. A child's gender does not affect compliance scores. Finally, children from larger families have higher compliance scores than children from smaller families, on average. For low-income children, there are no significant correlations between family size and compliance.

Insecure attachment. Table 4 examines living arrangements and insecure attachment among children ages 2 to 6. Model 1 shows that children living with cohabiting parents, single mothers, or in married spouse absent families are more insecurely attached than children living with their married biological parents. Distinguishing between good quality and poor quality marriages in model 2 shows that children with happily married parents are more securely attached than children in all other arrangements except for those in married stepparent families. Further, there is no significant difference in attachment between children living with well and poorly matched parents.

In model 3, recent changes in living arrangements are taken into account. Turbulence in and of itself has no significant impact on attachment; however, when turbulence is included in the model, there is no significant difference in attachment between children with happily married parents and children with cohabiting stepparents.

Among low-income children (model 4), those living with their happily married biological or adoptive parents are more securely attached than children living with their

unmarried biological (cohabiting) parents and with single mothers. There are no significant differences between children in good marriage families, poor marriage families, married stepparent families, cohabiting stepparent families, and married spouse absent families. Surprisingly, low-income children who have recently transitioned into married biological parent families show more insecure attachment than children experiencing other transitions.

Other factors are significantly correlated with insecure attachment. Less educated and lower ability mothers as well as non-white mothers report higher levels of insecure attachment regardless of income level. Boys and only children tend to be more securely attached than girls and children from larger families.

Behavioral Problem Index. Table 5 examines the relationships between the behavioral problems of children ages 4 to 11 and their living arrangements. Model 1 shows that children who living with their married biological or adoptive parents have fewer behavioral problems than other children; the BPI values for children in other living arrangements are 3 to 6 points higher than those for children in married parent families (roughly 0.2 to 0.4 standard deviations). Model 2 introduces an adjustment for marriage quality. As expected, children with happily married parents have fewer behavioral problems than children in other arrangements and children whose parents will split up in the next two years. Interestingly, children living with single mothers have higher BPIs than even children living with parents in poor marriages.

When turbulence is taken into account (model 3), the relationships between current living arrangements and BPI remain unchanged from model 2. Surprisingly, volatility does not in general influence BPI but children who make the transition to living

with their married biological parents have BPIs that are 3.1 higher than children not making such a transition.

Among low-income children (model 4), the benefits of living with happily married parents over other possible arrangements largely remain. However, low-income children living with parents in a poor marriage have BPIs that are over 4 points higher than those with well-matched married parents, and there is no advantage to living with poorly matched married parents over living with a single mother.

Other factors affect children's BPIs. Boys and children with less educated and lower-ability mothers have higher BPIs than girls and children with more educated and higher ability mothers regardless of income. Older children exhibit more behavioral problems than younger children. Interestingly, non-white children have lower BPIs than white children. And children from larger families have lower BPIs than those from smaller families, in general, but there is no significant correlation between family size and BPI among low-income children.

Finally, it is important to note that the magnitude of the living arrangement coefficients is slightly larger than the magnitude of the significant coefficients on the control variables, indicating that living arrangements are relatively important correlates of behavioral problems among children ages 4 to 11.

PIAT Math Scores. Table 6 shows the relationship between children's standardized PIAT math scores and their living arrangements. Model 1 shows that children living with their married biological or adoptive parents have higher math scores than children living with their cohabiting parents and children living with single mothers. The advantage enjoyed by children with married parents ranges between 1.7 and 4.0

points or 0.11 to 0.27 standard deviations. In model 2 where parental marital quality is taken into account, the above advantages persist, and children living with their happily married parents have PIAT math scores that are significantly higher than those of children living in cohabiting stepparent families. As expected, children living with married parents who will divorce score lower on their PIAT math examines than children with stably married parents. There is no significant difference between children living with poorly matched married parents and children living with single mothers.

Controlling for turbulence in model 3 leaves the estimated relationships between living arrangements largely unchanged although there is no longer a significant correlation between PIAT math test scores and living with poorly matched parents. The volatility measures themselves have no significant impact on children's math scores.

Model 4 restricts the sample to low-income children. The general pattern and significance of the living arrangement variables in model 4 for low-income children are similar to those obtained for all children in model 3; however, it is interesting to not that advantage enjoyed by children with happily married parents over those with cohabiting parents is substantially smaller among low-income children. Again, recent turbulence has an interesting relationship with low-income children's outcomes. Low-income children that have made the transition to living with married biological parents have PIAT math scores that are 4.5 points lower, on average, than children who made other transitions or no transition at all.

Turning to the control variables, one can see that children with more educated and higher ability mothers and those from smaller families have higher PIAT math scores than their counterparts. Older children and white children have higher math scores than

younger children and non-white children, and there are no significant differences by sex. Findings are similar for all children and low-income children. It is important to note that for all children, the magnitudes of the significant control variables are similar to those of the significant living arrangement variables while for low-income children, the impact of the control variables, especially mother's education and ability, on PIAT math scores is notably larger than the estimated impact of living arrangements.

PIAT Reading Scores. Tables 7 and 8 show the relationship between children's PIAT reading recognition and reading comprehension test scores and their living arrangements. Because the relationships are quite similar, I discuss them simultaneously. Model 1 shows that children living with their married biological or adoptive parents score significantly higher on their PIAT reading tests than children in all other arrangements except for those living with married stepparents. The significant advantage children with married parents enjoy over other children ranges from 1.8 to 8.3 points or 0.12 to 0.55 standard deviations.

Model 2 shows that these advantages persist when relationship quality is taken into account, but that there is no significant difference between children living with stably married and poorly matched married parents. The recent changes in living arrangements have no statistically significant effects on reading test scores (model 3) and including measures of turbulence does not effect the estimated impact of living arrangements on these outcomes.

Model 4 focuses on low-income children. Overall differences in living arrangements account for very little of the variation in reading test scores for low-income children. Only children living in married spouse absent families have significantly lower

reading comprehension test scores than children living with happily measured parents. Oddly, children living with single parents have lower PIAT reading recognition scores than children living with poorly matched married parents but not well matched married parents; nevertheless, the difference is quite modest, only 0.5 points.

The relationships between the control variables and reading scores differ a bit between the recognition and comprehension tests. Children whose mothers are more educated, have higher ability, and are white have higher PIAT reading recognition scores than their counterparts, on average. Boys and children from larger families have lower reading recognition scores, but age is not significantly correlated with reading recognition. The findings for low-income children are similar to those for all children except that older low-income children have lower reading recognition scores than younger low-income children. Findings for reading comprehension are similar but with a few notable exceptions: reading comprehension scores decline with age with for all children as well as for low-income children and whites have higher comprehension scores than blacks but not Hispanics.

Finally, the magnitude of the significant living arrangement coefficients is similar to the magnitude of the significant control variables for reading recognition; for reading comprehension, the control variables generally have larger effects on test scores than living arrangements with the notable exception of the limited number of children who live in married spouse absent families.

DISCUSSION

Advocates of marriage promotion and marriage enhancement policies point to the strong associations between many indicators of child well-being and living with two married biological or adoptive parents. Those who are skeptical about the efficacy of these pro-marriage initiatives argue that low quality marriages may not provide the same benefits to children as good quality marriages, that stepparent families tend not to be as beneficial to children as living with their own two parents, and that disruptions in a child's living arrangements have negative consequences in their own right. This paper assesses these concerns by examining how the relationships between children's well-being and their living arrangements are affected by the quality of their parents' marriages and turbulence in their living arrangements.

Using the future marital status of children's parents to measure the quality of parents' marriages, I find that children living with parents in a "poor" marriage have more behavioral problems than children living with parents in "good" marriages. Parental marriage quality does not affect children's math and reading scores. Interestingly, even children living with parents in a "poor" marriage have fewer behavioral problems and higher math and reading scores than children living with single mothers.

Evidence on the impact of recent changes in living arrangements on child well-being is mixed. Young children who transitioned into married stepparent families are less likely to exhibit compliant behavior than other children. But older children who experience a transition to a married biological or adoptive family exhibit more behavioral

problems than other children. Moreover, the negative impacts of transitions into married biological or adoptive families are more pronounced for low-income children. These children are at elevated risk for insecure attachment and have lower math scores.

Taken together, these findings suggest that although "marginal" marriages may not be as good for children as good marriages they are still better than living with a single parent. This provides a fairly good argument for marriage enhancement—helping married couples stay married. Counseling services and relationship skills may also improve the quality of these existing marriages and improve child well-being. For children in "fragile families"—those whose parents are not married but are cohabiting or at the very least co-parenting—the benefits of promoting marriage are somewhat limited. Children, especially low-income children, whose parents are marry sometime (perhaps years) after their children are born experience lower levels of well-being in both the behavioral and cognitive domains.

There are several important issues to keep in mind when considering these findings. First, the measure of relationship quality—whether married parents go on to divorce in the future–is imperfect. Although it has the advantage of being based on actual behavior (parents who divorce clearly had relationship troubles) and not on subjective assessments made by the couple or an observer, it is a fairly blunt instrument. Many troubled couples do not divorce and it is possible that some of the most unhealthy and potentially abusive marriages remain intact because the victimized spouse is afraid to leave. Ideally, a combination of ex post behavior-based measures of relationship quality along with couple and observer assessments would provide the richest information on

marriage quality and its impact on children. In addition, it will also be useful to measure the quality of stepparent marriages and cohabiting unions.

Second, it is likely that living arrangements and transitions influence children differently at different ages. Similarly, there may well be differences by sex and race/ethnicity. Although this paper controls for age, sex, and race/ethnicity, it does not assess whether the relationships between living arrangements and well-being vary along these dimensions.

Finally, this paper ignores the potential endogeneity between child outcomes and living arrangements. For example, children with behavioral problems may put a strain on marital relationships, leading parents to divorce. Thus, finding more behavioral problems among children with single parents than with married parents may not only reflect the effects of living arrangements on behavior but also capture the effect of children's behavior on the parents' marital status. This problem is likely to be more significant in the behavioral domain rather than the cognitive domain. Addressing this potential endogeneity, however, is beyond the scope of the present analysis.

As marriage promotion and marriage enhancement policies gain currency as a way to improve the well-being of children, it is important to gain a better understanding of the effects of living arrangements, parental relationship quality, and family transitions on multiple measures of child well-being. By using data on a large nationally representative sample of children to examine these issues, this paper informs the debated about these policy initiatives.

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Table 1: Mean Child Outcomes, by Living Arrangements and Parental Marital Quality

Mother's Marital Status	Compliance	Insecure Attachment	Behavioral Problems Index	PIAT Math	PIAT Reading Recognition	PIAT Reading Comprehension
All	23.2	18.3	104.8	102.3	105.5	104.3
Married Biological/Adoptive	23.3	18.0	102.8	104.0	107.3	106.2
Good Marriage	23.4	17.9	102.6	104.2	107.4	106.3
Poor Marriage	22.5 ***	18.5 ***	106.1 ***	101.3 ***	105.3 ***	104.7 **
Blended/Step Family	24.2 ***/+++	18.0 +	107.5 ***/++	102.1 ***	105.0 ***	103.0 ***/++
Cohabiting Parents	21.5 ***/+++	19.9 ***/+++	109.9 ***/+++	94.9 ***/+++	98.2 ***/+++	98.4 ***/+++
Cohabiting Partners	23.0	18.9 ***	110.6 ***/+++	99.7 ***/++	101.3 ***/+++	100.9 ***/+++
Single Mother	22.6 ***	19.2 ***/+++	108.8 ***/+++	98.3 ***/+++	102.0 ***/+++	100.7 ***/+++
Married, Spouse Absent	22.4	20.1 ***/++	108.5 ***	98.7 ***/+	98.2 ***/+++	95.1 ***/+++
Unweighted Sample Size (All)	10561	10648	16959	14636	14503	11417

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000). Child sampling weight.

Outcome significantly different from Good Marriages: *$p < .10$ **$p < .05$ ***$p < .01$

Outcome significantly different from Bad Marriages: $^{+}p < .10$ $^{++}p < .05$ $^{+++}p < .01$

Table 2: Mean Explanatory Variables

	All Children (%)	Low-Income Children (%)
Living Arrangements		
Married Biological/Adoptive	68.98	42.97
	(0.31)	(0.52)
Good Marriage	65.12	39.71
	(0.32)	(0.51)
Poor Marriage	3.87	3.26
	(0.13)	(0.19)
Blended/Step Families	6.10	5.55
	(0.16)	(0.24)
Cohabiting Parents	2.07	4.71
	(0.09)	(0.22)
Cohabiting Partners	3.08	7.49
	(0.11)	(0.28)
Single Mother	19.22	38.35
	(0.26)	(0.51)
Married, Spouse Absent	0.55	0.93
	(0.05)	(0.10)
Sociodempgraphic		
Mother's Education		
Less than High School Degree	17.64	30.01
	(0.25)	(0.48)
High School Degree (Omitted)	40.88	45.95
	(0.33)	(0.52)
Some College	23.76	19.30
	(0.28)	(0.41)
College Degree	17.73	4.74
	(0.25)	(0.22)
Low Ability Mother[1]	29.48	45.55
	(0.30)	(0.51)
Child's Age		
Less than 5 years (Omitted)	30.04	25.76
	(0.31)	(0.46)
5 to less than 7 years	21.59	21.55
	(0.27)	(0.43)
7 to less than 9 years	21.19	22.57
	(0.27)	(0.44)
9 to less than 12 years	27.18	30.13
	(0.30)	(0.48)
Race/Ethnicity		
White, non-Hispanic (Omitted)	77.86	66.50
	(0.28)	(0.50)
Black, non-Hispanic	14.64	23.68
	(0.24)	(0.45)
Hispanic	7.50	9.82
	(0.18)	(0.31)

Table continues

Table 2: Mean Explanatory Variables (Continued)

	All Children (%)	Low-Income Children (%)
Gender		
Female (Omitted)	51.42	50.28
	(0.33)	(0.52)
Male	48.58	49.72
	(0.33)	(0.52)
Number of Children in Family		
1 Child (Omitted)	13.97	11.40
	(0.23)	(0.33)
2 Children	43.76	34.67
	(0.33)	(0.49)
3 or more Children	42.27	53.93
	(0.33)	(0.52)
Early Volatility		
Any change	11.33	20.09
	(0.21)	(0.42)
Change to Married Biological	1.17	1.52
	(0.07)	(0.13)
Change to Married Step	2.29	1.76
	(0.10)	(0.14)
Unweighted Sample Size	22584	9078

Note: Standard error given in parentheses.

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000). Child sampling weight.

[1]AFQT is 25th percentile or below.

Table 3: The Relationship between Living Arrangement, Marriage Quality and Compliance

	Model 1	Model 2	Model 3	Model 4
Living Arrangements				
Poor Marriage	—	-0.670 ***	-0.678 ***	-0.471
		(0.239)	(0.239)	(0.469)
Married Biological/Adoptive (Omitted)				
Blended/Step Family	0.845 **	0.797 **/+++	1.268 **/+++	2.251 ***/+++
	(0.361)	(0.362)	(0.557)	(0.704)
Cohabiting Parents	-1.035 ***	-1.089 ***	-1.132 ***	-0.908 **
	(0.356)	(0.358)	(0.363)	(0.407)
Cohabiting Partners	-0.052	-0.105	-0.337	-0.290
	(0.366)	(0.367)	(0.410)	(0.489)
Single Mother	-0.110	-0.165 +	-0.277	-0.148
	(0.163)	(0.166)	(0.192)	(0.262)
Married, Spouse Absent	-0.280	-0.334	-0.574	0.289
	(0.773)	(0.773)	(0.782)	(0.835)
Sociodempgraphic				
Mother's Education				
Less than High School Degree	-0.402 **	-0.395 **	-0.398 **	0.109
	(0.186)	(0.186)	(0.186)	(0.235)
High School Degree (Omitted)				
Some College	-0.281 *	-0.291 *	-0.293 *	-0.323
	(0.161)	(0.161)	(0.161)	(0.276)
College Degree	0.279	0.248	0.253	0.637
	(0.175)	(0.176)	(0.176)	(0.469)
Low Ability Mother[1]	-1.112 ***	-1.110 ***	-1.111 ***	-1.298 ***
	(0.164)	(0.164)	(0.163)	(0.243)
Child's Age				
Less than 5 years (Omitted)				
5 to less than 7 years	1.055 ***	1.054 ***	1.052 ***	1.118 ***
	(0.087)	(0.087)	(0.087)	(0.164)
7 to less than 9 years	—	—	—	—
9 to less than 12 years	—	—	—	—
Race/Ethnicity				
White, non-Hispanic (Omitted)				
Black, non-Hispanic	-0.787 ***	-0.768 ***	-0.733 ***	-0.121
	(0.166)	(0.167)	(0.171)	(0.245)
Hispanic	-0.576 ***	-0.567 ***	-0.557 ***	-0.499 **
	(0.162)	(0.162)	(0.162)	(0.247)

Table continues

Table 3: The Relationship between Living Arrangement, Marriage Quality and Compliance (Continued)

	Model 1	Model 2	Model 3	Model 4
Gender				
Female (Omitted)				
Male	-0.123	-0.128	-0.125	-0.275
	(0.121)	(0.121)	(0.121)	(0.196)
Number of Children in Family				
1 Child (Omitted)				
2 Children	0.328 *	0.317 *	0.308 *	-0.333
	(0.177)	(0.177)	(0.177)	(0.319)
3 or more Children	0.430 **	0.425 **	0.414 **	-0.243
	(0.185)	(0.185)	(0.185)	(0.308)
Early Volatility				
Any change	—	—	0.318	0.646 **
			(0.228)	(0.276)
Change to Married Biological	—	—	-0.139	0.083
			(0.457)	(0.696)
Change to Married Step	—	—	-1.198 *	-1.969 **
			(0.644)	(0.967)
Unweighted Sample Size	10561	10561	10561	4045
Mean dependent variable	23.2	23.2	23.2	22.6
R-Squared	0.0482	0.0491	0.0497	0.0538

Note: Robust standard error given in parentheses.

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000). Child sampling weight.

Outcome significantly different from Good Marriages: $*p < .10$ $**p < .05$ $***p < .01$

Outcome significantly different from Bad Marriages: $^{+}p < .10$ $^{++}p < .05$ $^{+++}p < .01$

[1]AFQT is 25th percentile or below.

Table 4: The Relationship between Living Arrangement, Marriage Quality and Attachment

	Model 1	Model 2	Model 3	Model 4
Living Arrangements				
Poor Marriage	—	0.209	0.192	0.260
		(0.216)	(0.215)	(0.414)
Married Biological/Adoptive (Omitted)				
Blended/Step Family	0.059	0.074	0.376	-0.912
	(0.333)	(0.334)	(0.490)	(0.777)
Cohabiting Parents	1.104 ***	1.121 ***/++	1.123 ***	0.731 */++
	(0.372)	(0.373)	(0.378)	(0.405)
Cohabiting Partners	0.611	0.627 *	0.559	0.426
	(0.379)	(0.380)	(0.416)	(0.432)
Single Mother	0.514 ***	0.531 ***	0.508 ***	0.467 **
	(0.145)	(0.148)	(0.169)	(0.235)
Married, Spouse Absent	1.441 **	1.458 ***/++	1.389 **/+	0.491
	(0.574)	(0.574)	(0.595)	(0.655)
Sociodempgraphic				
Mother's Education				
Less than High School Degree	0.811 ***	0.809 ***	0.800 ***	0.884 ***
	(0.171)	(0.171)	(0.170)	(0.225)
High School Degree (Omitted)				
Some College	-0.030	-0.028	-0.029	0.163
	(0.139)	(0.139)	(0.139)	(0.229)
College Degree	-0.599 ***	-0.590 ***	-0.581 ***	-0.936 **
	(0.150)	(0.150)	(0.150)	(0.418)
Low Ability Mother[1]	0.599 ***	0.598 ***	0.592 ***	0.727 ***
	(0.154)	(0.154)	(0.154)	(0.217)
Child's Age				
Less than 5 years (Omitted)				
5 to less than 7 years	-1.578 ***	-1.578 ***	-1.578 ***	-1.574 ***
	(0.077)	(0.077)	(0.077)	(0.136)
7 to less than 9 years	—	—	—	—
9 to less than 12 years	—	—	—	—
Race/Ethnicity				
White, non-Hispanic (Omitted)				
Black, non-Hispanic	0.931 ***	0.925 ***	0.927 ***	0.663 ***
	(0.152)	(0.152)	(0.155)	(0.227)
Hispanic	0.880 ***	0.877 ***	0.880 ***	1.075 ***
	(0.162)	(0.162)	(0.162)	(0.248)

Table continues

Table 4: The Relationship between Living Arrangement, Marriage Quality and Attachment (Continued)

	Model 1	Model 2	Model 3	Model 4
Gender				
Female (Omitted)				
Male	-0.606 ***	-0.604 ***	-0.604 ***	-0.780 ***
	(0.107)	(0.107)	(0.107)	(0.176)
Number of Children in Family				
1 Child (Omitted)				
2 Children	-1.248 ***	-1.245 ***	-1.247 ***	-1.043 ***
	(0.154)	(0.154)	(0.154)	(0.302)
3 or more Children	-2.150 ***	-2.148 ***	-2.152 ***	-2.003 ***
	(0.161)	(0.161)	(0.161)	(0.300)
Early Volatility				
Any change	—	—	0.115	0.081
			(0.206)	(0.249)
Change to Married Biological	—	—	0.453	0.980 *
			(0.400)	(0.564)
Change to Married Step	—	—	-0.643	-1.019
			(0.587)	(0.873)
Unweighted Sample Size	10648	10648	10648	4066
Mean dependent variable	18.3	18.3	18.3	18.6
R-Squared	0.1120	0.1121	0.1125	0.1173

Note: Robust standard error given in parentheses.

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000). Child sampling weight.

Outcome significantly different from Good Marriages: $*p < .10$ $**p < .05$ $***p < .01$

Outcome significantly different from Bad Marriages: $^{+}p < .10$ $^{++}p < .05$ $^{+++}p < .01$

[1]AFQT is 25th percentile or below.

Table 5: The Relationship between Living Arrangement, Marriage Quality and Behavioral Problems

	Model 1	Model 2	Model 3	Model 4
Living Arrangements				
Poor Marriage	—	2.875 ***	2.755 ***	4.096 ***
		(0.683)	(0.684)	(1.327)
Married Biological/Adoptive (Omitted)				
Blended/Step Family	2.989 ***	3.168 ***	2.985 ***	4.033 ***
	(0.740)	(0.744)	(0.876)	(1.405)
Cohabiting Parents	5.808 ***	6.012 ***/+	6.077 ***/++	5.718 ***
	(1.519)	(1.522)	(1.536)	(1.542)
Cohabiting Partners	5.620 ***	5.810 ***/++	5.822 ***/++	5.003 ***
	(1.019)	(1.023)	(1.096)	(1.288)
Single Mother	4.477 ***	4.676 ***/++	4.727 ***/++	4.180 ***
	(0.484)	(0.494)	(0.542)	(0.728)
Married, Spouse Absent	4.058 *	4.249 *	4.243 *	-1.788 ++
	(2.204)	(2.208)	(2.252)	(2.515)
Sociodempgraphic				
Mother's Education				
Less than High School Degree	3.227 ***	3.203 ***	3.160 ***	2.275 ***
	(0.540)	(0.540)	(0.540)	(0.670)
High School Degree (Omitted)				
Some College	-0.594	-0.587	-0.587	0.237
	(0.500)	(0.500)	(0.500)	(0.751)
College Degree	-3.783 ***	-3.688 ***	-3.664 ***	-3.003 **
	(0.619)	(0.620)	(0.620)	(1.327)
Low Ability Mother[1]	1.067 **	1.058 **	1.027 **	1.469 **
	(0.511)	(0.510)	(0.510)	(0.704)
Child's Age				
Less than 5 years	—	—	—	—
5 to less than 7 years (Omitted)				
7 to less than 9 years	2.773 ***	2.784 ***	2.799 ***	3.153 ***
	(0.259)	(0.259)	(0.259)	(0.495)
9 to less than 12 years	2.980 ***	2.998 ***	3.024 ***	3.706 ***
	(0.300)	(0.299)	(0.301)	(0.516)
Race/Ethnicity				
White, non-Hispanic (Omitted)				
Black, non-Hispanic	-0.267	-0.320	-0.370	-2.447 ***
	(0.500)	(0.501)	(0.507)	(0.706)
Hispanic	-0.814	-0.858 *	-0.862 *	-1.935 ***
	(0.500)	(0.501)	(0.501)	(0.747)

Table continues

Table 5: The Relationship between Living Arrangement, Marriage Quality and Behavioral Problems (Cont'd)

	Model 1	Model 2	Model 3	Model 4
Gender				
Female (Omitted)				
Male	2.102 ***	2.108 ***	2.109 ***	3.431 ***
	(0.396)	(0.396)	(0.395)	(0.579)
Number of Children in Family				
1 Child (Omitted)				
2 Children	-0.176	-0.145	-0.129	0.543
	(0.578)	(0.578)	(0.578)	(0.934)
3 or more Children	-1.263 **	-1.236 **	-1.221 **	-0.877
	(0.587)	(0.588)	(0.587)	(0.901)
Early Volatility				
Any change	—	—	0.097	-0.322
			(0.597)	(0.746)
Change to Married Biological	—	—	3.109 **	2.226
			(1.279)	(1.821)
Change to Married Step	—	—	0.554	0.909
			(1.103)	(1.889)
Unweighted Sample Size	16959	16959	16959	7055
Mean dependent variable	104.8	104.8	104.8	108.2
R-Squared	0.0769	0.0782	0.0787	0.0647

Note: Robust standard error given in parentheses.

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000). Child sampling weight.

Outcome significantly different from Good Marriages: $*p < .10$ $**p < .05$ $***p < .01$

Outcome significantly different from Bad Marriages: $^{+}p < .10$ $^{++}p < .05$ $^{+++}p < .01$

[1]AFQT is 25th percentile or below.

Table 6: The Relationship between Living Arrangement, Marriage Quality and PIAT Math Scores

	Model 1	Model 2	Model 3	Model 4
Living Arrangements				
Poor Marriage	—	-1.115 *	-1.084	-0.663
		(0.669)	(0.664)	(1.378)
Married Biological/Adoptive (Omitted)				
Blended/Step Family	-0.019	-0.088	-0.056	0.566
	(0.557)	(0.561)	(0.660)	(0.957)
Cohabiting Parents	-4.039 ***	-4.117 ***/++	-4.223 ***/++	-2.305 *
	(1.413)	(1.416)	(1.428)	(1.212)
Cohabiting Partners	-1.197	-1.270 *	-1.514 *	-1.391
	(0.752)	(0.758)	(0.803)	(0.976)
Single Mother	-1.767 ***	-1.844 ***	-1.981 ***	-1.130 *
	(0.404)	(0.413)	(0.438)	(0.604)
Married, Spouse Absent	-2.442	-2.515	-2.839	-3.238
	(2.006)	(2.007)	(1.982)	(2.566)
Sociodempgraphic				
Mother's Education				
Less than High School Degree	-2.644 ***	-2.631 ***	-2.623 ***	-1.765 ***
	(0.451)	(0.451)	(0.450)	(0.555)
High School Degree (Omitted)				
Some College	1.788 ***	1.793 ***	1.791 ***	2.348 ***
	(0.436)	(0.436)	(0.436)	(0.642)
College Degree	6.486 ***	6.454 ***	6.453 ***	7.010 ***
	(0.531)	(0.532)	(0.532)	(1.768)
Low Ability Mother[1]	-4.771 ***	-4.765 ***	-4.751 ***	-4.735 ***
	(0.437)	(0.437)	(0.437)	(0.574)
Child's Age				
Less than 5 years	—	—	—	—
5 to less than 7 years (Omitted)				
7 to less than 9 years	0.976 ***	0.975 ***	0.980 ***	0.860 *
	(0.259)	(0.258)	(0.258)	(0.440)
9 to less than 12 years	1.599 ***	1.593 ***	1.604 ***	0.949 **
	(0.295)	(0.295)	(0.295)	(0.470)
Race/Ethnicity				
White, non-Hispanic (Omitted)				
Black, non-Hispanic	-4.317 ***	-4.298 ***	-4.250	-3.587 ***
	(0.432)	(0.432)	(0.435)	(0.562)
Hispanic	-3.384 ***	-3.370 ***	-3.367	-3.503 ***
	(0.453)	(0.454)	(0.453)	(0.639)

Table continues

Table 6: The Relationship between Living Arrangement, Marriage Quality and PIAT Math Scores (Cont'd)

	Model 1	Model 2	Model 3	Model 4
Gender				
Female (Omitted)				
Male	0.328	0.323	0.324	-0.042
	(0.333)	(0.333)	(0.333)	(0.489)
Number of Children in Family				
1 Child (Omitted)				
2 Children	-0.773	-0.782	-0.803	-1.069
	(0.532)	(0.532)	(0.533)	(0.876)
3 or more Children	-1.520 ***	-1.526 ***	-1.550 ***	-2.178 **
	(0.544)	(0.544)	(0.544)	(0.882)
Early Volatility				
Any change	—	—	0.423	1.005
			(0.505)	(0.598)
Change to Married Biological	—	—	-1.145	-4.503 **
			(1.345)	(1.844)
Change to Married Step	—	—	-0.608	-1.271
			(0.940)	(1.452)
Unweighted Sample Size	14636	14636	14636	6245
Mean dependent variable	102.3	102.3	102.3	98.9
R-Squared	0.1596	0.1598	0.1599	0.1263

Note: Robust standard error given in parentheses.

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000). Child sampling weight.

Outcome significantly different from Good Marriages: $^{*}p < .10$ $^{**}p < .05$ $^{***}p < .01$

Outcome significantly different from Bad Marriages: $^{+}p < .10$ $^{++}p < .05$ $^{+++}p < .01$

[1]AFQT is 25th percentile or below.

Table 7: The Relationship between Living Arrangement, Marriage Quality and PIAT Reading Recognition Scores

	Model 1	Model 2	Model 3	Model 4
Living Arrangements				
Poor Marriage	—	-0.556	-0.546	2.157
		(0.715)	(0.710)	(1.488)
Married Biological/Adoptive (Omitted)				
Blended/Step Family	-0.359	-0.393	-0.014	1.120
	(0.673)	(0.678)	(0.779)	(1.123)
Cohabiting Parents	-4.666 ***	-4.706 ***/+++	-4.770 ***/+++	-1.126 +
	(1.423)	(1.427)	(1.438)	(1.277)
Cohabiting Partners	-2.789 ***	-2.825 ***/++	-2.966 ***/++	-1.200 +
	(0.836)	(0.841)	(0.926)	(1.085)
Single Mother	-2.370 ***	-2.409 ***/++	-2.488 ***/++	-0.505 +
	(0.455)	(0.466)	(0.501)	(0.686)
Married, Spouse Absent	-6.509 **	-6.545 **/++	-6.731 **/++	-4.474 +
	(2.701)	(2.705)	(2.721)	(3.222)
Sociodempgraphic				
Mother's Education				
Less than High School Degree	-3.437 ***	-3.431 ***	-3.428 ***	-2.680 ***
	(0.515)	(0.515)	(0.516)	(0.640)
High School Degree (Omitted)				
Some College	1.605 ***	1.608 ***	1.608 ***	2.627 ***
	(0.471)	(0.471)	(0.471)	(0.717)
College Degree	5.856 ***	5.840 ***	5.844 ***	6.545 ***
	(0.578)	(0.579)	(0.580)	(1.750)
Low Ability Mother[1]	-5.653 ***	-5.649 ***	-5.639 ***	-5.487 ***
	(0.488)	(0.488)	(0.489)	(0.682)
Child's Age				
Less than 5 years	—	—	—	—
5 to less than 7 years (Omitted)				
7 to less than 9 years	-0.215	-0.216	-0.214	-0.265
	(0.270)	(0.270)	(0.270)	(0.462)
9 to less than 12 years	-0.359	-0.362	-0.371	-1.157 **
	(0.314)	(0.313)	(0.314)	(0.499)
Race/Ethnicity				
White, non-Hispanic (Omitted)				
Black, non-Hispanic	-1.000 **	-0.990 **	-0.956 **	-0.499
	(0.472)	(0.473)	(0.476)	(0.665)
Hispanic	-1.312 ***	-1.305 ***	-1.298 ***	-1.217
	(0.489)	(0.489)	(0.489)	(0.762)

Table continues

Table 7: The Relationship between Living Arrangement, Marriage Quality and PIAT Reading Recognition Scores (Cont'd)

	Model 1	Model 2	Model 3	Model 4
Gender				
Female (Omitted)				
Male	-2.439 *** (0.368)	-2.441 *** (0.368)	-2.439 *** (0.369)	-2.622 *** (0.552)
Number of Children in Family				
1 Child (Omitted)				
2 Children	-1.786 *** (0.602)	-1.791 *** (0.602)	-1.810 *** (0.602)	-2.552 ** (0.997)
3 or more Children	-3.170 *** (0.604)	-3.173 *** (0.604)	-3.200 ** (0.604)	-3.885 *** (0.980)
Early Volatility				
Any change	—	—	0.251 (0.542)	0.250 (0.659)
Change to Married Biological	—	—	-0.510 (1.332)	-1.735 (1.654)
Change to Married Step	—	—	-1.376 (1.009)	-1.047 (1.606)
Unweighted Sample Size	14503	14503	14503	6175
Mean dependent variable	105.5	105.5	105.5	101.7
R-Squared	0.1515	0.1516	0.1517	0.1167

Note: Robust standard error given in parentheses.

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000). Child sampling weight.

Outcome significantly different from Good Marriages: $^{*}p < .10$ $^{**}p < .05$ $^{***}p < .01$

Outcome significantly different from Bad Marriages: $^{+}p < .10$ $^{++}p < .05$ $^{+++}p < .01$

[1]AFQT is 25th percentile or below.

Table 8: The Relationship between Living Arrangement, Marriage Quality and PIAT Reading Comprehension Scores

	Model 1	Model 2	Model 3	Model 4
Living Arrangements				
Poor Marriage	—	-0.306	-0.318	2.245
		(0.807)	(0.804)	(1.772)
Married Biological/Adoptive (Omitted)				
Blended/Step Family	-0.606	-0.625	-0.569	-0.451
	(0.584)	(0.589)	(0.672)	(1.178)
Cohabiting Parents	-3.927 **	-3.949 **/+	-4.089 **/++	-1.457 +
	(1.764)	(1.766)	(1.784)	(1.367)
Cohabiting Partners	-1.848 **	-1.868 **	-2.172 **	-1.032
	(0.800)	(0.804)	(0.876)	(1.071)
Single Mother	-2.234 ***	-2.255 ***/++	-2.409 ***/++	-1.085 +
	(0.434)	(0.445)	(0.482)	(0.690)
Married, Spouse Absent	-8.304 ***	-8.323 ***/+++	-8.743 ***/+++	-7.802 ***/+++
	(2.604)	(2.607)	(2.648)	(2.609)
Sociodempgraphic				
Mother's Education				
Less than High School Degree	-3.113 ***	-3.109 ***	-3.113 ***	-3.002 ***
	(0.483)	(0.483)	(0.483)	(0.631)
High School Degree (Omitted)				
Some College	1.004 **	1.006 **	1.002 **	1.257 *
	(0.446)	(0.446)	(0.446)	(0.722)
College Degree	4.781 ***	4.774 ***	4.777 ***	4.790 ***
	(0.558)	(0.559)	(0.559)	(1.563)
Low Ability Mother[1]	-5.395 ***	-5.394 ***	-5.390 ***	-5.443 ***
	(0.454)	(0.454)	(0.455)	(0.661)
Child's Age				
Less than 5 years	—	—	—	—
5 to less than 7 years (Omitted)				
7 to less than 9 years	-3.661 ***	-3.660 ***	-3.649 ***	-4.324 ***
	(0.343)	(0.342)	(0.343)	(0.587)
9 to less than 12 years	-6.891 ***	-6.890 ***	-6.871 ***	-8.147 ***
	(0.361)	(0.361)	(0.361)	(0.606)
Race/Ethnicity				
White, non-Hispanic (Omitted)				
Black, non-Hispanic	-1.833 ***	-1.827 ***	-1.780 ***	-1.403 **
	(0.443)	(0.445)	(0.449)	(0.645)
Hispanic	-0.584	-0.579	-0.574	-0.040
	(0.460)	(0.460)	(0.461)	(0.728)

Table continues

Table 8: The Relationship between Living Arrangement, Marriage Quality and PIAT Reading Comprehension Scores (Cont'd)

	Model 1	Model 2	Model 3	Model 4
Gender				
Female (Omitted)				
Male	-1.729 ***	-1.731 ***	-1.730 ***	-2.455 ***
	(0.347)	(0.347)	(0.347)	(0.542)
Number of Children in Family				
1 Child (Omitted)				
2 Children	-1.756 ***	-1.760 ***	-1.778 ***	-2.585 ***
	(0.559)	(0.559)	(0.559)	(0.956)
3 or more Children	-3.056 ***	-3.060 ***	-3.086 ***	-4.395 ***
	(0.558)	(0.559)	(0.559)	(0.916)
Early Volatility				
Any change	—	—	0.594	0.521
			(0.575)	(0.711)
Change to Married Biological	—	—	-0.370	-1.028
			(1.418)	(1.959)
Change to Married Step	—	—	-0.825	-0.688
			(1.008)	(1.641)
Unweighted Sample Size	11417	11417	11417	4846
Mean dependent variable	104.345	104.345	104.345	101.000
R-Squared	0.1887	0.1888	0.1889	0.1726

Note: Robust standard error given in parentheses.

Source: National Longitudinal Survey of Youth 1979 cohort, Mother and Child files (1986 - 2000).

Outcome significantly different from Good Marriages: $*p < .10$ $**p < .05$ $***p < .01$

Outcome significantly different from Bad Marriages: $^{+}p < .10$ $^{++}p < .05$ $^{+++}p < .01$

[1]AFQT is 25th percentile or below.