

A RAND NOTE

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The research described in this report was supported by the National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services under Grant No. P-50-HD12639.

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N-3315-NICHD

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**Supported by the
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Children constitute the prime example of “marital-specific capital,” a resource worth substantially more inside a marriage than outside it. This article examines the effect of children on marital stability, using data from the Panel Study of Income Dynamics, and tests the propositions that (1) children enhance marital stability, (2) younger children increase stability more than older children, and (3) under some circumstances children have no stabilizing effect or even increase chances that their parents’ marriage will end. A proportional hazards model in continuous time is estimated and then modified to accommodate key features of the data. The results indicate that firstborn children increase the stability of marriage through their preschool years. Other children increase marital stability only when they are very young. Older children and children born before marriage significantly increase chances of disruption. The initially stabilizing and later destabilizing effects of children combine over the course of the marriage to give parents only a modestly higher chance than childless couples of reaching their twentieth wedding anniversary.

Children hold a unique position in a marital relationship: they belong to the partnership rather than to either of the individuals. For this reason, children constitute the prime example of “marital-specific capital,” a resource worth substantially less outside a particular relationship than in it. According to economic theories of marriage (Becker 1973; Becker, Landes, and Michael 1977), marital-specific capital decreases the probability that a married couple will disrupt their relationship by increasing both the attractiveness of the current marriage and the costs of leaving it. Sociological theories have also focused on the role of children within

¹ This research was supported by grant P-50-HD-12639 from the Center for Population Research, National Institute of Child Health and Human Development, to the Population Research Center, The RAND Corporation. We want to thank Mary Layne and Sharon Rapp for programming and assistance with data preparation and Constantine Panis for development of the statistical software. Requests for reprints should be sent to Linda J. Waite, The RAND Corporation, 1700 Main Street, Santa Monica, California 90406.

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marriage, arguing that the presence of children holds marriages together by increasing organic solidarity (Durkheim 1933), and thereby increasing gains from family life (Morgan, Lye, and Condran 1988), or that divorce elicits more normative disapproval toward couples with children than without (see Thornton [1977] for a review of this literature).

However, sociological and economic theories have not systematically treated the conditions under which children stabilize—or even destabilize—marriages. This article develops and tests the hypothesis that the presence of children holds marriages together only under certain circumstances and that children fail to decrease and may even *increase* chances of disruption under other circumstances. The analysis uses information on marriage, children, and marital disruption from a large national survey, the Panel Study of Income Dynamics (PSID), to assess the effect of children and their characteristics on the stability of the first marriages.

EMPIRICAL EVIDENCE

A rich research tradition focuses on the relationship between children and marital disruption. But the relationship is so complex and so dependent on other circumstances that much of the literature addresses a limited part of the problem, uses special samples that cannot be generalized, or ignores the intertwined effects of marital duration and childbearing.

First, couples tend to disrupt marriages more readily in the early years of marriage—exactly the period when rates of childbearing are highest. This association confounds the effects of marital duration with the effects of presence, number, and ages of children (Schoen 1975; Cherlin 1981). Second, the “effect” of children on marital stability actually comprises a number of distinct effects, primarily number of children, ages of children, and timing of births relative to marriage.

Most research to date has examined only one of these effects. For example, Chester (1974) focuses on childlessness and marital disruption; he concludes that one cannot say for sure whether there is a relationship if one has only cross-sectional data and compares mean marital duration for those with children and without. Some research examines only the age of the youngest child (vs. no children); Mott and Moore (1979) find no evidence of effects of youngest child, but their sample includes only the early years of marriage and is focused on the preschool years. Thornton (1977) examines the effect on marital stability of number of children without regard to their age. He reports that both women with no children and those with relatively large families exhibit higher rates of marital disruption than those with one or two children. In a related piece, he reports that the number of children has no significant effect on attitudes toward divorce in general (Thornton 1985) (but presence of children un-

der age six decreases the proportion of husbands who have ever considered divorce for themselves, according to Huber and Spitze [1980]).

Waite, Haggstrom, and Kanouse (1985) focus only on effects of the firstborn. In an analysis restricted to the early years of parenthood, they find that married parents have disruption rates of 5% and 8% for males and females, respectively, by two years after the birth of the first child. However, they estimate that from 22% to 25% of these couples would have broken up without the birth of a child. This is an estimate based on comparisons with married but childless couples with many of the same characteristics.

Cherlin (1977) examines the effect of having any preschool children and of having any older children, the effect of total number of children, and the effect of premarital childbearing on chances of disruption over a five-year period. He finds that only the presence of any preschool-aged children decreases the probability of divorce for married women, a result also reported by Becker et al. (1977). But Hannan, Tuma, and Groeneveld (1977), analyzing data from the Seattle and Denver Income Maintenance Experiment, find no effect of the presence of children under age six or of children aged 6–10 on marital dissolution for black, white, or Hispanic women, although the investigators do not consider number of children.

In perhaps the most comprehensive examination of the determinants of marital disruption and how these change between cohorts and over the life cycles of the women involved, Morgan and Rindfuss (1985) find that first births decrease the likelihood of divorce in all marital cohorts and at all the marital durations that they examined. Premarital births increased chances of disruption, but these effects were limited to the first few years of marriage. In contrast, Cherlin (1977) finds no effect for premarital births.

If the empirical evidence on the relationship between children and marital disruption is mixed, most theoretical perspectives are clear. We turn to the major perspectives in the next section.

THEORETICAL PERSPECTIVES ON CHILDREN AND DIVORCE

Sociological theories tend to focus on the effect of children on the sexual division of labor within the family, a division that increases ties between the partners on the basis of specialization (Durkheim 1933). According to this perspective, the gains from specialization increase the value of the marriage. Sociological theories also point to the web of obligations—legal, financial, social, and emotional—through which children tie their parents together and to themselves (Morgan et al. 1988) and to the normative and religious constraints on divorce, especially when the couple has

children (Thornton 1977). Children may increase the psychic costs of divorce to the parents, both because of the loss of access to the children experienced by the noncustodial parent (Furstenberg et al. 1983) and the increased burden on the custodial parent and because of the decreased financial well-being that typically follows divorce, especially for the mother and the children (Hoffman 1977; Duncan and Hoffman 1985). Parents may end their marriages less readily than childless couples because they believe that disruption will harm the children (see Thornton [1977] for a review of this literature), and, indeed, the literature on the consequences of divorce shows deleterious short-term and long-term effects (Furstenberg and Allison 1985; McLanahan and Bumpass 1988).

A number of researchers argue that young children stabilize marriages more than older children. Cherlin (1977) argues that preschool children more effectively inhibit marital disruption because they require more time, effort, and expense than do older children. We elaborate this reasoning as follows. If children tie their parents together through increasing specialization within the marriage, this tie might be strongest when that specialization is most complete, that is, during the years of childbearing, infancy, and the preschool ages. Mothers turn over some of the tasks of child rearing of older children, such as discipline, entertainment, helping with homework, and athletic training, to fathers. This is especially true for sons (Morgan et al. 1988). And schools take over some of the child care and training functions for children over five or six. Parents may believe that very young children's dependence on parental time and attention is such that the loss of a parent from the home would be more harmful for them than for a school-aged child or teenager. And recent research suggests that children who receive full-time care by someone other than their mother during the first year suffer emotional and behavioral consequences over the long run (Belsky and Rovine 1988; Desai, Chase-Landale, and Michael 1989). Since marital disruption and the consequent loss of income force many previously homemaking mothers into the labor force, these considerations might deter divorce most forcefully during the child's early years. In addition, having a child may signal commitment to the relationship, a signal that gets weaker the more distant the signaling event.

Older children may inhibit the disruption of their parents' marriage less than younger children if, as children enter school, they need much less of their parents' time in care and become more emotionally independent. And since parents spend less time with older than with younger children, noncustodial parents give up less contact with older children than with younger. Finally, the closer children get to maturity and the residential independence that accompanies it, the less *future* contact with the child a parent gives up by divorcing.

Economic perspectives on divorce (Becker 1973; Becker et al. 1977) focus on investments in the marriage and on the alternatives to the marriage. Unlike many investments in being married, such as specialization by the spouses, children constitute an investment in *this particular marriage* and, as such, should decrease chances of disruption of the marriage in which they were produced. In fact, previously married women, especially young women, are less likely to remarry if they have children than if they are childless (Teachman and Heckert 1985), so that alternatives to the current marriage probably are less attractive for mothers than for childless women. However, economic theories appear to be silent on how children of different ages affect marital stability.

Both sociological and economic perspectives imply that, to the extent that children increase the real or psychic costs of divorce or create a long-lasting bond between the parents, couples that have ever had children will have more stable marriages than childless couples. In addition, young children may decrease the chances of divorce either by raising the parents' commitment to the marriage or by increasing the costs of disruption. Having children may signal at least a short-run commitment to the continuation of the relationship. We test both of the hypotheses implied by this perspective: first, that offspring reduce the probability of dissolution and, second, that younger children have a greater stabilizing effect on marriages than older children.

However, both sociological and economic theories have paid less attention to the destabilizing than to the stabilizing effect children may have on marriages, and neither perspective has fully explicated the conditions under which children stabilize or, conversely, destabilize marriages. Empirical work and scattered theoretical treatments point to the mechanisms through which and the conditions under which children might increase chances of disruption.

First, as most theories note, children born outside the marriage in question may increase chances of divorce because they belong to only one of the partners, by providing ties to relationships outside the marriage, and by acting as a source of conflict within the marriage (Becker et al. 1977; Cherlin 1978). In fact, recent research has found that remarriages that include stepchildren are more likely to dissolve than remarriages without them and that children from previous relationships constitute a source of tension, strain, and discord in new marriages (White and Booth 1985a). This same reasoning extends to children born outside this relationship, before the first marriage. We test the hypothesis that children born out of wedlock increase the chances of marital disruption.

There are a number of other conditions under which children may make marriages less likely to survive. Much previous research shows

strong, zero-order effects of premarital conception on chances of disruption (Furstenberg 1976; Coombs and Zumeta 1970); theory points to the abbreviated search for a marital match often caused by such a pregnancy as a primary mechanism (Becker et al. 1977). In addition, any childbearing soon after marriage gives the new couple relatively little time to establish their relationship before entering their new roles as parents. Childbearing early in the marriage often reduces the couple's ability to accumulate assets prior to the financial drain of supporting a third family member (Coombs et al. 1970; Freedman and Thornton 1979). We test the hypothesis that a first birth conceived before marriage increases marital instability.

But we suggest other mechanisms through which children may increase chances of disruption: children interfere with time spent maintaining the marital relationship and may decrease happiness and life satisfaction. Hill (1988) suggests that children decrease marital stability indirectly because, as she shows, their presence interferes with the parents' leisure time spent together and shared leisure activities create a bond that strengthens marriage. Her research, which is based on the sample of individuals interviewed in the Michigan Time Use Survey in 1975-76, supports this reasoning (see also Kingston and Nock 1987). And a substantial literature suggests couples with children are less satisfied, on average, with their marriages than are childless couples (Glenn and McLanahan 1982) and that women with young children perceive a lower quality of life than those in any other life-cycle stage (Campbell, Converse, and Rogers 1976). Some of this unhappiness appears to result directly from the demands and disruptions of the birth of a child, especially a first child (Rossi 1968).

If the presence of young children inhibits divorce, for reasons outlined above, but decreases marital and life satisfaction, this process may result in increasing heterogeneity of the population of couples at longer marital durations, with still-married childless couples happier and more satisfied than couples with children. If, as we and others have suggested, the stabilizing effect of children declines with the children's ages, then parents may postpone disruption when children are young, creating a pent-up demand for divorce that parents satisfy when children get older. This would appear as a declining negative effect on disruption with children's age, with the inhibiting effect disappearing or even turning positive at older ages. We test the hypothesis that the presence of older children increases marital instability compared with childless couples among those couples still married.

We restrict our attention in this analysis to the stability of first marriages because a sizable number of influences on disruption apply only

to second- or higher-order marriages, making it difficult to combine disruption models for first and later marriages (McCarthy 1978; Teachman 1986).

We do not systematically explore possible differences between racial groups in the effect of children on the stability of the parents' marriage. The differences between blacks and whites in patterns of family formation (Michael and Tuma 1985) and in rates of divorce and separation (Bachrach and Horn 1985) suggest such differences might exist. These racial differences deserve detailed consideration in their own right, but space limitations make that impossible here.

We estimate a model that specifies that couples face an underlying risk or hazard of dissolution and that this hazard depends in part on presence, age, and number of children, all of which change over the course of the marriage. This model also takes into account the effects of marital duration, or length of time a couple has been married, on hazard of disruption.

PSID DATA: MARITAL DURATIONS AND CHILDBEARING PATTERNS

Our analysis uses data on first marriages constructed from the first 18 years, 1968–85, of the PSID. The PSID is well suited to analysis of the relationship between children and marital disruption. First, it contains longitudinal information on both marital and fertility changes. This allows us to trace the experiences of individual couples over a substantial period. Second, the sample of married couples is large, with a sizable number of disruptions during the period of observation. Third, since our analysis uses all information on any sample member ever in the PSID who meets our criteria, we minimize problems of sample attrition. Fourth, the PSID obtained information on marital status at each interview, a practice that minimizes recall bias, together with a complete retrospective marital and fertility history in 1985. The availability of the two types of information allows us to date marriages, separations, divorces, and births with a good deal of precision. Finally, the PSID represents the entire age range of married couples in the United States, which allows us to generalize to the nation as a whole.

The PSID began in 1968 with 5,500 households. Approximately half of those were drawn from a nationally representative sample and half drawn from the prior year's Survey of Economic Opportunity (SEO) sample, which oversampled low-income households. Demographic and socioeconomic data were collected for the household and each member of the household. These included marital status and, for married household heads (the husband in the case of married-couple households and the householder in others), data on whether the current marriage was the first marriage and the date of marriage. Information was collected on all

household members including children. The sample has been resurveyed each year since that time and contains a set of basic data, including marital status and changes in it, family composition, and numerous demographic and behavioral variables as well as data on special survey topics.

The 1985 wave (eighteenth wave) of the PSID represents a substantial improvement over earlier waves for the study of marriage, divorce, and remarriage. This interview included a special Heads' and Wives' Interview, which obtained a detailed marital history and fertility history (and work history) for the head of household (single female head, single male, or husband of couple), for wives (if an intact couple), and for others in the family. The marital history includes the dates of all marriages and divorces and the first separation in each marriage.²

Sample Characteristics

We begin with every couple that we observed married between 1968 (the initial interview in the PSID) and 1985, the year in which the PSID obtained a detailed retrospective marital history. We restrict our analysis to those couples for whom this was the respondent's first marriage. For couples married in 1968, the respondent is the husband. For those who married later, the respondent is the PSID sample member and could be either male or female.

We observe separation or divorce within intervals defined by the interview year. The value of all time-varying measures, such as the husband's income, comes from the immediately preceding interview. In addition, within years we begin a new interval whenever one of the children born to the couple enters a new age category or when a marriage begins or ends. For example, we define a new interval when the couple has a first birth, when a preschool child reaches age six, or when an 18-year-old reaches 19. This allows us to measure the value of these time-varying variables very precisely over the marriage. We include in our sample all intervals during which the marriage is at risk of disruption.

In this analysis we combine divorces and separations under the general rubric of marital disruption or dissolution. We include separations because separation often precedes legal divorce by several years, and because separation without subsequent divorce is a frequent disruption pattern for blacks (Glick and Norton 1977).

The result is a sample of 4,400 first marriages, one-third of which ended in divorce or separation during the panel period. Thirty-one per-

² See Hofferth (1982) for a discussion of uses of the PSID for demographic research on the family. This discussion helped guide the 1985 survey effort.

cent of these marriages were underway at the first interview in 1968 and so are left truncated—we have no information about the marriage before that year. The observations are truncated rather than censored because the marriage date is known, but the marriage had to survive to its current duration in 1968 to be a first marriage. The remainder of the marriages in our sample began during the panel period.

For all marriages observed at any point during the panel period we observe the duration of the marriage (if the couple divorces or separates during the panel) or the censoring of the marriage by attrition, death of one partner, or the last wave of the survey. But we observe 1,070 divorces or separations among those married during the panel and 354 disruptions among marriages underway in 1968 for a total of 1,424 disruptions. Thus, 26% of those couples who were already married in 1968 dissolved their marriages within their participation in the panel, and 35% of those married for the first time within the panel divorced or separated during their participation in the panel. This difference in the percentage of marriages disrupted reflects high divorce rates early in marriage, especially since the average period of participation as a married couple is shorter for those married within the panel. The remaining couples, not divorced within the sample, represent right-censored observations because we do not observe the dissolution of the marriage and know only that, if it occurred, it happened after the last survey period.

We adjust risk of dissolution for the effects of covariates that theory and previous research point to as important determinants of marital instability. These include race (Michael and Tuma 1985), the education of the husband (Glick and Norton 1977), income (Hannan et al. 1977), age at marriage of the husband and of the wife (Moore and Waite 1981), religion (Chi and Houseknecht 1985; McCarthy 1979), and time period (Thornton and Rodgers 1987). South and Spitze (1986) find that the effects of these and similar variables do not change over the marital life course. Table 1 gives definition of these variables and their means for couples observed at various durations of marriage. We measure the income of the head (Cherlin 1978; Ross and Sawhill 1975) as a dummy variable for low income (the bottom quartile). Only the income measure—and measures of ages and numbers of children, discussed next—is time varying. In all cases, we experimented with a number of specifications of these independent variables before settling on those presented here as best capturing the effects in question.

Marital and Premarital Fertility Measures

The variables of primary interest here measure the presence and ages of children during the interval in question. We have created these variables

TABLE 1
MEANS OF NON-TIME-VARYING COVARIATES

Variable	Total Percentage
Any premarital births (PREMAR)	13.1
Child born in first 8 months of marriage (BIRTHMAR)	15.7
BLACK	34.2
Age of head when marry < 22 years (AGMRH22)	44.4
Age of wife when marry < 20 years (AGMRW20)	42.1
Education of head < 12 years (EDHLT12)	29.1
Education of head = 12 years	39.7
13 years \leq education of head \leq 15 years (EDH1315)	18.5
Education of head \geq 16 years (EDH16)	12.7
Year married < 1960 (YMAR60)	17.8
1960 \leq year married \leq 1970 (YMAR6070)	24.6
1971 \leq year married \leq 1976 (YMAR7176)	24.9
Year married \geq 1977 (YMAR77P)	32.7

NOTE.— $N = 4,400$; mean year married = 1970.

to allow us to test the hypotheses presented earlier. For this reason, we distinguish first children from their later-born siblings, and we distinguish younger from older children. One variable indicates that the couple's first child was born in the previous year (FB), another that the couple had a second- or higher-order birth in the last year (BIRTH). We measure the presence of a first child between 1 and 5 years old (FPSC), the number of preschoolers other than the first (NPSC), the number of children between 6 and 12 years old, the number of children between 13 and 18, and the number of children older than 18. In addition, we include a dummy variable for a premarital conception, measured as a birth within eight months of marriage (BIRTHMAR), and a dummy variable for a child born prior to the mother's first marriage (PREMAR). Table 2 presents means for presence and ages of children for couples at various durations of marriage.

The panel nature of the data used in this study is extremely useful for identifying the separate effects of duration and children, given the strong association of presence and ages of children with years married. A cross-sectional view of the data reveals a strong tendency for those couples who have been married for a longer time at the initial survey to have more and older children. We include marriage cohort variables to capture those trends. However, we observe the couples in our sample over many years, and so have a longitudinal view of their childbearing and marital stability.

TABLE 2
DEFINITIONS AND MEANS OF COVARIATES AT VARIOUS MARITAL DURATIONS

Variable	2 Years	5 Years	10 Years	20 Years
Number of children born within marriage				
(NKID).....	.69	1.36	2.29	3.67
A first birth within marriage (FB).....	.23	.07	.01	.00
Second or later child (BIRTH).....	.07	.19	.11	.02
First preschooler (FPSC).....	.38	.75	.15	.00
Number of preschoolers (NPSC).....	.01	.35	.77	.23
Number ages 6–12 (N612).....	.00	.00	1.25	1.01
Number of ages 13–18 (N1318).....	.00	.00	.00	2.12
Number ages 19+ (NGT18).....	.00	.00	.00	.30
Income in bottom quartile of the distribution				
(Q1MERN).....	.43	.27	.19	.20
Sample size.....	3,706	2,518	1,681	1,199

STATISTICAL MODEL AND ESTIMATES

This section is concerned with our methods and basic results. We begin by presenting our statistical model. We discuss how it is developed to incorporate the major features of the PSID data. Next we present the estimates of parameters and the basic results and discuss some alternative specifications that we considered. Finally, we define the simulation method used in the next section to explore the implications of the estimates.

Statistical Model

The statistical model underlying our approach is based on proportional hazards in continuous time, modified to accommodate the key features of our data: (1) the explanatory variables of primary interest, measures of the presence of children, inherently vary over time; (2) some marriages were in progress at the time of the final survey or at the time that the couple left the sample (due to attrition), so that marriage durations may be right censored; (3) the data on marriage durations come either from retrospective reports of dates of marital separation or divorce or from annual reports of marital status at survey times over the 18-year panel; and (4) some marriages were in progress at the time of the initial survey, so that marriage durations may be left truncated (at a known duration).

Let us begin with the basic continuous-time model of marital duration. A couple marries and is immediately at risk of dissolution. The (log) hazard of marital disruption is given by

$$\ln h(t) = \ln h_0[\nu(t), \alpha_1] + \alpha_2' \mathbf{X}(t) + \alpha_3' \mathbf{kids}(t),$$

where $v(t)$ is the duration at time t , $\mathbf{X}(t)$ is a vector of time-varying (or constant) regressors, and $\mathbf{kids}(t)$ is a vector of variables measuring the presence and ages of children.

The risk of dissolution may change systematically over time as the marriage continues. The couple learns over time about the quality of the match, and the couple may acquire “marriage-specific capital,” which makes the union more desirable so that the risk of divorce declines as the marriage endures. This change accounts for declining divorce probabilities with marital duration (Becker et al. 1977). These systematic changes in the risk of dissolution are reflected in the baseline hazard. We use a piecewise log linear spline in marriage duration, $v(t)$, for the baseline hazard.

$$\ln h_o[v(t), \alpha_1] = \alpha_{10} + \sum_{k=1}^K \alpha_{1k} \text{spline}_k[v(t)],$$

where $\text{spline}_k[v(t)] = \min\{\max[v(t) - n_{k-1}, 0], n_k - n_{k-1}\}$.³ The probability of the marriage surviving to duration t or longer (at zero values of covariates) is given by the “baseline” survivor function at duration t :

$$S_o(t) = \exp\left\{-\int_0^{v(t)} e^{\ln h_o(\xi, \alpha_1)} d\xi\right\},$$

where $S_o(0) = 1$.

The measures of the presence of children in the marriage, as well as certain other covariates, vary inherently over time. Therefore, the hazard of divorce changes as the number and ages of children change. The proportional hazard model introduces these changes in the hazard rate through proportional shifts in the hazard rate as a function of the time-varying covariates where X_j is the value of X within the interval t_j to t_{j+1} and includes race, education, an indicator of low income, and premarital births.⁴ Changes in these variables proportionately shift the hazard, that is,

$$h(t) = e^{\ln h_o[v(t), \alpha_1] + \alpha_2 \mathbf{X}(t) + \alpha_3 \mathbf{kids}(t)}.$$

The introduction of time-varying covariates, or the use of interval observations with covariates changing only between intervals, causes the survivor function to become a function of the full set of past values of the time-varying covariates X , which we denote χ . The probability that

³ Where the spline end-point nodes are $n_0 = 0$ and $n_K = \infty$.

⁴ See table 1 above for a more complete list.

a marriage will last at least to duration $\nu(t)$, conditional on the sequence of covariates up to that time, is

$$\begin{aligned} S(t, \chi) &= \exp \left\{ - \int_0^{\nu(t)} h(\xi) d\xi \right\} \\ &= \exp \left\{ - \sum_{i=1}^I \int_{\nu(t_i)}^{\nu(t_{i+1})} h(\xi) d\xi \right\} \\ &= \prod_{i=1}^I \left[\frac{S_o(t_{i+1})}{S_o(t_i)} \right]^{e^{\alpha_2 \chi(t_i) + \alpha_3 \text{kid}(t_i)}}, \end{aligned}$$

where t_{I+1} is the duration at the end of the last subinterval I . Implicitly $t_1 = 0$.

Marriages in progress at the time of the final survey or at the time that the couple left the sample (due to attrition) are right censored. The likelihood for a right-censored duration is simply the survivor function evaluated at the duration as of the censoring time, $t = t_c$.

For those marriages in which the dissolution date, ν^* , is known, the likelihood of the corresponding marital duration is also dependent on the full history of regressors and is given by

$$H^*(\nu^*, \chi) = S(\nu^*, \chi) h(\nu^*).$$

For those marriages known only to have ended between surveys, the likelihood is given by

$$H^{**}(\nu^*, \chi) = S(t_{I-1}, \chi) \left[1 - \frac{S(t_{I+1}, \chi)}{S(t_I, \chi)} \right],$$

where t_{I+1} is the duration at the end of the last subinterval I .

About a third of the first marriages were in progress at the time of the first survey. These observations are left truncated. Left truncation occurs in the case in which the marriage date is known but the marriage had been in progress m years when it was first observed.⁵ For these observations the likelihood is conditioned on the probability of the marriage's surviving from its inception to the initial period of observation, that is, the survivor function at that duration. In this proportional hazard formulation this probability simply cancels with the corresponding por-

⁵ Left censoring would be the case where the couple was married at the first interview but had been married for an unknown duration.

tion of the probability of the full duration sequence, so that the sequence begins at duration m . That is,

$$S[v(t), \chi] = \prod_{i=m}^I \left[\frac{S_o(t_{i+1})}{S_o(t_i)} \right]^{e^{\alpha_i \chi(t_i)} + \alpha_j \text{kids}(t_i)}$$

Parameter Estimates

Maximum-likelihood estimates of the parameters of the model are presented in table 3. The first column of table 3 presents estimates from our preferred model, which includes all measures of numbers and ages of children discussed earlier. The other columns in table 3 present alternative models estimated for comparison. Column 2 presents the model with a single measure of number of children instead of the detailed measures we prefer, column 3 presents the model with no measures of presence and ages of children, and column 4 presents a model that includes only splines for duration of marriage and a dummy variable for race. The coefficients from the models must be transformed to yield clearer substantive interpretation; however, we discuss the pattern of statistical significance and sign briefly below.

Children clearly have a powerful effect on the risk of marital dissolution—at least under some circumstances. While we explore these issues more fully below, the basic pattern is clear: the presence of young children delays the initiation of separation or divorce until the child is of school age. Young children greatly reduce the hazard of disruption, whereas children over age 12 increase the hazard by a smaller amount but for a longer period. Only the presence of preschool children after the first child and children ages 6–12 have no statistically significant effect on the chances that their parents' marriage will dissolve; each child older than 12 significantly *increases* the risk of disruption. And a child born before the beginning of the first marriage substantially increases chances of disruption.

We control for the effect of a number of demographic variables in addition to the measures of the presence of children. Couples in which the husband is highly educated have a much lower rate of separation and divorce than those with less educated husbands, with chances of disruption falling fairly steadily with increases in husband's schooling. Marriage when the wife is age 20 or younger reduces the chances that the couple will dissolve, although we find this result suspect.⁶ The measures

⁶ Other research (Beckett et al. 1988) shows that couples that separate or divorce are more likely to leave the PSID than are stable couples. We think that the teenage

TABLE 3
 MAXIMUM-LIKELIHOOD ESTIMATES OF PARAMETERS IN MODEL OF MARITAL DISRUPTION

Variable	1	2	3	4
Intercept.....	-3.9303*** (.3226)	-3.8225*** (.3206)	-3.8315*** (.3203)	-3.5820*** (.1637)
0-1 years.....	1.3443*** (.2151)	1.1846*** (.2137)	1.1797*** (.2135)	.9890*** (.2118)
1-2 years.....	-.0900 (.1316)	-.0944 (.1299)	-.1029 (.1298)	-.2275* (.1288)
2-5 years.....	-.0252 (.0409)	-.0254 (.0395)	-.0325 (.0391)	-.1028*** (.0379)
5-10 years.....	-.0683** (.0300)	-.0420* (.0247)	-.0492** (.0246)	-.0833*** (.0225)
> 10 years.....	-.0873*** (.0201)	-.0450*** (.0147)	-.0451*** (.0146)	-.0698*** (.0094)
BLACK.....	.3251*** (.0698)	.2199*** (.0598)	.2624*** (.0560)	.5261*** (.0542)
AGMRH22.....	.0748 (.0617)	.0698 (.0615)	.0481 (.0607)	
AGMRW20.....	-.1255** (.0627)	-.1412** (.0626)	-.1704*** (.0620)	
EDHLT12.....	.3004*** (.0624)	.3171*** (.0623)	.3305*** (.0621)	
EDH1315.....	-.1565* (.0804)	-.1631** (.0798)	-.1682** (.0796)	
EDH16.....	-.5621*** (.1147)	-.5826*** (.1139)	-.5940*** (.1135)	
YMAR60.....	.0455** (.0214)	.0487** (.0214)	.0523** (.0212)	
YMAR6070.....	.0137 (.0145)	.0091 (.0141)	.0154 (.0138)	
YMAR7176.....	.0344* (.0181)	.0392** (.0180)	.0404** (.0180)	

YMAR77P .....	.0926*** (.0210)	.0947*** (.0209)	.0956*** (.0209)	
PREMAR .....	.6898*** (.1437)	.2054*** (.0766)		
BLACK*PREMAR	-.6531*** (.1674)	-.0333 (.0754)		
BIRTHMAR .....	.0695 (.1024)			
BLACK*BIRTHMAR	-.1226 (.1427)			
NKID		-.0451* (.0268)		
FB	-.8888*** (.1319)			
BIRTH	-.4958*** (.1374)			
FPSC	-.1678** (.0763)			
NPSC	-.0393 (.0586)			
N612	-.0191 (.0515)			
N1318 .....	.1442** (.0619)			
NGT18 .....	.1629** (.0774)			
QIMERN .....	.4394*** (.0567)	.4425*** (.0566)	.4435*** (.0566)	
Log likelihood	-7,738.4	-7,785.6	-7,791.5	-7,904.9

NOTE.—Values in parentheses are SEs.

* .10 > P > .05.

** .05 > P > .01.

*** P ≤ .01.

of marriage cohort show increases in chances of disruption before 1960, a period of relative stability from 1960 to 1970, and then substantial increases after 1977. This pattern maps secular trends in divorce rates fairly well. We also see that low husband's income (in the year preceding a survey response) increases the risk of disruption. These results closely match those reported by others.

Comparison of the estimates in columns 1–4 of table 3 makes some interesting points. First, the effect of number of children born during the marriage (col. 2) is negative but quite modest in size. This effect reflects the strong negative effects of young children, especially the firstborn, the weak effects of preschool- and school-age children, and the positive effects of children older than 12. The measure of number of children appears to be quite misleading about the effect of children of different ages and birth orders on the chances that their parents' marriage will dissolve. Note also that the effect of a premarital birth is much weaker in the equation estimated in column 2, which includes numbers of children born but none of their characteristics. This suggests some correlation between occurrence of a premarital birth and timing and number of marital births so that, without appropriate controls, some of the protective effect of young children offsets the disruptive effect of a child born before marriage.

Note also that the parameter estimates in column 3 come from models that contain no measures of presence or ages of children and are virtually identical to those in columns 1 and 2 for all the remaining variables in the model. So, although a simple measure of number of children born does not reflect the complex effect of children on chances that a marriage will end, use of such a variable—or even no measures of marital child-bearing—has little effect on conclusions about the strength of other factors.

The final column of table 3 shows a very simple model, which includes only splines for marital duration and a dummy variable for race. Note that when other factors are not controlled, black couples are much more likely to end their marriages than are whites. But controls for education, low income, age at marriage, and so on substantially reduce this differen-

brides who show lower hazards of divorce in our models are a selected subset of those who married young, with more leaving the panel when their marriages break up and thus censored before divorce (an observed divorce). This reasoning is supported by results (not reported here) from models that include a measure of whether the respondent left the survey before the 1985 retrospective marital histories; these models show no significant effect of age of the wife at marriage. We do not include this measure of censoring in the models in table 3 because causality almost certainly runs predominantly from marital disruption to leaving the panel rather than the reverse.

tial, although it remains quite large. However, comparison of the coefficients for the BLACK variable in the three specifications shows that including either detailed or simple measures of children has little effect on the racial differential.

CONSEQUENCES OF CHILDBEARING PATTERNS FOR MARITAL DURATIONS

In this section we present a discussion of specific hypotheses about the effect of children on marital duration. To make the rather cumbersome coefficients in table 3 more easily interpretable, we present simulations of the proportion of marriages surviving and the hazard of disruption at each duration of marriage for a couple with a chosen set of characteristics.

The previous section presented estimates of the effects of children on the hazard of marital disruption, focusing on effects of the first birth, all subsequent births, and presence and numbers of children of various ages. We find that a first birth dramatically lowers the probability that the marriage will dissolve in the interval, with a smaller effect of later births. This finding is consistent with the reasoning that a first birth acts as a signal of the stability of the couple—so that those couples who plan to stay together are much more likely than others to become parents, at least in part because they plan to stay together. This finding is also consistent with Cherlin's (1977) argument that the high costs of caring for a young child increase the costs of dissolving a marriage.

Couples with children ages five or younger face significantly lower risks of disruption than other couples (although the effect is only significant for the first preschooler). But the inhibiting effects of children older than five decrease with the age of the child; we see very small, statistically insignificant effects of children ages 6–12, with the effect of children becoming positive in the teenage years, so that each child age 13 or older significantly increases the chances that his or her parents will dissolve their marriage. These results match quite closely other findings of the effects of preschool children (Becker et al. 1977; Cherlin 1977). However, previous research only vaguely suggests a *positive* effect of children ages 12 and older on the chances that their parents will dissolve their marriage. We address this issue in more detail below.

Next, we assess the implications of the estimates presented earlier of effects of children on the hazard of divorce and for the long-run marital stability of couples with different numbers of children. We do this by simulating hazards of disruption and survival rates for couples with baseline values on the time-invariant independent variables while varying

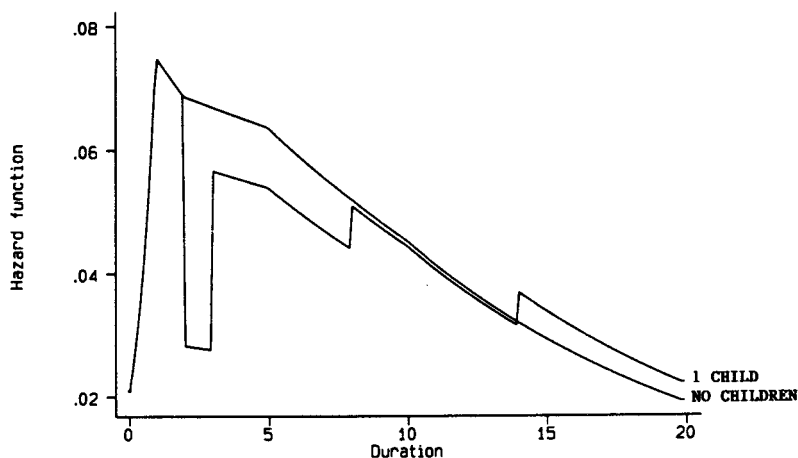


FIG. 1.—Simulated hazard function for couples with no children and one child

the number and timing of children. This exercise displays the effect of different patterns of childbearing on disruption at various marital durations, other things being equal.

We take as the baseline case a couple with the omitted values on all series of dummy variables: couples married in 1970, with a male head of household with 12 years of schooling and an income higher than the lowest quartile, who married at age 22 or older to a woman aged 20 or older, with no premarital birth or birth in the first year of marriage.

Figure 1 displays the effects of any versus no children on hazards of disruption of the marriage. Figure 2 shows survival rates at 20 years of marriage for couples with no children, with one child, with three children, and with five children.

These figures make two important points. First, as figure 1 shows, hazards vary dramatically over the course of the marriage for couples with and without children; those with no children face hazards that rise steeply over the course of the first year and then fall gradually over the remainder of the marriage, whereas parents face dramatically lowered hazards of disruption when their first child is young and somewhat lower hazards until their children become teenagers. But each older child increases the hazard of disruption significantly.

Figure 2 shows the implications of this pattern for the long-term survival of couples with different numbers of children. The results are striking. The early protective effects of children on the marriage are largely offset by the later disruptive effects, making the overall effect of children on marital stability quite modest. This substantive result does not arise

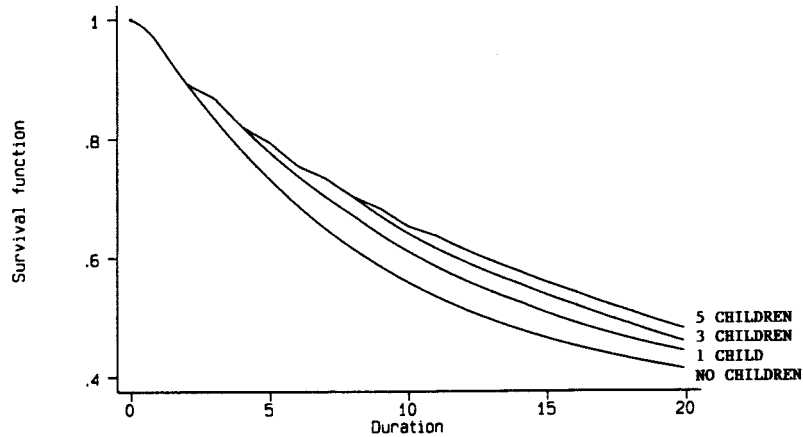


FIG. 2.—Simulated survival function for couples with no children, one child, three children, and five children.

from any constraints on the model but from the empirical results we obtain.

We are now in a position to use our findings to answer some of the questions posed earlier. First, does having children increase marital stability? The answer is clearly, yes and no. Having children increases marital stability in the short run. But in the long run, children have only a modest stabilizing effect. Second, do younger children increase stability more than older children? Clearly they do. In fact, we estimate that older children significantly *decrease* marital stability after about age 12. We find that each additional child reduces the parents' risk of disruption when the child is age five or younger and increases this risk when he or she enters adolescence. The number of children changes the *timing* of disruption but does little to change its long-run probability. Do children born before or shortly after marriage decrease stability? The stability is decreased greatly, but only for premarital births. Children conceived before but born after marriage have no measurable effect on the stability of the marriage.

IMPLICATIONS

Our results provide further evidence on the "effect" of children on marital stability. They help pull together and elucidate scattered findings from earlier studies on the conditions under which children do and do not stabilize marriages. And they provide some support for the theoretical perspective outlined earlier. First, we find little evidence that number of

children, considered by itself, affects the survival of marriages; any effect that exists is modest at best. Second, young children decrease chances of disruption, and this effect is strongest for the first birth. Third, under a number of circumstances children significantly decrease stability of first marriages, for example, if they were born out of wedlock or have reached the age of 13. Both of these effects are substantial.⁷ So our results indicate that, over the long run, marriages with many children are only slightly more likely to survive than marriages with few or even none.

We argued earlier that children could hold couples together by raising the financial or psychic costs of divorce, by increasing the gains from division of labor between the couple (see Morgan et al. 1988), and because of the high costs in time, effort, and money of providing for children, especially when they are young. Whatever the mechanism through which young children decrease the chances that their parents' marriage will dissolve, a substantial literature suggests that parents do not have happier marriages and are not happier with life in general than couples without children (Glenn and McLanahan 1982). White and Booth (1985*b*) suggest that the desire to have children or the arrival of offspring keeps marriages together even if they are of only moderate quality. Childless couples of the same marital quality divorce more readily, even in the absence of major problems. Thus, the intact childless couples become more and more selected for high marital quality relative to couples with children.

Our results suggest that, although young children hold marriages together, older children do not and may push couples apart. This result could occur if a birth causes couples who would otherwise have divorced to stay together, at least in the short run. Then the sample of couples with older children would include some who would have divorced had they not become parents. If the inhibiting effect of children fades and eventually disappears, these couples would then show higher divorce rates than childless couples simply because some of them had put off divorce earlier.

An alternative argument suggests that children become a source of marital tension as they get older, especially as teenagers, when the strains of parenthood could augment the strains of marriage, leading to increased risks of disruption. And once children reach adulthood and leave home, parents need to give up very little contact with their children if they want to dissolve their marriage. Although our data do not allow us to test these

⁷ Becker et al. (1977) report that the number of children older than 17 had an insignificant positive coefficient on divorce at marital durations from 20 to 25 years. They interpret this to suggest that parents sometimes delay dissolving their marriage until children are older.

or other explanations of the increased risks of marital disruption faced by parents with school-aged and teenaged children, we view this as an interesting and important question for further research.

Our results on the *disruptive* effect of older children on the stability of their parents' marriage, although theoretically understandable and foreshadowed by some previous empirical work, are surprising in their strength and behavioral implications. We look forward to their replication by others.

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