

## Press Release

### DIVORCE AND THE KIDS

If you are worried about that under-achieving adolescent, and think all her problems started with her parents' divorce, you may want to think again.

According to a study in the August *Journal of Marriage and Family*, adolescents in families that eventually experience divorce have problems in academic progress, psychological well-being, and behavior, **before** the marriage has ended. Researcher Youngmin Sun at Ohio State University states, "Divorce is a process, not just a single incident. The negative effects that we associate with divorce are actually evident in teens at least one year before the marriage has ended." Dr. David Demo at the University of North Carolina at Greensboro, calls Dr. Sun's study, "carefully designed and conducted, and providing a rare glimpse into how family relationships change over time."

Dr. Sun studied 10,088 students, who were surveyed in 1990, and again in 1992. During that time 798 (8%) of the students had a divorce in their family between the two waves of data collection. Academic progress, psychological well-being, school behavior and substance abuse were all examined. Results showed that children from predisrupted families (families that will later experience divorce) scored significantly lower on math and reading tests than did their counterparts from families that remained intact. Adolescents from these families

also had lower levels of “educational aspiration, readiness for school, self-concept...and exhibited more behavior problems.”

In addition to findings regarding these adolescents, Dr. Sun’s research concludes that relationships within the family were deteriorating at least one year prior to the divorce. Students in these families were more likely to report a poor relationship between their parents, and between the parents and the children in the family. Parents in these pre-divorce families seemed to be less involved in their children’s education. They had lower expectations for their children, a lower frequency of doing things with their children, and less discussion of school-related issues or attendance at school events.

“This is a careful, well-crafted study,” states Dr. Paul Amato, at Pennsylvania State University. “Dr. Sun’s analysis provides the strongest evidence yet that many of the problems observed among children with divorced parents begin prior to parental separation. Family scholars used to think of divorce as a specific event, a crisis that occurs at a specific point in children’s development. More recently researchers have realized that parental divorce is a process that unfolds over many years.”

Both Dr. Sun and Dr. Amato caution that the results of this study do not mean that the divorce itself does not affect adolescents. Researchers still need to focus on the effects of divorce over time. But that time will need to include the years before divorce as well as those after divorce. –30–

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# Family Environment and Adolescents' Well-Being Before and After Parents' Marital Disruption: A Longitudinal Analysis

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*Although previous research has noted that children of divorce tend to fare less well than peers raised in families with two biological parents, much less is known about how parents' marital disruption affects children as a continuous process in its different phases. Based on two waves of a large, nationally representative panel, this study demonstrates that even before the disruption, both male and female adolescents from families that subsequently dissolve exhibit more academic, psychological, and behavioral problems than peers whose parents remain married. Families on the verge of breakup are also characterized by less intimate parent-parent and parent-child relationships, less parental commitment to children's education, and fewer economic and human resources. These differences in family environment account for most well-being deficits among adolescents in predisrupted families. Furthermore, the deterioration in different domains of the family environment appears to be associated with maladjustment in different aspects of children's lives. The postdisruption effects on adolescents can either be totally or largely predicted by predisruption factors and by changes in family circumstances during the period coinciding with the disruption. Finally, the analyses indicate that female adolescents are as likely to be affected by the parental divorce process as male adolescents.*

*Keywords: child well-being, family environment, family structure, longitudinal analyses.*

A substantial amount of family research has provided convincing evidence that children of divorce tend to experience more psychological, social, and academic difficulties than their peers raised in households with two biological parents (for reviews, see [Amato, 1993](#); [Demo & Acock, 1988](#)). Much less is known about how parental divorce or separation affects children as a continuous process. Although recent longitudinal studies (e.g., [Amato, Loomis, & Booth, 1995](#); [Block, Block, & Gjerde, 1986](#); [Cherlin et al., 1991](#); [Doherty & Needle, 1991](#); [Morrison & Cherlin, 1995](#)) have suggested that deficits in children's well-being are observable before the disruption actually occurs, few studies have directly assessed the magnitude of such predisruption differences. In particular, relatively little has been done to examine empirically the mechanisms by which children are affected before and during family dissolution. Consequently, it is still unclear which specific familial features are responsible for signs of maladjustment

during the predisruption period and whether changes in multiple domains of the family environment throughout the disruption process may be related to elevated problems after the disruption.

Using two waves of a nationally representative sample of American high school students (National Education Longitudinal Studies, 1988), this study tests a multistage model of parental divorce by examining a wide array of child well-being indicators, from both before and after parents' marital disruption. Drawing on previous research on the relationship between family environment and child outcomes, this study determines whether predisruption differences in three domains of family environment (interpersonal relations, parental involvement, and family resources) are related to children's well-being problems during the predisruption period. Finally, this study examines the extent to which predisruption factors and, in particular, changes in multiple dimensions of family environment between pre- and postdisruption stages, account for signs of children's maladjustment after family dissolution.

### **Background** [Return to TOC](#)

For decades, most family research has treated parental divorce as an isolated event that affects children only after its occurrence. Recently, family researchers have started to perceive marital disruption as a continuous, multistage process that may begin long before families dissolve and extend many years after divorce or separation ([Demo & Acock, 1988](#); [Morrison & Cherlin, 1995](#)). In particular, the entire disruption process is hypothesized to begin with a predisruption stage. Although families at this stage are still technically “intact,” they differ in basic family processes and functioning from families that remain intact ([Cherlin et al., 1991](#)). Typically, predisrupted families are characterized by interpersonal conflicts among family members; financial difficulties; substance abuse; physical and emotional abuse of spouse, children, or both; and a decline in parental commitment ([White, 1990](#)). These precursors of divorce are likely to negatively affect children's well-being during this stressful period. When parental divorce finally occurs, the process transfers into a crisis stage ([Chase-Lansdale & Hetherington, 1990](#)), during which children experience a series of additional

transitions in family life, including a decline in living standard ([Duncan & Hoffman, 1985](#)) and a decrease in personal contact with the noncustodial parent ([Amato, 1987](#)). Conceivably, the well-being of children may be further damaged as they are forced to adjust to these stressful transitions.

Although small in number, existing longitudinal studies offered consistent support to this multistage model of marital disruption. In a longitudinal study of children drawn from two nursery schools that constituted a child study center ([Block et al. 1986](#)) investigated personality and behavior problems of children from 101 families, among which 41 dissolved during the period of investigation. They found that compared with peers in continuously married families, boys from predisrupted families were more aggressive, impulsive, anxious in unpredictable situations, and disobedient up to 11 years before parental divorce. In another study based on a sample of families enrolled in a large HMO in the 1980s, [Doherty and Needle \(1991\)](#) compared the psychological well-being and substance abuse of 48 children, both before and after their parental divorce, with those of 578 control cases whose parents remained married. Interestingly, girls were found to show signs of maladjustment before, but not after, the disruption, whereas boys seemed to be affected after, but not before, parental divorce. Presumably due to a shortage of nationally representative panel data sets in the 1980s, however, both studies were based on small samples from nonrepresentative sampling frames and accordingly cannot be generalized to children in a general population.

Several other longitudinal studies (e.g., [Cherlin et al., 1991](#)) tested indirectly whether well-being problems preceded the actual disruption. Using a large British sample collected in the 1960s, [Cherlin et al. \(1991\)](#) found that children who experienced family dissolution between ages 7 (Time 1) and 11 (Time 2) exhibited higher levels of behavior and academic problems at Time 2 than peers whose families remained intact by Time 2. When comparable Time 1 measures were controlled, however, the well-being deficits at Time 2 were reduced, particularly for boys. Further inclusion of other Time 1 factors (children's mental and physical health, the use of children's services, and the level of parental conflicts) reduced postdisruption differences in all four well-being measures to a nonsignificant level among boys and in two measures

among girls. These findings suggest that deterioration in child outcomes and interparental relations already existed before the disruption. Nonetheless, the actual predisruption differences in well-being and parental conflicts were not directly assessed and presented.

A recent study (Sun & Li, 2001) tested directly whether a predisruption deficit existed in children's academic test scores. The authors found that in each of the four academic tests at Time 1, both boys and girls from families that dissolved by Time 2 did not perform as well (by about 0.3 standard deviations) as peers from families remaining intact. Their study focused only on the damage in children's test performance, however. Consequently, little is known about the magnitudes of such damage in other aspects of children's lives during the predisruption period.

### **The Present Study** [Return to TOC](#)

This study links previous longitudinal studies with a family environment model to reexamine adolescent outcomes at pre- and postdisruption stages. Specifically, this study is able to complement and move beyond previous research in three aspects. First, although previous longitudinal studies concur that signs of maladjustment are observable before the disruption, few studies to date have rigorously assessed the magnitudes of predisruption damage to children. Such an assessment is particularly important because it serves as a baseline for gauging the magnitude of additional damage caused by the later disruption. By incorporating a wide array of adolescent outcome measures, this study is able to test directly whether children in predisrupted families exhibit more problems than peers in continuously married families in four broad areas: academic progress, psychological well-being, school behavior, and substance abuse.

Second, although previous studies have suggested that the low level of well-being in predisrupted families might be due to an unfavorable family environment, empirical tests of this hypothesis are rare. To address this limitation, I examine whether predisrupted families are more likely to have a dysfunctional family environment than are families that remain subsequently intact and whether these dysfunctional family features account for deficits in child well-being during pre- and postdisruption periods. This conceptual framework raises the questions of whether a

dysfunctional family environment destabilizes the marriage, whether unstable marriages lead to a deteriorating family environment, or whether both marital instability and a dysfunctional family environment merely reflect a selection process by which, for example, people with personality or other problems are married in such multiproblem families. A complete quantitative assessment of these scenarios would require a data set covering a much longer time frame than that proposed in the current study. Nevertheless, by assessing systematically the extent to which unfavorable features in three domains of family life (interpersonal relations, parental involvement, and family resources) account for the predisruption deficits in child outcomes, this study can help us understand the mechanisms through which the marital disruption process affects children.

Finally, I further examine whether the actual experience of the disruption itself causes any additional negative effects on child outcomes, after controlling for the predisruption damage in outcomes, in family environment, and, in particular, the changes in family environment between pre- and postdisruption periods. In their study of the impact of such changes, [Morrison and Cherlin \(1995\)](#) found that the elevated behavioral problems among boys who had just experienced parental divorce were associated with the downward social mobility typically experienced by families transferring from the pre- to postdisruption stages. Nonetheless, their study focused only on behavioral problems and was limited in measures of change. In this study, I am able to elucidate further how in addition to predisruption factors, family dynamics during the period coinciding the disruption may account for the effect of parental divorce by incorporating a wider range of well-being measures and indicators tapping changes in family circumstances.

In short, the following hypotheses are tested in the present study:

*Hypothesis 1.* Before parents' marital disruption, children from predisrupted families are more likely to exhibit academic, psychological, behavioral, and drug-related problems than are their peers from continuously married families.

*Hypothesis 2.* Compared with continuously married families, families on the verge of breakup are likely to have

less intimate parent-parent and parent-child relationships, less parental involvement in children's education, and fewer economic and human resources.

*Hypothesis 3.* The predisruption deficit in each dimension of children's well-being is likely to be reduced in magnitude after controlling for predisruption family environment measures of interpersonal relations, parental involvement, and economic and human resources.

*Hypothesis 4.* The postdisruption effect on a given child well-being indicator (e.g., Time 2 math performance) will be reduced in magnitude when the corresponding predisruption measure (e.g., Time 1 math performance) and measures of predisruption interpersonal relations, parental involvement, and economic and human resources are controlled.

*Hypothesis 5.* The post-disruption effects on child well-being will be further reduced after controlling for changes in family environment during the period coinciding with the disruption.

In view of previous findings that parents' marital disruption may affect boys more than it does girls (Block et al., 1996; [Morrison & Cherlin, 1995](#)), I also explore possible gender differences when testing each of the above hypotheses.

## **Method** [Return to TOC](#)

### *Sample*

Data used for this study came from two waves (1990 and 1992) of the National Education Longitudinal Study of 1988 (NELS), which was first conducted in 1988 based on a nationally representative sample of more than 24,000 eighth-grade students. More than 15,000 students were surveyed in 1990 and 1992 (when they were in 10th and 12th grade) and provided information about family structure in both waves. I chose these two waves because they shared key measures of well-being and family environment (e.g., substance abuse, parent-parent relationship) that the base-year data did not include. I further used two filters to limit the sample to students who (a) lived in families with two biological parents in 1990 (Time 1) and (b) were not living with their own spouse or boyfriend or girlfriend in 1992 (Time 2). The first filter

excluded 5,080 students (or 33% of the original pool), and the second excluded an additional 141 students. The final sample consists of 10,088 students, among whom 798 experienced marital disruption between two waves. The 1990–1992 panel weights were used in all analyses.

### *Measures*

Because the 1990 wave of NELS did not include a parent survey, my study focused largely on those indicators from student surveys that were measured in both waves. To avoid same-source bias, teachers' evaluations of students' school behavior also were included. [Table 1](#) provides detailed operational definitions and descriptive statistics of the variables. Unless indicated otherwise, the variables were coded in a comparable manner in both waves.

*Dependent variables.* Eleven variables were used to tap the levels of students' well-being in four areas. For academic progress, I first included students' cognitive test scores in math and reading. Among several versions of such scores provided in NELS, “item response theory (IRT)-estimated number right” was used because these scores were specially calculated to allow cross-wave and longitudinal analyses. I then included a multiitem composite, academic readiness, to tap frequencies with which a student came to school with pencil and paper, books, and finished homework (0 = *never had any of the above ready*; 9 = *usually had each ready*; alphas for two waves = 0.66 and 0.71). Students' educational aspirations were also included (1 = *less than high school*; 6 = *graduate degree*).

To gauge a student's psychological well-being, I used two batteries of psychological measures provided by NELS (see NCES, 1994) and constructed a seven-item composite of self-concept (alphas for two waves = 0.82 and 0.86) and a six-item composite of locus of control (alphas = 0.72 and 0.75).

To measure behavior problems in school, I first used a multiitem composite (alphas = 0.65 and 0.67), based on students' self report on frequencies with which they were involved in the following events during the first half of the school year: being late for school, cutting or skipping class, getting into trouble for not following rules, and fighting with other students (0 = *never involved in any such events*; 16 = *involved more than 10 times in each event*). A similar

composite was obtained from the teachers' survey (alphas = 0.71 and 0.68) to gauge the extent to which a student was absent, tardy, inattentive, and disruptive in class (0 = *never involved in any such events*; 16 = *involved in each event all the time*).

For substance abuse, I included the number of cigarettes a student smoked per day (0 = *none*; 5 = *2 packs or more*) and two other measures to tap frequencies with which a student drank alcohol and used marijuana during the previous 12 months.

*Independent variables.* Because all students in this study lived in two-biological-parent households in 1990, a dummy variable, disruption status, was created to classify the participants into two groups: those who lived in continuously married families with two biological parents present in both 1990 and 1992 ( $n = 9,290$ ) and those who had two biological parents present in 1990 but lived in single-parent, stepparent, and other nontraditional families by 1992 ( $n = 798$ ). In analyses of predisruption (Time 1) outcomes, the variable distinguished between two types of intact households, with 0 = *those that would remain intact* and 1 = *those that were at predisruption stage*. In analyses of postdisruption (Time 2) outcomes, the variable measured a family's postdisruption status, with 0 = *continuously married households* and 1 = *families that experienced disruption by Time 2*. Because of data limitation, I was unable to exclude from the disruption group those households in which both biological parents were present at Time 1 but in which one or both parents happened to be absent at Time 2 for reasons other than marital disruption (e.g., military service, hospitalization, or work). These cases were presumably rare, however, and should not significantly affect the findings.

For measures of interpersonal relations, I first used a six-interval measure (0 = *false*; 5 = *true*) tapping the relationship between two parents based on students' response to whether their parents got along with each other. Two dummy variables measured a student's perception on whether the student got along with his or her father and mother (0 = *false*; 1 = *true*). Although these two items were only available at Time 1, they were nevertheless included in analyses of the predisruption stage as potential mediators of well-being deficits.

To gauge the extent to which parents involved themselves in their children's education, I included father's and mother's educational expectations for the child (1 = *less than high school*, 6 = *graduate school*). Also included were two items tapping the frequencies with which a student did things with parents (0 = *never or rarely*, 4 = *every day*) and parents attended school-related activities with their children during the first half of school year (0 = *never*, 3 = *more than twice*). Finally, I included a multiitem composite measuring the frequency of parent-child discussion about five educational matters (course selection, school activities, things studied in class, student's grades, and plans about college), with alpha values of 0.78 and 0.81 for the two waves, respectively.

For family resource measures, annual household income was included first, measured in 15 income intervals (1 = *no income*; 15 = *more than \$200,000*). Because NELS did not include a parent survey in its 1990 wave, the annual income for 1988 was used instead. I also included two measures closely related to income: parents' educational attainment (1 = *less than high school*, 6 = *graduate degree*) and occupational prestige (gauged by the index provided in the NELS data). Whereas most previous studies used these variables in conjunction with income to gauge socioeconomic status, several others ([Sun, 1998, 1999](#); [Teachman, Paasch, & Carver, 1997](#)) employed them to measure the amount of "human capital" ([Becker, 1962](#)) available in a student's family.

Hypothesis 5 focused on whether changes in family circumstances between two waves might account for postdisruption effects on children. Because few parents were likely to undergo changes in their educational attainment and occupation prestige over the 2-year period of this investigation, it was inappropriate to model changes in such variables. The study was also limited in measuring change in family income because the income variable collected in 1992 actually measured family income in the year before the survey (1991), during which some families had not yet dissolved. Furthermore, as mentioned earlier, measures of father-child and mother-child relations were unavailable at Time 2. Despite these limitations, I was still able to construct five measures tapping changes in parent-parent relationship, father's educational expectation, mother's educational expectation, frequency of doing things with parents, and frequency of parent-child discussion

about school-related issues. All five measures were obtained by subtracting the Time 1 measures from their Time 2 counterparts.

*Control variables.* Demographic controls included the student's gender, race or ethnicity (Asian, Hispanic, African American, American Indian, and non-Hispanic White), school affiliation (public, Catholic, National Association of Independent Schools (NAIS) private, and non-NAIS private schools), residential location (urban, suburban, and rural), and geographic region (Northeast, North-Central, West, and South).

### *Missing Value Strategies*

Like other public survey data, NELS suffered from substantial missing values. Preliminary analyses of the data indicated that approximately 40% of the current sample had missing values on at least one independent variable. Traditional missing value strategies such as listwise deletion or mean substitution would result in discarding this 40% of the cases, introducing serious bias, or both (see [Little & Rubin, 1987](#)). In this study, I used [Rubin's \(1987\)](#) multiple imputation technique (MI) to deal with missing data (for a detailed description of MI, see [Little & Rubin; Schafer & Olsen, 1998](#)). In MI, each missing value on a particular variable was replaced by a set of  $m > 1$  maximum-likelihood estimates drawn from their predictive distributions based on nonmissing values on all related variables. I included all dependent, independent, and control variables in the study in the imputation model, although only missing values on independent variables were imputed. Given that the percentages of missing values on each of the independent variables were around or below 10%, I chose to impute 10 ( $m = 10$ ) estimates for each missing value because 10 estimates gave approximately 99% of efficiency of estimation (see [Schafer & Olsen](#)). In later multivariate and panel analyses, each coefficient and its standard error were estimated 10 times, based on 10 different sets of data. The overall coefficients and the standard errors (presented in tests of significance) reported in [Tables 2, 3, and 4](#) were combined and summarized based on the formulae provided by Rubin.

**Results** [Return to TOC](#)

## *Predisruption Differences in Well-Being and Family Circumstances*

I began my analyses by testing whether predisruption differences existed in children's well-being and family circumstances (Hypotheses 1 and 2). To assess the mean differences in these measures (i.e., the magnitude of predisruption effects), I regressed each well-being and family environment measure on disruption status and presented the unstandardized regression coefficients of disruption status in Model 1 of Table 2A and 2B. Because standard errors could be approximately inferred through the magnitude of a coefficient and its level of statistical significance, they were not presented in this and later tables to save table space. For the two dummy variables (father-child and mother-child relationships), logistic regressions were conducted to obtain the odds ratio between the two groups.

As illustrated in Model 1 of Table 2A, predisruption differences in child outcomes clearly existed between students whose families subsequently dissolved and their peers whose families remained intact. For instance, on average, students from predisrupted families scored lower by 5.67 points on math and by 3.64 points on reading tests than did their counterparts. Judging on their respective standard deviations in [Table 1, these](#) differences approximated 0.41 *SD* and 0.36 *SD*. Similarly, compared with their peers, adolescents from predisrupted families also had lower levels of educational aspiration, readiness for school, self-concept, and locus of control. In addition, these students also exhibited more behavior problems in school, as reflected by both behavior-problem composites (the differences ranged from 0.22 *SD* to 0.34 *SD*). Interestingly, the results indicated no significant predisruption differences in any form of substance abuse.

The results summarized in Model 1 of Table 2B also show consistent signs of family dysfunction in predisrupted families, as indicated by a lower group mean or smaller odds ratio in each of the 11 measures of family environment. Specifically, students in predisrupted families were less likely than their counterparts to report a good relationship between parents (the mean difference was 0.48 and approximated 0.40 *SD*) and between parent and child. Furthermore, compared with their continuously married peers, parents in predisrupted families appeared to be less involved in their children's education, as indicated by lower expectations from both father and mother, a lower frequency in doing things and discussing school-related

issues with children, and a lower frequency in attending school events (most of these deficits approximated 0.20 *SD*). Moreover, predisrupted families were also characterized by lower income, parental educational attainment, and parental occupational prestige (the deficits ranged from 0.28 *SD* to 0.45 *SD*).

To rule out the possibility that these predisruption differences were due to demographic characteristics of students and their families, I further added into Model 1 the five demographic controls (gender, race, school affiliation, residence location, and geographic region). As illustrated in Model 2 of Tables 2A and 2B, even after controlling for demographic factors, these deficits in well-being and family environment remained, although most were somewhat reduced in size.

To test further whether these predisruption differences vary by gender, I added the interaction term of disruption status  $\times$  gender into Model 2 (see Model 3; coefficients of other demographic controls were not shown to save space). With the exception of marijuana use, predisruption deficits in the remaining 21 well-being and family-environment measures showed no statistical differences between the two gender groups. Separate analyses of marijuana use by gender indicated a predisruption difference among boys, but not among girls. Overall, these findings suggested that girls were as likely as boys to be affected during the predisruption period.

In summary, the results discussed so far clearly provided support for the first two hypotheses that adolescents in predisrupted families showed lower levels of well-being in multiple areas and lived in a less favorable family environment.

### *Predisruption Differences in Well-Being Adjusted for Family Environment Measures*

In light of these predisruption differences in well-being and family environment, I continued the analyses by testing Hypothesis 3 (i.e., whether differences in family environment account for those in well-being measures). I further compared the extent to which predisruption differences in three domains of family life accounted for each type of well-being deficit. To these ends, I used the predisruption deficits adjusted for five demographic controls as the baseline of comparison and presented these

deficits in Model 1 of [Table 3](#) (cigarette and alcohol use were excluded because predisruption differences in these two variables were statistically insignificant). Then I individually added into Model 1 measures of interpersonal relations (Model 2), parental involvement (Model 3), family resources (Model 4), and finally all family environment measures (Model 5). This strategy allowed a comparison of the unique contribution made by each dimension of family life in accounting for each type of well-being difference, as gauged by percentage changes in the coefficient of disruption status presented in brackets in [Table 3](#). For instance, the predisruption difference in math tests was reduced from  $-4.30$  in Model 1 to  $-3.91$  in Model 2 (or a 9% reduction) when interpersonal relation measures were added. Because the predisruption difference in marijuana use was only evident among male students, the estimates for that variable were obtained from the male subsample (as presented in the right panel of [Table 3](#)).

Interestingly, the extent to which various types of family environment measures mediated well-being differences appeared to differ by well-being type. For instance, of the three aspects of family life examined, measures of interpersonal relations appeared to be least effective in accounting for predisruption deficits in academic test scores and educational aspiration, whereas these same measures seemed to be most responsible for psychological, behavioral, and drug problems among adolescents in predisrupted families (see Model 2). Furthermore, differences in family resources appeared to be least effective in accounting for predisruption behavioral, psychological, and drug problems, whereas they seemed to be most responsible for test scores deficits (see Model 4). Of the three domains of family environment, measures of parental involvement ranked second in mediating power for every well-being indicator except educational aspiration (see Model 3). After all family-environment variables were taken into consideration, as specified in Model 5, the predisruption differences were reduced by a range of 28% to 42% in the two test scores and two behavior problem measures, and to an insignificant level in the remaining five measures. Further tests of possible interaction effects found little evidence for significant gender differences in the extent to which family environment was related to well-being deficits. Overall, the results presented in this section were highly consistent with Hypothesis 3.

### *The Impact of Marital Disruption at the Crisis Stage*

Finally, I examined whether the detrimental impact of parental divorce can be predicted by predisruption factors and by the changes in family environment, as specified in Hypotheses 4 and 5. [Table 4](#) presents unstandardized regression coefficients of each 1992 well-being indicator on disruption status (Model 1), with the corresponding 1990 well-being measure included (Model 2), with 1990 control and family environment measures further added (Model 3), and finally with net changes in family circumstances added (Model 4).

The postdisruption differences in children's well-being were clearly visible. For instance, as illustrated in Model 1, students who had just experienced marital disruption scored lower in math and reading tests than their counterparts in continuously married families by 6.87 and 4.50 points, respectively (or 0.48 *SD* and 0.45 *SD*). Similarly, children of divorce also had lower educational aspirations and exhibited more psychological, behavior, and drug problems. The magnitudes of these effects ranged from 0.06 *SD* to 0.48 *SD*, similar to their predisruption counterparts. These results were consistent with findings replicated in a large number of cross-sectional studies ([Amato, 1993](#)).

In Model 2, I reevaluated these postdisruption effects by controlling for their Time 1 counterparts (a practice often referred to as *regressor variable method*; see [Allison, 1990](#)). This analysis estimated how much postdisruption difference observed in Model 1 was due to predisruption damage. To facilitate that, percentage changes in the coefficient of disruption status from Model 1 were presented in brackets. As illustrated in Model 2, two of the eight postdisruption effects (students' educational aspiration and self-concept) became statistically insignificant after corresponding Time 1 well-being measures were held constant, and the other effects (except that of marijuana use) were reduced by a range of 22% to 86%. These results suggested an important finding: Much of the damage of divorce reported by previous cross-sectional studies was actually done to children before disruption.

Next, I investigated the extent to which other Time 1 factors could predict postdisruption problems by further including demographic controls and other 1990 family environment variables. As indicated in Model 3, these Time

1 variables further reduced most of the remaining effects and those of locus of control and student-reported problems to nonsignificance, suggesting that an additional portion of these effects was due to differences in Time 1 family features.

In Model 4, I further included the five measures of net changes in family environment. Most of these change measures had consistent impact on various outcomes. Furthermore, they reduced the negative effect of marital disruption on marijuana use to a nonsignificant level and those on math, reading, and teacher-reported problems to  $-0.61$ ,  $-0.88$ , and  $0.65$  (the reductions were 91%, 88% and 31%) respectively. Finally, I included the interaction term of disruption status  $\times$  gender into Model 4. Except for educational aspiration, there was little evidence that the adjusted effects of marital disruption differed between male and female adolescents (see Model 5).

In summary, consistent with Hypotheses 4, the postdisruption effects on children (except that on marijuana abuse) often reported by previous cross-sectional studies were either completely or largely due to predisruption factors. These findings suggested that the actual experience of the disruption per se may cause either little or limited additional damage in these well-being areas. Also consistent with Hypothesis 5, the analyses suggested that changes in family circumstances during the disruption process were completely responsible for the effect on marijuana abuse and partially responsible for the three remaining effects on test scores and teacher-reported problems.

## **Discussion** [Return to TOC](#)

Prior research often has emphasized the amount of damage parental divorce and separation has done to children after such disruption occurs. Based on a national longitudinal panel, the present study underlines the importance of understanding marital disruption as a progressive, multistage process during which children may be influenced in different phases.

Although prior research has suggested that parents' marital disruption process may harm children before the disruption, the present study provides the most direct and rigorous test of this argument. The results clearly

demonstrate that both male and female students from predisrupted families show signs of maladjustment in every indicator of academic progress, psychological well-being, and behavior problems, even after demographic controls are taken into consideration. For male students in such families, the elevated level of marijuana use indicates additional problems. Although these deficits are modest in size, they are highly consistent in pattern, and their magnitudes are similar to those of their postdisruption counterparts, as is well documented by prior cross-sectional research ([Amato & Keith, 1991](#)).

The present study also finds predisrupted families characterized by a dysfunctional family environment. As hypothesized, predisrupted families show consistent signs of dysfunction in every family environment indicator examined. Indeed, these differences account for four out of eight well-being deficits observed in the overall sample, and also that of marijuana use among male adolescents, suggesting that a dysfunctional family environment serves as an important mechanism by which marital disruption process affects children.

It is also interesting to note that deterioration in certain dimensions of family life is associated with different types of well-being problems. [Amato \(1993\)](#) and [Hines \(1997\)](#) have particularly pinpointed parental discord and the consequential deterioration in parent-child relationships as the major causes for predisruption problems. Analyses from this study provide only partial support for this argument. Although interpersonal discord in predisrupted households seems to be most responsible for students' psychological, behavior, and drug problems, it seems to be less important than measures of parental involvement and family resources in accounting for predisruption differences in test scores and educational aspiration. Although such patterns were not hypothesized, they are nevertheless consistent with prior research on child well-being in general. For instance, the deteriorating interpersonal relationships in predisrupted families may increase the chances of children's psychological and behavior problems because children in such conflict-ridden families are often found to exhibit fear and anger ([Cummings, 1987](#)) and because they model parents' aggressive behaviors ([Amato et al., 1995](#)). On the other hand, previous research also has underscored how lack of parental involvement in single-parent homes can be particularly harmful to students' academic progress

([Downey, 1994](#)). Therefore, it is not surprising to find the specific links between certain kinds of well-being problems and certain dysfunctional family circumstances, as identified in the present study.

The importance of predisruption factors is further underlined in analyses of the postdisruption stage. Consistent with previous longitudinal research ([Cherlin et al., 1991](#); [Morrison & Cherlin, 1995](#)), my analyses indicate that most of the negative effects of marital disruption may be accounted for by predisruption factors. In particular, this study compliments Morrison and Cherlin's study by demonstrating that changes in interpersonal relations and parental involvement during this transition period are important mediators of several remaining effects. These findings challenge previous cross-sectional studies by suggesting that the actual experience of disruption per se may cause either little or relatively limited additional damage in various areas of children's lives. One possible explanation suggests that these findings may simply reflect a selection effect. Compared with parents that remain continuously married, parents who later divorce are more likely to have various sorts of marital problems (e.g., personal, sexual, psychological, or financial) throughout their marriage, and these problems continue to affect children negatively. Given the persistence of these problems, the actual divorce or separation may actually reduce the face-to-face interparental confrontations and emotional stress associated with such confrontation, resulting in relatively little further damage to child well-being.

Finally, although several previous studies (e.g., Block et al., 1985; [Morrison & Cherlin, 1995](#)) have concluded that marital disruption affects boys more than girls, my analyses suggest that girls are equally vulnerable. One possible explanation for such a discrepancy lies in differences in children's ages at the disruption. Although previous studies included children who experience marital disruption at their early developmental stages (e.g., approximately 6.5 years old in Morrison & Cherlin), the average age at disruption in this study is approximately 16. This places the offspring in this study in a quite different group in which the transitions in family structure coincide with their own transitions to adulthood. Clearly, parents' marital disruption puts a substantial amount of additional stress on adolescents of both genders. Although [Zaslow & Hayes \(1986\)](#) suggested

that girls may be more resilient than boys in handling stress derived from marital disruption, it is possible that such resilience weakens as girls reach this crucial period and are overwhelmed by dramatic changes occurring simultaneously in many dimensions of their lives.

Several cautions need to be noted when interpreting the findings. First, given the fact that the predisruption status is prospectively created in this study and is highly correlated with a deterioration in family environment measures, it is possible that a dysfunctional family environment causes both later disruption and postdisruption damage to children. Although this model is certainly conceptually sound, the model is not directly tested here, in part because it is not a primary goal of this study to identify potential causes of divorce. More important, the model implicitly ignores the predisruption differences in child outcomes. To test such differences empirically, it is essential to assume the differences between predisrupted and continuously married families as they are conceptualized in this study.

Second, the age of children at disruption is almost always correlated with the age (and other demographic characteristics) of parents at disruption. Because parents in this study experience disruption when their children are approximately 16 years old, they are more likely to be White, older, and better off economically than those who divorce shortly after marriage. Therefore, although the sample in this study is still nationally representative, it represents a special type of family that remains intact until their children are adolescents. Consequently, it is not clear whether findings from this study can be generalized to children in households in which the parents' marriage is relatively short lived. Future studies with appropriate data can examine whether differences exist in these two kinds of families.

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**References** [Return to TOC](#)

Allison, P. D. (1990). Change scores as dependent variables in regression analysis: In C. Clogg (Ed.), *Sociological methodology* (Vol. 20, pp. 93–114). Oxford: Blackwell.

Amato, P. R. (1987). Family processes in one-parent, stepparent, and intact families: The child's point of view: *Journal of Marriage and Family*., 49, 327–337.

Amato, P. R. (1993). Children's adjustment to divorce: Theories, hypotheses, and empirical support: *Journal of Marriage and Family*., 55, 23–38.

Amato, P. R., and B. Keith. (1991). Parental divorce and adult well-being: A meta-analysis: *Journal of Marriage and Family*., 53, 43–58.

Amato, P. R., L. Loomis, and A. Booth. (1995). Parental divorce, marital conflict, and offspring wellbeing during early adulthood: *Social Forces*., 74, 895–915.

Becker, G. S. (1962). *Human capital*: Chicago: University of Chicago Press.

Block, J., J. Block, and P. Gjerde. (1986). The personality of children prior to divorce: A prospective study: *Child Development*., 57, 827–840. [[PubMed Citation](#)]

Chase-Lansdale, P. L., and E. M. Hetherington. (1990). The impact of divorce on life-span development: Short- and long-term effects: In D. L. Featherman & R. M. Lerner (Eds.), *Life-span development and behavior* (Vol. 10, pp. 105–150). Hillsdale, NJ: Erlbaum.

Cherlin, A., F. Furstenberg, P. Chase-Lansdale, K. Kiernan, P. Robins, D. Morrison, and J. Teitler. (1991). Longitudinal studies of effects of divorce on children in Great Britain and the United States: *Science*., 252, 1386–1389. [[PubMed Citation](#)]

Cummings, M. E. (1987). Coping with background anger in early childhood: *Child Development.*, 58, 976–984. [[PubMed Citation](#)]

Demo, D. H., and A. C. Acock. (1988). The impact of divorce on children: *Journal of Marriage and Family.*, 50, 619–648.

Doherty, W. J., and R. H. Needle. (1991). Psychological adjustment and substance use among adolescents before and after parental divorce: *Child Development.*, 62, 328–337. [[PubMed Citation](#)]

Downey, D. (1994). The school performance of children from single-mother and single-father families: Economic or interpersonal deprivation?: *Journal of Family Issues.*, 15, 129–147.

Duncan, G. J., and S. D. Hoffman. (1985). A reconsideration of the economic consequences of marital disruption: *Demography.*, 22, 485–489. [[PubMed Citation](#)]

Hines, A. M. (1997). Divorce-related transitions, adolescent development, and the role of the parent-child relationship: A review of the literature: *Journal of Marriage and Family.*, 59, 375–388.

Little, R., and D. B. Rubin. (1987). *Statistical analysis with missing data*: New York: Wiley.

Morrison, D. R., and A. J. Cherlin. (1995). The divorce process and young children's well-being: A prospective analysis: *Journal of Marriage and Family.*, 57, 800–812.

Rubin, D. B. (1987). *Multiple-imputation for nonresponses in survey*: New York: Wiley.

Schafer, J. L., and M. K. Olsen. (1998). Multiple imputation for multivariate missing-data problems: A data analyst's perspective: *Multivariate Behavioral Research.*, 33, 545–571.

Sun, Y. (1998). The academic success of East-Asian-American students: An investment model: *Social Science Research*, 27, 432–456.

Sun, Y. (1999). The contextual effects of community social capital on academic performance: *Social Science Research*, 28, 403–426.

Sun, Y., and Y. Li. (2001). Marital disruption, parental investment and children's academic achievement: A prospective analysis: *Journal of Family Issues*, 22, 27–62.

Teachman, J. D., K. Paasch, and K. Carver. (1997). Social capital and the generation of human capital: *Social Forces*, 75, 1343–1459.

White, L. K. (1990). Determinants of divorce: A review of research in the eighties: *Journal of Marriage and Family*, 52, 904–912.

Zaslow, M. J., and C. D. Hayes. (1986). Sex differences in children's responses to psychosocial stress: Toward a cross-context analysis: In U. Lamb, A. Brown, & B. Rogoff (Eds.), *Advances in developmental psychology* (pp. 285–337). Hillsdale, NJ: Erlbaum.

Table 1. Descriptive Statistics of Variables

Variables	Descriptions	<i>M</i> <sup>a</sup>	<i>SD</i> <sup>a</sup>	<i>N</i>
Family environment				
Interpersonal relation				
1990 parent-parent relation	Parents got along with each other: 0 = false; 5 = true	4.08	1.19	10,088
1990 father-child relation	Student got along with father: 0 = false; 1 = true	0.88	0.33	10,088
1990 mother-child relation	Student got along with mother: 0 = false; 1 = true	0.91	0.28	10,088
1992 parent-parent relation	Same as 1990	4.02	1.27	10,088
Parental involvement				
1990 father's educational expectation	Father's educational expectation: 1 = less than HS; 2 = HS; 3 = some postsecondary; 4 = 2-year college; 5 = 4-year college graduate; 6 = graduate school	4.65	1.11	10,088
1990 mother's educational expectation	Mother's education expectation: 1 = less than HS; 2 = HS; 3 = some postsecondary; 4 = 2-year college; 5 = 4-year college graduate; 6 = graduate school	4.67	1.09	10,088
1990 doing things with parents	Frequency of doing things with parents: 0 = rarely or never; 1 = less than once a week; 2 = once or twice a week; 3 = almost every day	1.88	0.96	10,088
1990 parent-child discussion <sup>b</sup>	Frequency of parent-child discussion about (a) selecting courses, (b) school activities, (c) things studied in class, (d) student's grade; (e) college: 0 = talked about none of the above; 10 = talked about each topic frequently	5.85	2.29	10,088
1990 attendance at school event	Frequency of parent attending school-related events in the first half of the year: 0 = never; 1 = 1 to 2 times; 2 = three times or more	0.99	0.87	10,088
1992 father's educational expectation	Same as 1990	4.79	1.16	10,088
1992 mother's educational expectation	Same as 1990	4.83	1.13	10,088
1992 doing things with parents	Same as 1990	1.91	0.97	10,088
1992 parent-child discussion <sup>b</sup>	Same as 1990	5.46	2.45	10,088
Economic/human resources				
Annual family income	Annual family income measured in 1988: 1 = no income; 15 = > \$200,000	10.33	2.19	10,088
Parent educational attainment	Parent educational attainment: 1 = less than HS; 2 = HS or General Education Diploma; 3 = beyond HS but no 4-year college degree; 4 = 4-year college graduate; 5 = master's; 6 = PhD	3.21	1.26	10,088
Parental occupational prestige	The average of both parent's occupational prestige measured by prestige scale provided by NCES <sup>c</sup>	44.53	19.98	10,088
Changes in family environment				
Changes in parent relation	Net change in parent-parent relation between waves	-0.06	1.25	10,088
Change in father's expectation	Net change in father's educational expectation between waves	0.14	1.10	10,088
Change in mother's expectation	Net change in mother's educational expectation between waves	0.15	1.07	10,088
Change in doing things	Net change in frequency of doing things with one's parents between waves	0.03	1.07	10,088
Change in discussion	Net change in frequency of parent-child discussion about school-related issues between waves	-0.39	2.35	10,088

Note: *Source*: National Education Longitudinal Study (NELS; 1988).

<sup>a</sup>Means and standard deviations are weighted by the first and second follow-up panel weights. <sup>b</sup>Multiitem composites; alphas for 1990 and 1992 waves: academic readiness = 0.66, 0.71; self-esteem = 0.82, 0.86; locus of control = 0.72, 0.75; student-reported behavioral problems = 0.65, 0.67; teacher-reported problems = 0.71, 0.68; parent-child discussion = 0.78, 0.81. <sup>c</sup>See NELS, 1994, for descriptions of psychological indicators. <sup>d</sup>IRT = item response theory. <sup>e</sup>NCES =

Table 2A. Unstandardized Regression Coefficients from Regressions of 1990 Well-Being Indicators on Disruption Status in Different Models

Independent Variables	1990 Well-Being Indicators										
	1990 IRT <sup>a</sup> Math score	1990 IRT <sup>a</sup> Reading score	Educa- tional Aspiration	Academic Readiness	Self- Concept	Locus of Control	Student- Reported Behavior Problems	Teacher- Reported Behavior Problems	Cigarette Use	Alcohol Use	Marijuana Use
Model 1											
Disruption status	-5.67***	-3.64***	-0.36***	-0.15*	-0.35**	-0.43***	0.59***	0.68***	-0.03	0.00	0.03
Model 2 (Model 1 + controls) <sup>b</sup>											
Disruption status	-4.30***	-2.70***	-0.29***	-0.12*	-0.43***	-0.38***	0.60***	0.59***	-0.01	0.04	0.04
Gender (female status)	-0.12	2.06***	0.21***	0.55***	-0.90***	0.29***	-0.26***	-0.58***	-0.06**	-0.11***	-0.04**
Asian American	1.64*	-1.69***	0.14*	0.09	-0.41*	-0.71***	-0.68***	-0.48***	-0.21***	-0.36***	-0.13***
African American	-9.12***	-5.55***	-0.10*	0.02	0.87**	-0.24*	-0.26*	0.58***	-0.31***	-0.52***	-0.13***
Hispanic American	-8.77***	-5.69***	-0.36***	-0.28***	-0.14	-0.39***	0.77***	0.78***	-0.09*	0.05	0.01
Indian American	-11.58***	-8.75***	-0.43***	-0.46**	0.51	-0.48	1.09***	1.59***	0.01	-0.06	0.03
Urban residence	-0.14	0.28	-0.02	0.10*	0.19*	0.06	0.14	-0.15*	0.04	-0.05	0.00
Rural residence	-1.93***	-1.30***	-0.33***	0.14***	-0.21**	-0.24***	-0.48***	-0.13**	0.03	0.01	-0.05**
Catholic school	3.25**	2.96***	0.56***	0.15*	0.45**	0.52***	-0.45***	-0.11	-0.06	0.16***	-0.10***
NAIS <sup>c</sup> private school	11.01***	7.91***	0.94***	-0.33*	1.58***	1.24***	-0.79***	-0.42*	-0.10	0.08	0.03
Non-NAIS <sup>c</sup> private school	0.28	1.81***	0.17*	0.12	-0.11	0.49**	-0.12	-0.03	-0.08	-0.28***	-0.15***
North-central residence	0.04	-0.66*	-0.08*	0.12*	-0.34**	-0.25**	-0.66***	-0.12	0.12***	0.13***	-0.07***
Northeast residence	0.62	0.46	0.04	0.11*	0.01	-0.15	-0.52***	-0.30***	0.08**	0.15***	-0.10***
South residence	-2.10***	-1.37***	-0.06	0.00	0.00	-0.16	-0.82***	-0.08	0.11***	0.04	-0.08***
Model 3 (Model 2 + interaction effect) <sup>b</sup>											
Disruption status	-4.12***	-3.01***	-0.27***	-0.09	-0.45*	-0.24	0.48***	0.64***	-0.06	0.11*	0.09**
Gender (female status)	-0.09	2.01***	0.21***	0.56***	-0.90***	0.32***	-0.28***	-0.57***	-0.07***	-0.10***	-0.03*
Disruption status × gender	-0.36	0.67	-0.04	-0.05	0.05	-0.30	0.24	-0.11	0.12	-0.14	-0.11*

<sup>a</sup>IRT = item response theory. <sup>b</sup>In Models 2 and 3, the reference groups are White, public-school students, living in suburban areas in Western states. <sup>c</sup>NAIS = National Association of Independent Schools.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (two-tailed tests).

Table 2B. Unstandardized Regression Coefficients and Odds Ratios From Regressions and Logistic Regressions of 1990 Family Environment Indicators on Disruption Status in Different Models

Independent Variables	1990 Family Environment Indicators										
	Parents Gets Along w/Each Other	Child Gets Along With Father <sup>b</sup>	Child gets Along With Mother <sup>b</sup>	Father's Expectation	Mother's Expectation	Doing Things With Parents	Parent-Child Discussion	Parents Attend School Events	Annual Income	Parents' Education Attainment	Parents' Occupational Prestige
Model 1											
Disruption status	-0.48***	0.68***	0.73**	-0.28***	-0.28***	-0.18***	-0.27**	-0.17***	-0.98***	-0.35***	-5.52***
Model 2 (Model 1 + controls) <sup>a</sup>											
Disruption status	-0.45***	0.71**	-0.74*	-0.24***	-0.25***	-0.19***	-0.27**	-0.14***	-0.70***	-0.22***	-3.37***
Gender (female status)	-0.05	0.85**	0.72***	0.15***	0.13***	0.20***	0.49***	0.00	-0.08	-0.07*	-0.74
Asian American	-0.14*	0.83	0.88	0.21***	0.21***	-0.15**	-0.56***	-0.32***	-0.49***	0.19**	-0.18
African American	-0.12	0.53***	0.82	-0.05	-0.02	0.04	0.07	-0.06	-1.25***	-0.36***	-9.05***
Hispanic American	-0.08	0.76**	1.18	-0.05	-0.06	-0.23***	-0.53***	-0.30***	-1.81***	-0.97***	-15.50***
Indian American	0.02	0.40***	0.51*	-0.14	-0.11	-0.24*	-0.46	-0.36***	-1.02***	-0.55***	-7.01*
Urban residence	-0.05	0.94	1.00	-0.02	0.03	0.06*	-0.06	-0.14***	-0.27***	-0.04	-1.19
Rural residence	-0.01	1.03	1.10	-0.29***	-0.23***	0.06*	-0.37***	0.05*	-0.90***	-0.37***	-6.69***
Catholic school	0.06	1.12	0.91	0.46***	0.45***	0.03	0.39***	0.31***	0.86***	0.42***	6.59***
NAIS <sup>c</sup> private school	0.35***	1.53**	0.95	0.85***	0.81***	0.07	0.61***	0.55***	2.57***	1.35***	12.44***
Non-NAIS <sup>c</sup> private school	0.26**	1.29	1.00	0.13	0.08	-0.21***	-0.26*	-0.03	0.88***	0.84***	8.03***
North-central residence	-0.05	0.93	0.82	-0.06	-0.05	0.03	-0.31***	0.11***	-0.16*	-0.14***	-2.65***
Northeast residence	0.03	1.24*	1.40**	0.03	0.03	0.03	-0.13	-0.04	0.50	-0.05	-0.74
South residence	0.00	1.14	1.08	-0.03	-0.02	0.12***	-0.02	-0.01	-0.09	-0.13**	-0.44
Model 3 (Model 2 + interaction effect) <sup>a</sup>											
Disruption status	-0.42***	0.72*	0.64**	-0.30***	-0.29***	-0.17**	-0.19	-0.14***	-0.61***	-0.20**	-3.20**
Gender (female status)	-0.05	0.81**	0.70***	0.14***	0.12***	0.20***	0.50***	0.00	-0.07	-0.06*	-0.71
Disruption status × gender	-0.07	0.89	1.28	0.11	0.09	-0.02	-0.16	0.01	-0.18	-0.03	-0.35

<sup>a</sup>In Models 2 and 3, the reference groups are White, public-school students, living in suburban areas in Western states. <sup>b</sup>Odds ratios predicted by logistic regressions. <sup>c</sup>National Association of Independent Schools.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (two-tailed tests).

Table 3. Unstandardized Regression Coefficients From Regressions of 1990 Well-Being Indicators on Disruption Status and Family Environment Measures in Different Models

Children's Well-Being at the Predisruption Stage									
Overall Sample									
Independent Variables	Math Score	Reading Score	Educational Aspiration	Academic Readiness	Self-Concept	Locus of Control	Student-Reported Behavior Problems	Teacher-Reported Behavior Problems	Male Sub-Sample Marijuana Use
Model 5 (Model 1 and all family environment measures)									
Disruption status	-2.16*** [-39%]	-1.56*** [-42%]	-0.02 [-93%]	-0.02 [-83%]	0.04 [-100%]	0.05 [-100%]	0.43*** [-28%]	0.39*** [-34%]	0.05 [-38%]
Parents get along	-0.06	0.11	0.00	0.11***	0.46***	0.32***	-0.17***	-0.10***	-0.03**
Student gets along w/father	0.71	-0.55	-0.04	0.15***	0.61***	0.59***	-0.60***	-0.22*	-0.11
Student gets along w/mother	0.48	0.26	0.08*	0.18*	0.83***	0.40***	-0.42**	-0.29**	-0.16*
Father's expectation	2.20***	1.50***	0.33***	0.07	0.10	0.22***	-0.06	-0.15***	-0.01
Mother's expectation	1.45***	0.89***	0.32***	0.01	0.14*	0.05	-0.04	-0.11*	-0.02
Doing things with parents	0.93***	0.63***	0.06***	0.08***	0.42***	0.31***	-0.17***	-0.09***	-0.01
Parent-child discussion	-0.14	0.12*	0.07***	0.09***	0.16***	0.16***	-0.13***	-0.03*	-0.02***
Attending school events	0.95***	0.12	0.13***	0.04	0.17***	0.23***	-0.27***	-0.08**	-0.04***
Annual family income	0.43***	0.24***	0.04***	-0.03*	0.01	0.06**	0.11***	0.02	0.02**
Parental educational attainment	2.20***	1.46***	0.09***	-0.01	-0.04	0.01	-0.13***	-0.17***	0.00
Parental occupational prestige	0.04***	0.03***	0.01***	0.00	0.00	0.00	0.01*	0.00	0.00
R <sup>2</sup>	0.33	0.28	0.54	0.09	0.17	0.17	0.13	0.13	0.07
N in each of five models	9,519	9,530	9,999	9,758	9,459	9,448	10,085	8,741	4,186

<sup>a</sup>Coefficients of disruption status in Model 1 serve as baseline. Percentage changes in coefficients from Model 1 are in brackets. <sup>b</sup>Demographic controls included in all models are gender, race, residential location, school affiliation, and geographic regions.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (two-tailed tests).

Table 4. Unstandardized Regression Coefficients from Regressions of 1992 Well-Being Indicators on Disruption Status and Changes in Family Environment in Different Models

Children's Well-Being at the Crisis Stage

Academic Readiness	Self-Concept	Locus of Control	Student-Reported Behavior Problems	Teacher-Reported Behavior Problems	Cigarette Use	Alcohol Use	Marijuana Use
-0.10 <0.01	-0.34* <0.01	-0.56*** <0.01	0.45*** <0.01	0.94*** 0.01	0.06 <0.01	0.07 <0.01	0.07* <0.01
-0.02 [-80%] 0.13	-0.16 [-53%] 0.28	-0.32** [-43%] 0.22	0.20* [-56%] 0.27	0.73*** [-22%] 0.16	0.07 [17%] 0.42	0.04 [-43%] 0.32	0.07* [0%] 0.25
0.04 [< -100%] 0.15	-0.03 [-91%] 0.30	-0.14 [-75%] 0.24	0.15 [-67%] 0.30	0.70*** [-26%] 0.19	0.07 [17%] 0.43	0.06 [-14%] 0.35	0.07* [0%] 0.28
0.12 [-100%] 0.07*** 0.06 0.09* 0.07** 0.08*** 0.17	0.39** [-100%] 0.34*** 0.13 -0.03 0.30*** 0.16** 0.33	0.19 [-100%] 0.27*** 0.11 0.01 0.22*** 0.11*** 0.27	0.01 [-98%] -0.11*** -0.19*** 0.04 -0.12*** -0.11*** 0.31	0.65*** [-31%] -0.03 -0.07 0.04 -0.05 -0.04** 0.19	0.04 [33%] -0.01 -0.06** 0.00 -0.05*** -0.02*** 0.44	0.04 [-43%] 0.02** -0.01 0.00 -0.01 -0.02*** 0.36	0.04 [-43%] -0.02* -0.01 0.00 -0.01 -0.02*** 0.28
0.04 0.34*** 0.18 0.17 9,205	0.30 -0.54*** 0.18 0.33 8,414	0.11 0.24*** 0.15 0.27 8,403	0.03 -0.04*** -0.04 0.31 9,406	0.82*** -0.48*** -0.39 0.19 5,371	0.11* -0.05** -0.14 0.44 8,551	0.06 -0.20*** -0.05 0.36 7,437	0.03 -0.08*** 0.02 0.28 7,069