

## MARITAL DISRUPTION, CONFLICT, AND THE WELL-BEING OF CHILDREN

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### INTRODUCTION

Recent studies using longitudinal data have revealed that many of the problems experienced by children of divorce can be traced to experiences that actually predated break-up of the marriage (Block et al., 1986; Baydar, 1988; Cherlin et al., 1991; Morrison and Cherlin, 1992). Family conflict is key among the predisruption factors that affect child well-being. Indeed, some researchers have shown that parental discord can be more disruptive to children than divorce or the loss of a father (see Grych and Fincham, 1990; Peterson and Zill, 1986). Children living in high conflict two-parent families manifest more social, emotional, and behavioral problems than children living in single parent families with minimal conflict (Hess and Camara, 1979; Rutter, 1971). Moreover, results from a recent study by Amato, Spencer, and Booth (1993) suggest that the effects of marital disruption vary according to the level of marital conflict that existed before the divorce.

Using longitudinal data from a study of marital instability over the life-course, Amato et al. showed that divorce had a *salutary* effect on the well-being of young adults in families with high levels of conflict before the disruption, but a *negative* effect on those whose level of predisruption conflict was less severe. However, with its focus on youth ages 19 or older, the Amato et al. study provides no evidence for whether there is a significant interaction between conflict and disruption for younger children, a group for whom the negative effects of marital disruption appear to be particularly salient (e.g., Morrison and Cherlin, 1992; Zill, Morrison, and Coiro, 1993, Block et al., 1986). Further, Amato et al. studied outcomes for young adults up to twelve years after the occurrence of parental separation or divorce and the measurement of pre-disruption conflict. Thus, it is unclear whether the shorter-term effects of marital break-up also depend on parental marital quality prior to divorce.

In this paper, we attempt to replicate the findings of Amato et al. for younger children of divorce, ranging in age from 5 to 11, observed while still within the two-year span known as the "crisis

period" of marital disruption. Our investigation will examine whether the effect of marital disruption on children depends on the level of parental conflict and the degree of mother-reported marital happiness that preceded the break-up. We use longitudinal data from the 1988 and 1990 waves of a national data base, the National Longitudinal Survey of Youth - Child Supplement (NLSY-CS). We examine two measures of ability in 1990 -- mathematics aptitude and word recognition and pronunciation ability -- as well as behavior problems. In addition to our interest in a conflict-disruption interaction, we also seek to determine whether the negative effect of disruption on boys' behavior problems and academic achievement documented in a previous analysis of the NLSY-CS data (Morrison and Cherlin, 1992) will remain even with explicit controls for pre-disruption conflict.

Using a prospective design, we identify a sample of 1427 children in intact families in 1988 and measure levels of inter-parental conflict and marital quality at that time. Next, we group children according to whether they experienced a subsequent disruption of their parents' marriages, and use these marital quality and conflict variables in conjunction with controls for socioeconomic status to predict to children's outcomes. To examine whether the effect of disruption varies by the level of marital conflict, we include interaction terms. Because of documented differences in the way that boys and girls respond to psychosocial stress (Zaslow and Hayes, 1986), and evidence that marital turmoil is more strongly related to boys' than girls' maladaptive behavior (Emery, 1982) we conduct our analyses separately by sex. Sixty-eight boys and 90 girls experienced marital disruption between 1988 and 1990 in our sample.

## **BACKGROUND**

Over a million children are affected by divorce each year, and there is considerable evidence that children in divorced families fare less well than their intact counterparts. For example, using the National Health Interview Survey (NHIS), a nationally representative sample of households, Zill and

Schoenborn (1988) documented that 14 percent of children with divorced parents needed psychological help in the last year, according to their parents, and 13 percent reported that their child actually saw a psychiatrist or psychologist in the past, compared to only 6 and 5.5 percent, respectively, for children in two-parent families.

Children in disrupted families also tend to score less favorably than children in two-parent families on measures of physical health and well-being (e.g., Dawson, 1991; Mauldon, 1988). Dawson (1991) found an increased risk of accidents, injuries and poisoning, and elevated scores for health vulnerability, for divorced children in comparison to those living with both biological parents. Children in disrupted families also have slightly lower scores on standardized measures of academic achievement (Amato and Keith, 1991) and are rated less-favorably by their teachers than children in intact families (Guidubaldi, Perry and Cleminshaw, 1984). Furthermore, the experience of parental divorce as a child is a significant predictor of the experience of difficulties in one's own marriages (Kulka and Weingarten, 1979) and of divorce (Pope and Mueller, 1979).

Since marital disruption is not a static event, but a process that is set in motion well before physical separation occurs, researchers are increasingly interested in the negative family processes that may exist prior to disruption and account for some of the apparent effects of divorce. In fact, a number of recent prospective studies have shown that some of the observed differences between children in divorced and intact families are attributable to factors that pre-date the disruption. For example, during the course of a 15-year study, Block et al. (1986) found that when adolescent boys from disrupted families were compared with those who remained in intact families, many exhibited behavior problems not only after the divorce, but also some 11 years before the break-up. At ages 3, 4, and 7 boys from families that eventually disrupted were already observed to be aggressive, uncompliant, uncooperative; and they tended to become anxious when their environments became unpredictable (Block et al., 1986; pp. 832-3).

In addition, Doherty and Needle (1991) found that adolescent girls from disrupted families showed greater substance abuse and lower psychological adjustment, in comparison to girls from families that remained intact, even before their parents separated. Moreover, these levels of adjustment and abuse did not increase after the separation. Boys from disrupted families also were showing lower psychological adjustment and greater substance abuse before the separation, but boys' difficulties increased subsequent to divorce, especially for substance abuse. Baydar (1988) analyzed two waves of the National Survey of Children (NSC) and found that the experience of parental separation had only modest, statistically non-significant effects when measures of children's prior well-being were taken into account. Finally, using longitudinal data from both Great Britain and the United States, Cherlin et al. (1991) showed that a large proportion of the behavior problems observed in boys following divorce could be attributed to pre-divorce characteristics of the boys and their families.

Prominent among the factors assumed to affect children's well-being prior to the actual physical separation that accompanies divorce is inter-parental conflict. Parental marital conflict is negatively associated with a variety of indicators of children's maladjustment including conduct disorders, anxiety, and aggression (see Emery, 1988 for a review). Some researchers have shown that the effects of parental conflict can be more harmful to children than parental absence through death or divorce (Mechanic and Hansell, 1989; Emery, 1982; Hetherington, Cox, and Cox, 1981; Peterson and Zill, 1986). For example, in a longitudinal study of adolescents, Mechanic and Hansell (1989) found that those in high-conflict intact families had significantly poorer well-being than those in low-conflict divorced families.

In the current study we view conflict as a multi-dimensional construct because it can vary in terms of content, frequency, intensity, process and resolution (e.g., Emery, 1982; Grych and Fincham, 1990). There is also variation in the extent to which children are exposed to, or shielded from interparental conflict. Not all exposure to conflict is assumed to be harmful to children, however.

Researchers who study the association between conflict and child problems have attempted to identify the aspects of interparental conflict that have the most important effects on child well-being.

There is some evidence that the greater the *amount* of conflict, the more it potentially exposes children to negative parental interactions, and the more problematic it is for the child (e.g., Porter and O'Leary, 1980). In addition, *prolonged exposure* to inter-parental conflict is associated with greater levels of behavior problems in children (e.g., Johnston et al., 1987). Since spousal arguments can also vary in *intensity* -- ranging from calm discussions to openly hostile, even physically violent exchanges, researchers have also examined the effect of the degree of verbal and physical aggression which characterizes the conflict. Cummings et al. (1981) found that children express greater distress when witnessing video tapes depicting physical aggression between adults than when they observe verbal anger. Children may be less distressed by conflict that has a *satisfactory resolution* than by turmoil that is not successfully resolved (Grych and Fincham, 1990). In fact, disagreements that are effectively resolved can teach children strategies for solving problems in their own lives. Finally, the *content* of the conflict may affect children's responses -- children may be more upset by topics related to themselves or the state of their parents' marriage than by less threatening subjects (Grych and Fincham, 1990).

There are a variety of mechanisms through which inter-parental conflict may affect children, both direct and indirect (Grych and Fincham, 1990). Researchers suggest that parents engaged in conflict are probably less consistent in the discipline they provide, have disrupted bonds of attachment with their children, serve as models for negative behavior for their children, and place their children under emotional and cognitive stress (Emery, 1982; Long and Forehand, 1987; Grych and Fincham, 1990).

While the marital disharmony that often precedes separation and divorce may account for some of the poorer functioning observed among children of divorce, it may not explain all of it. Divorce is

typically accompanied by a process of family reorganization that includes changes in the parent-child relationship, household routines and living arrangements, socioeconomic circumstances, and social support systems. Focusing on children in intact families in 1986 and examining the consequences of divorces that occurred between 1986 and 1988, Morrison and Cherlin (1992) found that, unlike previous prospective studies, the estimated effect of disruption<sup>1</sup> remained virtually the same even when they controlled for antecedent measures.<sup>2</sup> While this finding seemed to suggest that most of the explanation for the post-disruption difficulties we observed in boys could be attributed to the experience of the disruption itself, it may be that explicit measures of pre-disruption marital conflict would have altered the apparent effect of divorce.

In addition to main effects of marital disruption and conflict, it may also be possible that the two processes interact. Amato et al. (1993) showed that higher levels of pre-disruption conflict were accompanied by more favorable outcomes for young adults, suggesting that the youth were better off to be removed from a highly negative situation. Youth in low-conflict homes prior to disruption are presumably surprised, and less well prepared for their parents' break-up and so adapt less favorably. One could reasonably argue, however, that the opposite may be true. High inter-parental conflict may accompany serious difficulties such as alcoholism, drug abuse, and infidelity. These types of problems may represent bigger obstacles to adjustment for children than would lower conflict marriages that are ended due to personal incompatibility, for example.

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<sup>1</sup> Marital disruption was associated with increases in behavior problems on the order of a third of a standard deviation before predisruption characteristics were considered.

<sup>2</sup> Even before pre-disruption characteristics were introduced into models predicting post-disruption child well-being, divorce had little effect on girls; and the introduction of pre-disruption characteristics reduced the effects to near zero.

The availability of several measures of marital conflict and marital quality (happiness and communication) in the NLSY-CS, a national data base of young children, provides a unique research opportunity to examine the independent and joint effects of marital disruption and conflict.

## **DATA AND METHODS**

### **Data**

We use the NLSY-Child Supplement, a large-scale longitudinal data set, to explore the relation between pre-disruption marital conflict and child well-being in the aftermath of divorce. The NLSY is a longitudinal survey of American youth who were 14 to 21 when the study began in 1979, and who have been followed annually. The sample includes an over-representation of blacks and Hispanics. The study contains a wide range of variables including family background; maternal marital, fertility, and employment histories; education and employment of family members; and household composition. In 1986, when the subjects were 21 to 29, the NLSY data collection effort included a substantial battery of assessments of the children of the roughly 3,000 women who had given birth. The children were reassessed in 1988, 1990, 1992, and are currently being assessed for 1994. The current sample is drawn from the 1988 and 1990 waves.

### **Sample**

The sample for the current study is limited to children in two-biological-parent, intact families in 1988. We exclude children born out-of-wedlock and those for whom parental death or disruption occurred prior to 1988. We eliminate children whose parents died after 1988, and include children ages 5 to 11 in 1990 because the assessments for younger children are very limited and because older children in the NLSY-CS are disproportionately born to teenage mothers. We control for child age in



all multivariate models. Because of previously documented differences in boys' and girls' responses to disruption, we conduct all of our analyses separately by sex.

### **Limitations**

Despite the advantages of the NLSY child data for a longitudinal analysis of the consequences of marital conflict and divorce, there are limitations as well. First, the children in the NLSY are not fully representative of all children in their age group because the NLSY is a random sample of young mothers, not of children. The children included in the present study represent a cross-section of children born to a sample of women who were between the ages of 21 and 28 on January 1, 1986; and therefore they tend to be born to somewhat younger and disadvantaged mothers (especially the oldest children). The average age at first birth for mothers in our sample is 20, while the national average was 23.7 in the late 1980s. It may be that the nature of marital conflict and the process and effects of disruption may differ from children born to older mothers. Second, measures of marital quality and conflict are only available in 1988, precluding analyses of divorces occurring before 1988. In addition, the set of conflict measures available in the NLSY-CS are somewhat limited in scope, as will be discussed later.

## **VARIABLES**

### **Dependent Variables**

We examine the effects of marital dissolution on three measures of child well-being in 1990: the Behavior Problems Index (BPI) and two Peabody Individual Achievement Tests. The BPI contained in the NLSY-Child data comprises 32 items developed by Peterson and Zill (Zill, 1990), primarily from Achenbach's (1978) Child Behavior Checklist. The BPI is administered to children ages 4 or older and measures mothers' reports of the frequency and types of behavior problems manifest by their child.

The 32 items were selected for inclusion in the NLSY test battery because of their demonstrated ability to distinguish children referred for psychological treatment from typical children<sup>3</sup>. The BPI has six sub-scales: antisocial, anxious-depressed, headstrong, hyperactive, immature dependency, and peer conflict-social withdrawal. In the shortened version in the NLSY, however, the internal consistencies of the sub-scales were modest ( $\alpha$ 's ranging from .54 to .69); consequently, we employed a total scale score ( $\alpha$  reliability = .86) (see Chase-Lansdale et al., 1991, Baker & Mott, 1989, and Baydar & Brooks-Gunn, 1991). Using the 1981 National Health Interview Survey - Child Supplement for 15,000 children, Zill (1990) standardized the BPI separately for boys and girls; these norms were used by the NLSY staff to convert raw BPI scores to standard scores with a mean of roughly 100 and a standard deviation of about 15. We use these same-sex standard scores in our analyses. Higher scores on the index indicate a greater level of behavioral problems.

The two achievement measures we use are sub-scales of the Peabody Individual Achievement Test (PIAT). The tests were administered to children ages 5 and over in 1990 and include assessments of mathematics ability and reading recognition. Because of its demonstrably high test-retest reliability and concurrent validity, the PIAT is among the most widely used brief assessments of academic ability (Baker & Mott, 1989). The mathematics subtest measures children's attainment in mathematics consisting of 84 items of increasing difficulty. The items start with early skills, such as the recognition

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<sup>3</sup>The thirty-two items contained in the 1990 version of the Behavior Problems Index are as follows: child has sudden changes in mood or feelings; complains that no one loves him/her; is rather high strung, tense and nervous; cheats or tells lies; is too fearful or anxious; argues too much; has difficulty concentrating, cannot pay attention for long; is easily confused, seems to be in a fog; bullies or is cruel or mean to others; is disobedient at home; does not seem to feel sorry after he/she misbehaves; has trouble getting along with other children; is impulsive, or acts without thinking; feels worthless or inferior; is not liked by other children; has a lot of difficulty getting his/her mind off certain thoughts (has obsessions); is restless or overly active, cannot sit still; is stubborn, sullen, or irritable; has a very strong temper and loses it easily; is unhappy, sad, or depressed; is withdrawn, does not get involved with others; breaks things on purpose, or deliberately destroys his/her own or another's things; clings to adults; cries too much; demands a lot of attention; is too dependent on others; is disobedient at school; has trouble getting along with teachers; feels others are out to get him/her; hangs around with kids who get into trouble; is secretive, keeps himself/herself; worries too much.

of numerals, and progress to more advanced topics in geometry and trigonometry. The reading recognition sub-scale measures word recognition and pronunciation ability. Children read a word silently, then say it aloud. The 84 items included in the sub-scale range from preschool to high school levels. The median test-reliability over one month for the two sub-scales are .74 and .89, respectively. We use the standardized scores for each sub-scale (which approximate a normal distribution), each with a mean of roughly 100 and a standard deviation of roughly 15.

### **Independent Variables**

Means and standard deviations of all variables are included in Table 1. Measurement of key independent variables is described below.

#### *Marital Disruption*

Our measure of family disruption is a dummy variable that indicates the experience of either separation or divorce between the 1988 and 1990 interviews. We used detailed marital histories provided by the mothers (i.e., NLSY youth) in the NLSY 1979-1990 surveys to construct century month indicators of marriages, separations, divorces, reunions, and spousal deaths. We examined the timing of the child's birth in century months within the mother's marital history and constructed dummy variables to indicate the experience of a separation or divorce after the date of the child interview in 1988 (children who experienced separation or divorce prior to 1988 were excluded from our analyses).

#### *Marital Conflict*

In 1988, mothers were asked a series of questions regarding their relationship with their spouse or partner (since we limit our analyses to children in intact families at that time, the reference person

in our study is the spouse). We used these items to develop several measures of marital conflict and quality. Respondents were asked to report the frequency with which they argue about each of nine topics: children, money, chores and responsibilities, showing affection, religion, leisure time, drinking, other women, and her relatives. We used responses to these items to tap two dimensions of interparental conflict, *frequency* -- how often arguments occur -- and *breadth* -- the range of content areas about which arguments occur. We create a combined measure, called *intensity*, that captures both dimensions.

*Frequency.* To create a measure of how often, on average, the mother reported arguing with her spouse, we summed responses (often=3, sometimes=2, hardly ever=1 and never=0) across the nine content areas and divided by nine (observed range: 0.11 to 2.78).

*Breadth.* To create an overall measure of breadth, we recoded each response into yes (1=often or sometimes) and no (0=hardly ever or never) and summed the number of content areas that the mother reported arguing about (range: 0 to 9).

*Intensity.* To create measure that captures both frequency and breadth of conflict, or intensity, we summed responses (often=3, sometimes=2, hardly ever=1 and never=0) for all nine content areas (range: 0 to 27).

We initially included quasi-continuous versions of our conflict measures in multivariate models, but to facilitate interpretation of terms for interactions with marital disruption, we created dummy variables for each. We examined the distribution of each measure and used scores at roughly the 60th to 68th percentile as cut-offs for "high" conflict (coded 1), with lower scores designated as "low" conflict (coded 0). Although these cut-offs allow families with moderate to extreme levels of conflict to both be characterized as high in conflict, we were constrained by our limited number of divorce cases. Table 1 provides the means for our dichotomous marital conflict measures.

### *Marital Quality*

*Marital happiness.* Respondents were asked to rate their degree of happiness with their marital relationship (3=very happy, 2=fairly happy, and 1=not too happy). We use this single item as a measure of marital happiness. For our multivariate models we created a dichotomous version in which "fairly" and "very happy" are designated as "high" on marital happiness (coded 1), and "not too happy" is considered "low" (coded 0). Unlike our marital conflict measures, a high score on our marital happiness measure is a *positive* rating.

*Marital communication.* In 1988, mothers also reported how often they and their partners do each of the following: calmly discuss something, laugh together, and tell each other about their day. Responses included almost every day, once or twice a week, once or twice a month, and less than once a month. We loosely refer to the combination of these items as marital communication. So that like our conflict measures, a high score on this measure would be unfavorable, we assigned the highest value to the "less than once a month" category for each item, and summed the three responses. We created a dichotomous version of this variable where "poor" communication is coded 1 and more frequent communication is coded 0.

Despite the unique research opportunity that the availability of each of our marital conflict and quality measures provide, their limitations must be noted. First, the items provide us with no indication of the *process* by which disagreements in each of the topic areas are resolved. For example, are arguments calm and amicably resolved? Are they heated, openly hostile, even physically violent? Moreover, from these items we are not able to ascertain the extent to which children were exposed to the arguments their mothers reported. Furthermore, these measures of conflict are from a single rater, the mother. Ideally, one would also have reports about parental conflict from her spouse or the children themselves.

### *Control Variables*

We include a variety of measures intended to account for family circumstances prior to disruption. Child measures include the child's birth order, race/ethnicity and age at the 1990 assessment.

Our maternal control variables include the mother's years of completed education as of 1988; her score on the Armed Forces Qualifying Test (AFQT) in 1979, which is a subset of the Armed Services Vocational Aptitude Battery (ASVAB), a test of achievement; the number of children she had as of 1988; her total family income for the prior year, as reported in the 1988 interview; and family poverty status in 1988.

## **METHODS**

We used OLS regression to estimate a series of models in which we incrementally include measures of disruption, marital conflict and quality, and then the interaction of disruption and these measures. All analyses controlled for pre-disruption characteristics of children and their families.

We recognize that our restriction of the models to children born within wedlock and living in intact families in 1988 may limit the generalizability of our results. That is, sample selectivity could occur to the extent that there are unmeasured characteristics that affect both the child outcome measures in 1990 and the likelihood that the child would be residing in a two-parent family in 1988.<sup>4</sup> We plan to address the problem of selectivity statistically by estimating selection models (Maddala, 1983) that attempt to take into account these unobservables. We estimated selection models in a previous analysis

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<sup>4</sup>Black and Hispanic children were eliminated disproportionately from our analysis because of their families' higher propensity of have births out of wedlock and to separate or divorce. However, we were able to include a measure of race and Hispanic ethnicity in our equations. The sample selection bias procedure described next in the text attempts to correct for any unmeasured characteristics that were correlated with both race/ethnicity and children's behavior problems and achievement.

of the NLSY-CS which was similar in design to the current one, and found that the results of these models did not differ substantively from those generated by OLS regression (Morrison and Cherlin, 1992).

The NLSY child sample also includes siblings, which creates a potential problem of non-independence in our estimates. In a previous analysis using these same data and examining disruptions in the interval between 1986 to 1988 (Morrison and Cherlin, 1992), we tested for non-independence by re-estimating all of our models for a sub-sample containing one randomly selected boy per family for the models estimated for boys, and one randomly selected girl per family for models estimated for girls. The estimates we obtained from this procedure -- limiting models to one child per family -- did not vary in pattern, and generally did not vary in magnitude from those we obtained including all children. We have not yet verified this to be the case in our current analysis, but feel it is safe to assume that the same pattern will be observed.

A noteworthy advantage of the current data is that the disruptions we examine are contemporary. We have a unique opportunity to examine the consequences for children of divorces that occurred recently -- between 1988 and 1990 -- during an historical period when rates of divorce in the nation are high.

## **RESULTS**

We begin with a bivariate examination of whether the apparent effects of marital disruption differ according to the level of inter-parental conflict that preceded the break-up (Table 2). We restrict our analysis to the 1427 children in married two-parent families in 1988, and classify boys and girls as high or low according to three dimensions of their mothers' reported level of marital conflict in 1988: 1) frequency, 2) breadth, and 3) intensity, and whether their parents were divorced or remained married between 1988 and 1990. For each group, we present the percent of children classified with more

behavior problems and lower math and reading achievement scores than average. Our cut-off was one-half a standard deviation from the mean score. Appendix Tables 1 to 3 provide the mean scores as well as a more detailed frequency distribution.

*Are there bivariate differences in the effect of divorce according to prior conflict?*

In Table 2, we ask whether the bivariate association between marital disruption and child wellbeing is different for children who were in high versus low conflict families prior to the divorce. Amato et al.'s (1993) findings would lead us to predict that children in low-conflict households prior to disruption will experience more deleterious effects of separation and divorce than those for whom the break-up may have represented some attenuation of high conflict. Our results provide some modest support for this, for boys, but not for girls.

Beginning with boys, we observe that those in families with low conflict prior to disruption tend to have less favorable achievement scores in the aftermath of disruption than their higher conflict counterparts. For example, 46% of disrupted boys classified as "low" in terms of the frequency of marital conflict have below average math scores, compared to only 30 percent of those whose parents argued more often prior to disruption. The comparable figures for below average reading scores are 49% versus 34%. The opposite pattern was observed for conduct problems among boys, however. Boys with *high* levels of pre-disruption conflict are at a disadvantage in terms of scores on the BPI. For example, 42 percent of boys with high frequency of prior conflict had more behavior problems than average in 1990, while this was true of only 33 percent of those whose parents argued less often. An examination of non-disrupted boys across low and high conflict provides an interesting contrast. Among boys in intact families, those coded "high" in terms of frequency, breadth, and intensity of pre-disruption marital conflict are consistently more likely than those coded as low on these measures to have more behavior problems and poor achievement scores.



Turning to girls, while the picture is somewhat mixed, the results do not provide convincing evidence that the effect of divorce varies by the level of pre-disruption conflict among girls. Greater percentages of girls in high versus low conflict families prior to divorce have below average math scores in 1990, but reading achievement across the two groups is roughly the same (with the exception of frequency of conflict). In contrast, girls classified as having low breadth and intensity of conflict are more likely to have more behavior problems than average. Among intact girls, BPI, mathematics, and reading scores differ little according to levels of conflict in 1987.

*What are the effects of divorce and marital conflict on child wellbeing when other socioeconomic factors are controlled?*

Having found some bivariate evidence of an interaction effect between marital disruption and prior conflict, albeit more for boys than for girls, we next estimate multivariate models in which we control for child characteristics and family circumstances that may account for the associations we observed.

Tables 3 and 4 present the effects of marital disruption, prior marital conflict/quality, and the interaction of the two which are added incrementally to models predicting child well-being in 1990. For each of our measures of conflict, we begin with a model (Model 1) that, in addition to controls, includes an indicator of disruption alone. As expected, and similarly documented with data from the 1986 to 1988 waves of the NLSY-CS (Morrison and Cherlin, 1992), we find a statistically significant deleterious effect of disruption on all three outcomes for boys, and on none of the outcomes for girls. The experience of marital disruption significantly raises boys' BPI scores, by approximately one-third of a standard deviation, and lowers their mathematics and reading performance, although to a somewhat smaller degree.

The next question is how conflict that precedes marital disruption affects children's well-being. As shown in the second column under each outcome displayed in Tables 3 and 4, Model 2 adds a conflict main effect to each model. For boys (Table 3), we want to explore whether pre-disruption marital conflict affects child well-being over and above the effect of divorce, or whether the apparent effect of marital disruption is attributable to the disharmony that existed even before the break-up. For girls (Table 4), the question is whether prior conflict has a significant effect where disruption did not.

As shown for boys' behavior problems in Table 3, all three of our measures of prior marital conflict have a statistically significant main effect, net of other child and family controls. Indeed, the effects of our frequency and intensity measures on boys' behavior problems tend to be slightly larger than the effects observed for marital disruption. For example, having frequent marital quarrels in 1988 raises boys' BPI scores 5.10 points, while marital disruption is associated with a 4.58 point increase in behavior problems. Coefficients for marital disruption are larger than those for marital conflict in our math and reading models, however. It is also noteworthy that while the magnitude of the disruption coefficient is reduced somewhat when we add measures of conflict, the effect of marital disruption on boys' behavior problems and achievement remains statistically significant. In general, neither our measure of marital happiness nor marital quality achieves statistical significance in any of our models for boys.

Turning to results for girls (Table 4), with the exception of frequency of conflict and behavior problems, our measures of pre-disruption conflict do not significantly predict wellbeing among girls. We observe a significant effect of poor marital communication on girls' BPI and math scores.

Our final question is whether the effect of marital disruption differs according to the level of conflict that preceded the disruption. Beginning with boys, there is consistent evidence (across measures of frequency, breadth, and intensity) for an interaction between disruption and conflict on math achievement. As we observed in the bivariate analyses presented in Table 2, our multivariate

results suggest that the adverse effect of divorce for boys' math performance is largely offset when the break-up means the termination of a high-conflict relationship.

Let us examine the example of the interaction between marital disruption and high frequency of conflict on boys' math scores. Being from a disrupted family reduces a given boy's math score by nearly nine points ( $\beta = -8.85$ ). If his mother reported a low frequency of marital quarrels in 1988, our results suggest that the nine points are the extent of his deficit in math achievement. If another boy is classified as high on frequency of conflict, but remains in an intact family, the effect on his math achievement is -3.31 points. However, if we take a third boy whose parents argued frequently in 1988, but who divorced between 1988 and 1990, our data suggest that nine points would be subtracted from his score due to marital disruption, an additional 3.31 points would be subtracted due to the main effect of high conflict, but the effect of the *interaction* of the two would raise his math score by 8.52 points. Thus, his overall reduction in math performance is only 3.62 points, compared to nine points for a boy classified as low conflict prior to disruption. The data do not suggest that there is an interaction between the effects of prior conflict and divorce on either BPI or reading scores among boys.

Among girls, we observe consistent evidence of significant interactions in models for behavior problems. Girls whose parents disrupted between 1988 and 1990 and who had high levels of predisruption conflict have fewer behavior problems than those with lower frequency, breadth, and intensity of quarrels prior to divorce.

### **Summary and Discussion**

Based on an analysis reported by Amato, Spencer, and Booth (1993), in the current study we sought to examine whether children in low-conflict households prior to marital disruption would experience more deleterious effects of separation and divorce than would children from situations of high conflict. The NLSY-CS afforded us the opportunity to replicate their analysis using a sample of

younger children who were observed while still in the roughly two-year "crisis period" of marital disruption. We were able to compare their outcomes to those of children who remained in intact families between 1988 and 1990.

We examined three outcomes in 1990 -- children's behavior problems, and children's mathematics and reading achievement -- and observed a sizable negative effect of marital disruption for all three outcomes for boys, but for none of the outcomes for girls, net of controls for child and family background characteristics. We developed measures of three dimensions of pre-disruption marital conflict -- frequency, breadth, and intensity of arguments between spouses -- and measures of marital communication and happiness. We explored the main effect of each marital conflict and marital quality measure on child well-being, and also observed the extent to which these predisruption measures accounted for the apparent effects of divorce. We found that the negative effect of divorce for boys remained relatively large and statistically significant when conflict was added to our models, suggesting that factors associated with divorce itself, such as parental absence, changes in custody and relationships, and downward mobility, affect boys' well-being over and above the effect that pre-disruption parental quarrels have on boys' behavior problems and academic achievement. Among girls, we did not observe a statistically significant effect of marital disruption or pre-disruption conflict on BPI, math or reading scores (poor marital communication was significantly associated with two of our outcomes).

We found that the effect of marital disruption significantly varies according to the level of conflict that pre-dated disruption for math achievement among boys and for behavior problems among girls. Specifically, we observed that disruption had a markedly less deleterious effect on boys' math scores when it was preceded by relatively high versus low conflict (according to measures of frequency, breadth and intensity) between the spouses. Among girls, our results suggest that on average those in disrupted high-conflict families have fewer behavior problems two years later than those with less

severe pre-disruption conflict. These results are notable for two reasons. First, they provide some replication of an analysis by Amato and colleagues (1993), but with a younger sample, and with measures of prior conflict more proximate to the divorce than were available in the Amato et al. analysis. Second, our findings are suggestive of an issue that merits further study -- under what circumstances is divorce less deleterious for children?

The notable effect of divorce we observed for boys may be the result of "acute distress" from the recent separation from a parent. Emery (1982:314) notes that children tend to recover from the effects of separation in a relatively short amount of time, while the effects of conflict tend to be more enduring. It will be interesting to track the well-being of the boys in the current sample using data from the 1992 interview to see whether the effects of disruption and or conflict persist after four years from the time of the separation.

The absence of a divorce effect for girls in the present analysis is consistent with the findings of Morrison and Cherlin (1992), as well as the analyses of the National Survey of Children data by Baydar (1988), Cherlin et al. (1991), and Moore et al. (1994) all of whom found little effect of disruption on girls. Smaller-scale observational studies also have found less of an effect of disruption and other environmental stresses on girls than on boys (Emery 1988). It is possible that girls are exposed to less conflict, or are more resilient when encountering stresses such as marital disruption (Zaslow & Hayes, 1986); but it is also possible that girls manifest distress in ways that are more difficult to observe--such as by becoming more anxious or depressed or exhibiting over-controlled "good" behavior (Emery, 1982; Block et al., 1986).

Table 1. Means and Standard Deviations for Independent Variables Included in OLS Models, by Sex

Independent Variables	Boys (N = 676)		Girls (N = 635)	
	Mean	Std. Dev.	Mean	Std. Dev.
<b>Mother and Family Characteristics in 1988</b>				
AFQT Score of Mother	48.10	35.80	48.10	35.30
Years of Mother's Education	12.30	2.50	12.30	2.40
Family Income in Prior Year	\$32,510.00	\$21,664.00	\$33,200.00	\$22,560.00
Number of Mother's Children	2.40	1.30	2.40	1.30
Below Poverty Threshold in Prior Year	0.08	0.36	0.09	0.37
<b>Child Characteristics</b>				
Black	0.07	0.33	0.07	0.34
Hispanic	0.07	0.34	0.09	0.37
Birth Order	1.64	1.09	1.64	1.06
Birth Weight (in ounces)	122.30	26.20	117.60	24.60
Age in Months at 1988 Interview	94.90	3.60	95.70	30.70
<b>Marital Disruption</b>				
Disruption between 1988 and 1990	0.09	0.38	0.11	0.41
<b>Pre-Disruption Marital Conflict and Quality</b>				
High Frequency	0.44	0.66	0.43	0.64
High Breadth	0.39	0.65	0.38	0.63
High Intensity	0.34	0.63	0.31	0.60
Poor Marital Communication	0.17	0.50	0.19	0.51
High Marital Happiness	0.98	0.18	0.98	0.18

Table 2. Means and Percentage Distributions of Behavior Problems and Achievement Test Scores for Children in 1990, by Sex, Marital Disruption Status between 1988 and 1990, and Frequency, Breadth, and Intensity of Marital Conflict (Weighted)

<u>Dimension of Marital Conflict</u>	Boys				Girls			
	Disrupted		Remained Intact		Disrupted		Remained Intact	
	Low Conflict (N=19)	High Conflict (N=39)	Low Conflict (N=309)	High Conflict (N=241)	Low Conflict (N=27)	High Conflict (N=46)	Low Conflict (N=292)	High Conflict (N=218)
<u>Outcome Measures in 1990</u>								
<u>Frequency of Marital Conflict</u>								
Percent with more behavior problems than average (+ 1/2 std. dev.)	33	42	18	32	28	32	26	31
Percent with below average math scores (- 1/2 std. dev.)	46	30	19	29	18	27	21	26
Percent with below average reading scores (- 1/2 std. dev.)	49	34	21	32	12	27	17	21
<u>Breadth of Marital Conflict</u>								
Percent with more behavior problems than average (+ 1/2 std. dev.)	33	46	20	31	35	26	27	30
Percent with below average math scores (- 1/2 std. dev.)	41	31	18	32	17	30	22	25
Percent with below average reading scores (- 1/2 std. dev.)	40	38	20	34	21	21	17	21
<u>Intensity of Marital Conflict</u>								
Percent with more behavior problems than average (+ 1/2 std. dev.)	34	42	19	34	40	19	28	27
Percent with below average math scores (- 1/2 std. dev.)	44	30	20	32	17	31	22	26
Percent with below average reading scores (- 1/2 std. dev.)	45	35	21	35	21	21	17	21

Source: Tabulations of NLSY Child Supplement data for years 1988 and 1990.

Note: 1. Estimates restricted to children living with two married parents in 1988.

Table 3. OLS Coefficients for Marital Disruption and Pre-Disruption Marital Conflict and Quality in Models Predicting Boys' Well-Being in 1990

Independent Variables	Behavior Problems Index			PIAT Mathematics			PIAT Reading Recognition					
	MODEL 1 Disruption Main Effect Only	MODEL 2 Adds Conflict Main Effect	MODEL 3 Adds Interaction	MODEL 1 Disruption Main Effect Only	MODEL 2 Adds Conflict Main Effect	MODEL 3 Adds Interaction	MODEL 1 Disruption Main Effect Only	MODEL 2 Adds Conflict Main Effect	MODEL 3 Adds Interaction			
<u>Pre-Disruption Marital Conflict</u>												
High Frequency	5.86***	4.58** 5.10***	4.68 5.11*** -0.16	-3.80**	-3.20* -2.62***	-8.85*** -3.31*** 8.52**	-4.27**	-3.55* -2.91***	-3.66 -2.92*** 0.16	R <sup>2</sup> = .09	R <sup>2</sup> = .21	R <sup>2</sup> = .17
High Breadth	5.86***	4.97** 4.63***	3.91 4.46*** 1.88	-3.80**	-3.35* -2.66***	-6.86*** -3.27*** 6.45*	-4.27**	-3.76* -2.48**	-3.47 2.44** -0.52	R <sup>2</sup> = .09	R <sup>2</sup> = .21	R <sup>2</sup> = .17
High Intensity	5.86***	4.50** 5.01***	3.88 4.91*** 1.01	-3.80**	-3.12* -2.70***	-8.46*** -3.58*** 9.00***	-4.27**	-3.40* -3.04***	-3.24 -3.02*** -0.25	R <sup>2</sup> = .09	R <sup>2</sup> = .22	R <sup>2</sup> = .17
<u>Pre-Disruption Marital Quality</u>												
Poor Marital Communication	5.86***	5.30** 2.17	3.78 1.60 3.86	-3.80**	-3.49* -1.11	-4.36* -1.43 2.14	-4.27**	-3.80* -1.84	-1.42 -0.98 -5.93	R <sup>2</sup> = .07	R <sup>2</sup> = .20	R <sup>2</sup> = .16
Marital Happiness	5.86***	5.34** -1.41	6.13 -0.94 -0.85	-3.80**	-3.44* 2.92	8.67 9.67* -13.03*	-4.27**	-2.66 7.95**	-2.67 7.95 0.01	R <sup>2</sup> = .06	R <sup>2</sup> = .20	R <sup>2</sup> = .16

Source: Tabulations of NLSY Child Supplement data for years 1988 and 1990. [NIMH70X, NIMH71X, NIMH72X, NIMH80, NIMH81, NIMH82.SAS]

- Notes:
1. N=639 for models predicting BPI; N=619 for models predicting mathematics score; and N=608 for models predicting reading score.
  2. Estimates restricted to children living with two married parents in 1988.
  3. Means are used to impute missing values for independent variables except disruption status and marital conflict and quality.
  4. All models control for: child age, race/ethnicity, birth order and birth weight; mothers' AFQT score, years of education and number of children; family income and poverty status in prior year.
  5. Significance levels indicated by: \*p < .10; \*\* p. < .05; \*\*\* p < .01.



Table 4. OLS Coefficients for Marital Disruption and Pre-Disruption Marital Conflict and Quality in Models Predicting Girls' Well-Being in 1990

Independent Variables	Behavior Problems Index			PIAT Mathematics			PIAT Reading Recognition			
	MODEL 1 Disruption Main Effect Only	MODEL 2 Adds Conflict Main Effect	MODEL 3 Adds Interaction	MODEL 1 Disruption Main Effect Only	MODEL 2 Adds Conflict Main Effect	MODEL 3 Adds Interaction	MODEL 1 Disruption Main Effect Only	MODEL 2 Adds Conflict Main Effect	MODEL 3 Adds Interaction	
<u>Pre-Disruption Marital Conflict</u>										
High Frequency	2.34	2.00 2.33**	2.60 2.44** -1.06	1.17	1.22 -0.35	-0.78 -0.71 3.51	0.31	0.50 -1.27	0.44 -1.28 0.09	R <sup>2</sup> = .12
High Breadth	2.34	2.27 1.28	5.19** 1.98* -6.51*	1.17	1.26 -1.44	-0.01 -1.75* 2.88	0.31	0.39 -1.34	-0.43 -1.55 1.86	R <sup>2</sup> = .12
High Intensity	2.34	2.29 0.53	5.89** 1.52 -8.63**	1.17	1.22 -0.51	0.79 -0.64 1.05	0.31	0.34 -0.30	0.48 -0.26 -0.35	R <sup>2</sup> = .12
<u>Pre-Disruption Marital Quality</u>										
Poor Marital Communication	2.34	1.42 4.07***	3.05 4.81*** -4.23	1.17	1.76 -2.93**	1.01 -3.28** 2.07	0.31	0.56 -1.25	3.47* 0.11 -7.95**	R <sup>2</sup> = .13
Marital Happiness	2.34	2.27 -3.17	-4.03 -4.59 6.53	1.17	1.11 -2.14	-11.42 -4.96 13.02	0.31	0.18 -5.14	-13.11 -8.14** 13.81*	R <sup>2</sup> = .12

Source: Tabulations of NLSY Child Supplement data for years 1988 and 1990. [NIMH70X, NIMH71X, NIMH72X, NIMH80, NIMH81, NIMH82.SAS]

- Notes:
1. N=605 for models predicting BPI; N=593 for models predicting mathematics score; and N=583 for models predicting reading score.
  2. Estimates restricted to children living with two married parents in 1988.
  3. Means are used to impute missing values for independent variables except disruption status and marital conflict and quality.
  4. All models control for: child age, race/ethnicity, birth order and birth weight; mothers' AFQT score, years of education and number of children; family income and poverty status in prior year.
  5. Significance levels indicated by: \*p < .10; \*\* p. < .05; \*\*\* p < .01.

Appendix Table 1.

Means and Percentage Distributions of Behavior Problems and Achievement Test Scores for Children in 1990, by Sex, Marital Disruption Status between 1988 and 1990, and Frequency of Marital Conflict (Weighted)

Outcome Measures in 1990	Boys				Girls			
	Disrupted		Remained Intact		Disrupted		Remained Intact	
	Low Frequency (N=19)	High Frequency (N=39)	Low Frequency (N=309)	High Frequency (N=241)	Low Frequency (N=27)	High Frequency (N=46)	Low Frequency (N=292)	High Frequency (N=218)
<u>Mother-rated behavior problems index</u>								
Mean standardized score	105.9	109.8	100.7	105.9	106.8	107.7	104.2	106.7
More problems than average (+ 1/2 std. dev.)	33	42	18	32	28	32	26	31
Within range of average (+/- 1/2 std. dev.)	30	37	48	48	63	49	49	50
Fewer problems than average (- 1/2 std. dev.)	<u>37</u>	<u>21</u>	<u>33</u>	<u>20</u>	<u>9</u>	<u>20</u>	<u>26</u>	<u>19</u>
	100%	100%	100%	100%	100%	100%	100%	100%
<u>PIAT mathematics sub-test score</u>								
Mean standardized score	94.9	98.7	104.5	99.5	100.3	102.4	102.6	100.8
Below average (- 1/2 std. dev.)	46	30	19	29	18	27	21	26
Within range of average (+/- 1/2 std. dev.)	45	45	47	47	68	44	51	54
Above average (+ 1/2 std. dev.)	<u>9</u>	<u>24</u>	<u>34</u>	<u>24</u>	<u>15</u>	<u>29</u>	<u>27</u>	<u>19</u>
	100%	100%	100%	100%	100%	100%	100%	100%
<u>PIAT reading recognition sub-test score</u>								
Mean standardized score	99.7	97.7	106.4	102.4	107.2	104.9	107.9	105.7
Below average (- 1/2 std. dev.)	49	34	21	32	12	27	17	21
Within range of average (+/- 1/2 std. dev.)	22	58	50	48	61	45	49	54
Above average (+ 1/2 std. dev.)	<u>29</u>	<u>8</u>	<u>29</u>	<u>21</u>	<u>27</u>	<u>29</u>	<u>34</u>	<u>24</u>
	100%	100%	100%	100%	100%	100%	100%	100%

Source: Tabulations of NLSY Child Supplement data for years 1988 and 1990.

Note: 1. Estimates restricted to children living with two married parents in 1988.

Appendix Table 2.

Means and Percentage Distributions of Behavior Problems and Achievement Test Scores for Children in 1990, by Sex, Marital Disruption Status between 1988 and 1990, and Breadth of Marital Conflict (Weighted)

Outcome Measures in 1990	Boys				Girls			
	Disrupted		Remained Intact		Disrupted		Remained Intact	
	Low Breadth (N=25)	High Breadth (N=33)	Low Breadth (N=345)	High Breadth (N=205)	Low Breadth (N=34)	High Breadth (N=39)	Low Breadth (N=319)	High Breadth (N=191)
<u>Mother-rated behavior problems index</u>								
Mean standardized score	105.0	111.2	101.2	105.7	109.6	105.0	104.5	106.5
More problems than average (+ 1/2 std. dev.)	33	46	20	31	35	26	27	30
Within range of average (+/- 1/2 std. dev.)	31	38	48	49	57	51	49	51
Fewer problems than average (- 1/2 std. dev.)	<u>39</u>	<u>16</u>	<u>33</u>	<u>20</u>	<u>9</u>	<u>23</u>	<u>25</u>	<u>20</u>
	100%	100%	100%	100%	100%	100%	100%	100%
<u>PIAT mathematics sub-test score</u>								
Mean standardized score	96.7	98.0	104.3	99.1	101.4	101.8	102.8	100.2
Below average (- 1/2 std. dev.)	41	31	18	32	17	30	22	25
Within range of average (+/- 1/2 std. dev.)	42	48	48	44	66	39	50	57
Above average (+ 1/2 std. dev.)	<u>17</u>	<u>21</u>	<u>34</u>	<u>24</u>	<u>17</u>	<u>31</u>	<u>28</u>	<u>18</u>
	100%	100%	100%	100%	100%	100%	100%	100%
<u>PIAT reading recognition sub-test score</u>								
Mean standardized score	100.0	97.1	106.2	102.2	106.2	105.4	107.8	105.5
Below average (- 1/2 std. dev.)	40	38	20	34	21	21	17	21
Within range of average (+/- 1/2 std. dev.)	35	54	51	45	55	47	49	55
Above average (+ 1/2 std. dev.)	<u>25</u>	<u>7</u>	<u>28</u>	<u>21</u>	<u>25</u>	<u>32</u>	<u>34</u>	<u>24</u>
	100%	100%	100%	100%	100%	100%	100%	100%

Source: Tabulations of NLSY Child Supplement data for years 1988 and 1990.

Note: 1. Estimates restricted to children living with two married parents in 1988.

Appendix Table 3.

Means and Percentage Distributions of Behavior Problems and Achievement Test Scores for Children in 1990, by Sex, Marital Disruption Status between 1988 and 1990, and Intensity of Marital Conflict (Weighted)

Outcome Measures in 1990	Boys				Girls			
	Disrupted		Remained Intact		Disrupted		Remained Intact	
	Low Intensity (N=24)	High Intensity (N=34)	Low Intensity (N=362)	High Intensity (N=188)	Low Intensity (N=39)	High Intensity (N=34)	Low Intensity (N=350)	High Intensity (N=160)
<u>Mother-rated behavior problems index</u>								
Mean standardized score	105.2	110.6	101.3	106.3	110.6	103.5	104.8	106.5
More problems than average (+ 1/2 std. dev.)	34	42	19	34	40	19	28	27
Within range of average (+/- 1/2 std. dev.)	26	41	49	47	53	55	48	52
Fewer problems than average (- 1/2 std. dev.)	<u>40</u>	<u>17</u>	<u>32</u>	<u>20</u>	<u>7</u>	<u>26</u>	<u>24</u>	<u>20</u>
	100%	100%	100%	100%	100%	100%	100%	100%
<u>PIAT mathematics sub-test score</u>								
Mean standardized score	95.2	98.9	104.1	98.7	101.2	102.1	102.4	100.6
Below average (- 1/2 std. dev.)	44	30	20	32	17	31	22	26
Within range of average (+/- 1/2 std. dev.)	47	44	47	47	66	37	51	57
Above average (+ 1/2 std. dev.)	<u>9</u>	<u>26</u>	<u>34</u>	<u>22</u>	<u>17</u>	<u>32</u>	<u>27</u>	<u>18</u>
	100%	100%	100%	100%	100%	100%	100%	100%
<u>PIAT reading recognition sub-test score</u>								
Mean standardized score	99.9	97.5	106.1	101.6	106.2	105.3	107.3	106.1
Below average (- 1/2 std. dev.)	45	35	21	35	21	21	17	21
Within range of average (+/- 1/2 std. dev.)	28	57	50	47	54	47	51	51
Above average (+ 1/2 std. dev.)	<u>27</u>	<u>8</u>	<u>29</u>	<u>19</u>	<u>25</u>	<u>32</u>	<u>32</u>	<u>27</u>
	100%	100%	100%	100%	100%	100%	100%	100%

Source: Tabulations of NLSY Child Supplement data for years 1988 and 1990.

Note: 1. Estimates restricted to children living with two married parents in 1988.

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