Sons, Daughters, and the Risk of Marital Disruption
Author(s): S. Philip Morgan, Diane N. Lye, Gretchen A. Condran
Source: *The American Journal of Sociology*, Vol. 94, No. 1 (Jul., 1988), pp. 110-129
Published by: The University of Chicago Press
Stable URL: http://www.jstor.org/stable/2781024

Sons, Daughters, and the Risk of Marital Disruption[1]

S. Philip Morgan, Diane N. Lye, and Gretchen A. Condran
University of Pennsylvania

The association between the sex of children and their parents' risk of marital disruption is examined using the June 1980 Current Population Survey. The finding is that sons reduce the risk of marital disruption by 9% more than do daughters. This difference holds across marriage cohorts, racial groups, and categories of mother's education. A compelling explanation for these findings, supported by data from the National Survey of Children, stresses a father's greater role in raising sons than daughters and his consequently greater involvement in the family. Children provide a new basis for marital cohesion, one that rests on attachments and obligations to children. For fathers, the obligations and attachments are greater if they have sons.

Our interest in whether parents' risk of marital disruption was influenced by the sex as well as the number of their children originated in two empirical observations. First, using 1970 Census data and 1975 Current Population Survey (CPS) data, Spanier and Glick (1981) noted that U.S. women who had at least one son were more likely to be in an intact first marriage than those with all daughters. Second, published data from the CPS show that in recent years girls have been slightly more likely than boys to be living in poverty.[2] (See, e.g., U.S. Bureau of the Census 1984, 1985.) The first observation provides a possible explanation for the second since parents' marital disruption and subsequent residence with a single female parent are a major route into poverty for children (Preston 1984). In this paper, we show that couples with daughters experience higher risks of marital disruption than those with sons and, consequently,

[1] We thank Deanna Pagnini for research assistance, Chuck Denk for statistical advice on the continuous-time analysis, and Frank Furstenberg, Fran Kobrin Goldscheider, Jerry Jacobs, Ronald Rindfuss, Lindsay Chase-Lansdale, Doug Sloane, and Susan Watkins for their helpful comments. Requests for reprints should be sent to S. Philip Morgan, Population Studies Center, University of Pennsylvania, Philadelphia, Pennsylvania 19104.

[2] We are indebted to Sam Preston for initially pointing out this fact to us.

0002-9602/89/9401-0005$01.50

that girls are more likely than boys to experience the separation of their parents. Although the differentials we find are small, they have important implications for our understanding of marital stability, family functioning, and the role of the family in socializing children to gender roles.

MARITAL DURATION, CHILDREN, AND MARITAL STABILITY

Studies covering broad expanses of time and many cultures show that the likelihood of marital disruption is greatest in the first few years of marriage and declines thereafter (see, e.g., Preston 1975; Becker, Landes, and Michael 1977; Howell 1979; Morgan and Rindfuss 1985). Part of the explanation, no doubt, involves a selection process whereby only the stronger marriages survive to later durations. However, other explanations stress that marriages form new bases for stability over time. A couple may marry for one set of reasons but acquires additional reasons to stay married as the marriage progresses.

Parenthood provides an important basis for marital stability. Although children reduce reported marital satisfaction (Renne 1970, 1976; Ryder 1973), they greatly lower the risk of marital disruption (Cherlin 1977; Koo, Suchindran, and Griffith 1984; Morgan and Rindfuss 1985; Waite, Haggstrom, and Kanouse 1985). Using controls for the socioeconomic position of couples does not eliminate the differential in disruption rates between those with children and those with none. Again, part of this association may result from selection if the couples with the least stable marriages postpone childbearing in anticipation of disruption. But children also appear to constitute financial, legal, and emotional barriers to divorce. Parenthood may encourage a greater division of labor between husband and wife, it may foster a more active interaction with the extended family, and, at the community level, concern for children may engender more condemnation of marital disruption. Parents are held together by a web of obligations and attachments not only to each other but also to their children.

Both sociologists and economists have offered theoretical arguments that can explain the changes in marital disruption rates with longer duration and the addition of children. Following Durkheim's ([1893] 1933, p. 56) argument that "the sexual division of labor is the source of conjugal solidarity," sociologists have maintained that childbearing and rearing produce greater role differentiation and, thus, greater interdependencies between wives and husbands. Durkheim called solidarity based on such interdependencies *organic solidarity*.

Economists, following Becker et al. (1977; Becker 1981), conceptualize the changing basis of marriage with increasing marital duration as increasing *marital-specific capital*. Marital-specific capital refers to products or skills useful in a marriage but less useful or valuable outside the marriage. Knowledge and understanding of one's spouse are an example; child-rearing skills are another.

These arguments can be extended to explain different rates of marital disruption by the sex of children. If, for example, parents invest more time in sons than daughters, then in economic terms girls engender less marital-specific capital than boys. Parents may also anticipate fewer long-run benefits from daughters than from sons.

In Durkheimian terms, parents have a greater sexual division of labor than couples with no children. Sons may encourage a second tier of differentiation within parenting. Because parents attempt to re-create their own gender differentiation in their offspring, fathers are expected to have a greater role in raising sons than in raising daughters. Such gender differentiation stems largely from social norms about the appropriate behavior of sons and daughters and parental behavior toward sons and daughters. Fathers are expected to be role models for sons and to take an active part in making rules for, disciplining, and teaching sons. An obvious example is the expectation that fathers will teach their sons how to play and appreciate sports. Fathers are assumed to have less to impart to daughters, and their socialization is more often left disproportionately to mothers. The idea that fathers are crucial for socializing sons, especially in the area of gender roles, creates an additional dependence between spouses; that is, it increases organic solidarity.

Ironically, one can also argue that the greater participation of fathers in rearing sons places parenting more clearly within the fathers' traditional sphere and makes it less the sole domain of mothers. When there are sons, therefore, the roles of mothers and fathers may be more similar in some ways than when all the children are girls, boosting mechanical solidarity that arises from shared experience, goals, and values rather than organic solidarity that derives from role differentiation.

A small amount of research has focused on fathers who are very involved in child rearing (see Russell 1986). Some couples report positive consequences from more egalitarian roles—increased sensitivity, understanding, and equality. But the entrance of fathers into areas that were previously dominated by mothers can cause conflict as well. Disagreements between spouses arise because institutionalized patterns are set aside and new ones must be developed. Notice, however, that we have argued that, because there is an institutionalized role for fathers to play in the parenting of sons, their involvement with sons is not likely to increase conflict.

Research on child development supports the notions that fathers have a special role to play in the emotional development of sons and that marital disruption and the absence of the father are more harmful for boys than girls (see, e.g., Hetherington, Cox, and Cox 1978, 1982; Wallerstein and Kelly 1980). While nationally representative surveys have produced only weak evidence of more harmful effects of disruption for sons (see Furstenberg and Allison 1985; Furstenberg, Morgan, and Allison 1987), the accuracy of the idea is largely irrelevant if it is a view held by individual husbands or wives or widely shared by the community. Beliefs have real consequences, regardless of their factual bases.

Finally, while the arguments above focus on the different roles fathers play in raising sons and daughters, we do not assume that men are the sole instigators of marital disruption or that the decision to stay in a marriage is theirs alone. The beliefs about the importance of male role models for sons act as a deterrent to divorce for both parents of sons. It is likely that mothers, who get custody of children in most cases, face the prospect of raising sons alone with more trepidation than they do in raising daughters in those circumstances and would thus remain longer in a stressful marriage if they had sons.

DOES THE SEX OF CHILDREN AFFECT THE RISK OF MARITAL DISRUPTION? DATA, METHODS, AND RESULTS

The Current Population Survey Data

We have used data from the June 1980 CPS to estimate the risk of marital disruption for childless couples, the reduction in risk associated with having a first, second, and third child, and—our main focus—the comparative risks of disruption for those who have sons compared with those who have daughters. The CPS sample is a large and well-known data set that has been shown to produce reliable results (Swicegood, Morgan, and Rindfuss 1984; Thornton and Rodgers 1987). The data provide dates of first marriage, separation, and divorce, as well as birth dates and sex of (up to five) children. Date of separation is used here as the measure of marital disruption.

Our analysis is limited to respondents who first married after January 1960 and before their fortieth birthdays. The latter restriction means each cohort in the analysis is similarly truncated with respect to age at marriage. We further select only those whose first birth occurred within marriage because the first husband of a women is less likely to be the biological father of her child if the child is born out of wedlock than if the child is born within the marriage, and nonbiological children (especially stepchildren) have quite different effects on marital stability than biological ones (see White and Booth 1985). Many nonwhite respondents have first births out of wedlock and, consequently, the sample of blacks eligible for analysis is a relatively small and select group. We therefore limit most of our analysis to whites. An explicit comparison of results for whites and nonwhites is described in a later section.

Methods

The question we have posed can be answered with an event-history analysis, which we have done using both discrete-time and continuous-time models. We suspected that the continuous-time models would produce stronger results than discrete-time models because continuous time allows greater precision in dating both marital disruption and the birth of children. The continuous-time results were slightly stronger; however, both analyses produced very similar results, and, because results from the discrete-time analysis are easier to communicate to a broad audience, we report them here.[3]

Our analytic strategy, based on conditional odds, blends life-table logic with the multivariate control of logistic regression (see Guilkey and Rindfuss 1985). Specifically, marriage durations are broken into a series of eight-month segments, and marriages are included in each segment as long as they are intact. Once separation occurs, the marriage is no longer at risk and is excluded from subsequent segments. Marriages are also withdrawn if the husband dies or the June 1980 interview occurs before the end of the segment. The dependent variable in each segment is dichotomous—whether separation occurred or not. Because of the highly skewed nature of these dependent variables, logistic regression techniques are used to estimate effects. All intervals are pooled for analyses reported here. Pooled analyses allow for constraints (such as proportional effects), and tests of such constraints, across intervals. The number-by-sex composition of the children is treated as a time-varying covariate. That is, the risk of disruption is allowed to shift as the number-by-sex composition of children changes. (See App. for further details.)

Results

We focus on models that are displayed graphically in figures 1 and 2. The actual data and parameters of the models can be found in the Appendix tables. We constrained the sex-of-children effects to be the same at all marital durations (fig. 1) and at all ages of children (fig. 2). The arguments about paternal participation suggest the effects may be stronger at older ages of children and at later durations if fathers leave the care of infant sons and daughters to mothers. A test for variable effects by duration or

[3] The details and results of the continuous-time analysis are available from the authors.

age produces a coefficient with the predicted sign but only a very marginal improvement in fit. In addition, in the continuous-time analysis, we found no evidence for a strong pattern of duration dependence. Therefore, the models discussed below do not include terms representing interactions between marital duration and sex of children or between age of children and sex of children.

These constraints are actually consistent with considerable developmental research that shows consistent evidence of greater paternal involvement with sons beginning at very young ages (see Lamb 1986; Thompson 1983). Furthermore, in the next section we document the same pattern of differential paternal involvement in adolescence. Thus, the constant effects of sex of children across marriage durations (or age) match a persistent pattern of paternal participation well.

The top panel of figure 1 shows the effects of number of children and constrained effects of marital duration on marital disruption.[4] Note that the childless have the highest risk of marital disruption, except for those with children at the very early durations. A rapid pace of childbearing could lead to marital disruption because of the economic and emotional strains it produces. However, high early marital fertility could reflect other characteristics, such as young age at marriage, that are strong correlates of marital disruption but are not controlled in this analysis (see Morgan and Rindfuss 1985). Ascribing causation from results such as these is problematic because couples could have postponed childbearing in anticipation of disruption or, as we argued earlier, childbearing could have brought a new degree of stability to the marriage.

The model shown in the lower panel adds an effect of the sex of children for those with one or two children. A sex-of-children effect is not applicable to the childless, and the small number of couples with three or more children and marital disruptions makes the estimation of sex-of-children effect at high parities inappropriate. Thus, in the model shown in the lower panel of figure 1, these groups have the same risk of divorce as in the first model. For couples with one child, the figure shows that the risk of disruption is 9% higher for those with a daughter than for those with a son. For two-child families, the risk of disruption is lowest for couples with two sons, followed by those with one son and one daughter (9% higher), and the highest observed risk is for couples with two daughters (18% higher). Note that the model chosen constrains all these effects to be 9% (or a multiple), but such constraints match the observed pattern of effects well.

[4] The effect of duration is represented by a linear and squared term (with duration scored 1–10). The patterns of effects are different for childless, one child, and other families. As judged by goodness-of-fit tests, these constraints on the duration effects are legitimate statistically. Again, the model parameters are shown in table A3.

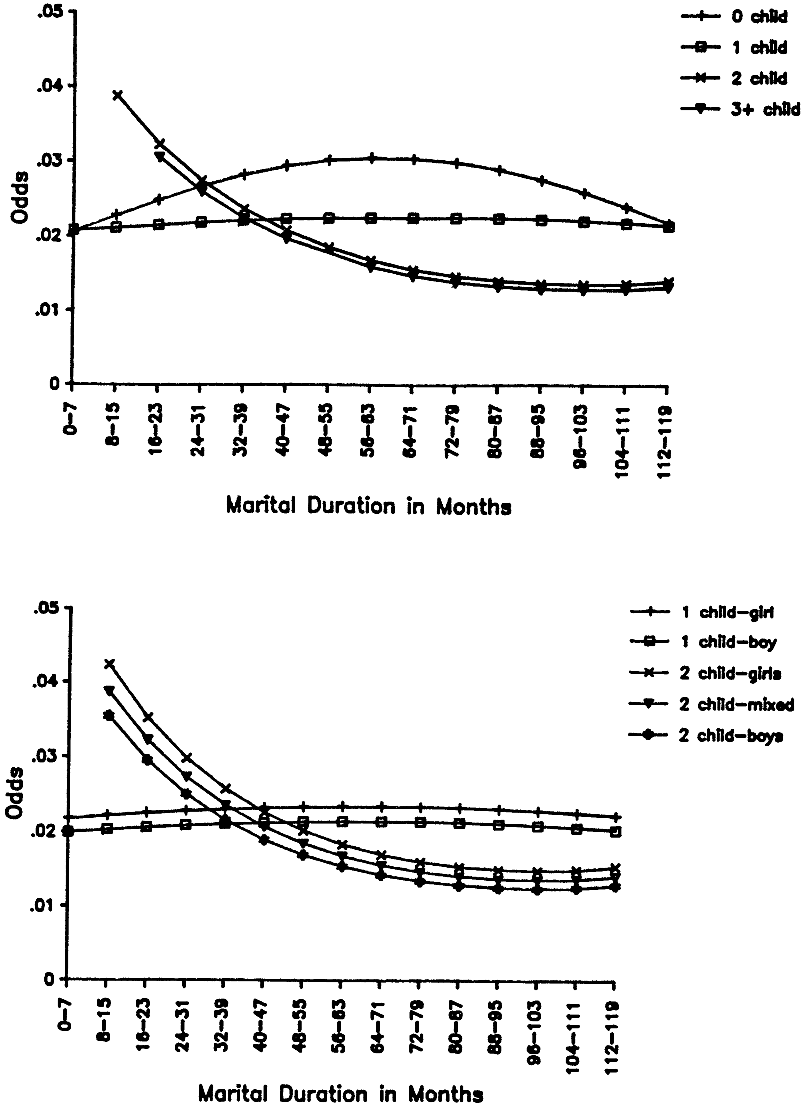

FIG. 1.—Expected odds of disruption by marital duration and number of children in family (upper panel) and by marital duration and number and sex of children in family (lower panel).

By rearranging the data we can observe children's risks of experiencing their parents' separations. In this analysis, age of the first child aged 1–15 replaces duration of marriage. We have changed the point of view from that of couples to that of first children to fit our work into an emerging literature analyzing the experiences of children. In addition, although highly correlated, duration of marriage and age of children are not perfect indicators of each other, and the latter may have more theoretical importance.

First children's risks of experiencing marital disruption are shown, by one-year intervals, in figure 2. With techniques similar to those used in analyzing data from the point of view of the couples, we show the effect of number of children (top panel) and the effect of the children's sex (bottom panel) on their risks of experiencing the disruption of their parents' marriages. Only children are most likely to experience disruption at every age observed but especially at the middle of the age range shown. Parents whose first children have reached these ages (long interbirth intervals) receive substantial normative pressure to have another child (Blake 1981). Not having another child may indicate marital difficulties and that fertility is being delayed in anticipation of marital disruption. Our data are not ideally suited for explaining the effect of the number of children on marital disruption, but our focus is on differentials in disruption by the sex of children. The bottom panel shows that girls are 9% more likely to experience their parents' marital disruptions when they are only children than are boys. Similarly, for daughters who have a brother the risk of their parents' separation is 9% lower than for those who have a sister. In short, the sex effect on the risk of experiencing disruption is in the same direction and of the same magnitude for children as it is for couples with a given sex composition of children.

From the perspective of both couples and children the risks of experiencing marital disruption are affected by the sex as well as by the number of children in the family. The effects of the sex composition of children are small compared with those of some well-known correlates of divorce such as age at marriage. Morgan and Rindfuss (1985, table 2) show that marrying before age 20 roughly doubles (increases by 100%) the risk of disruption in marital-duration intervals identical with those analyzed here. Bumpass and Rindfuss (1983) show similar racial differences in children's risk of experiencing disruption. Another way to assess the size of these effects is to estimate the cumulative probability of experiencing disruption given the effects we estimate. Table 1 contains, by sex and the presence and sex of siblings, the proportions of first children experiencing their parents' marital disruption. By age 15, nearly 40% of the children from families with only males will have experienced their parents' marital disruption, compared with 43% of the children from families with only

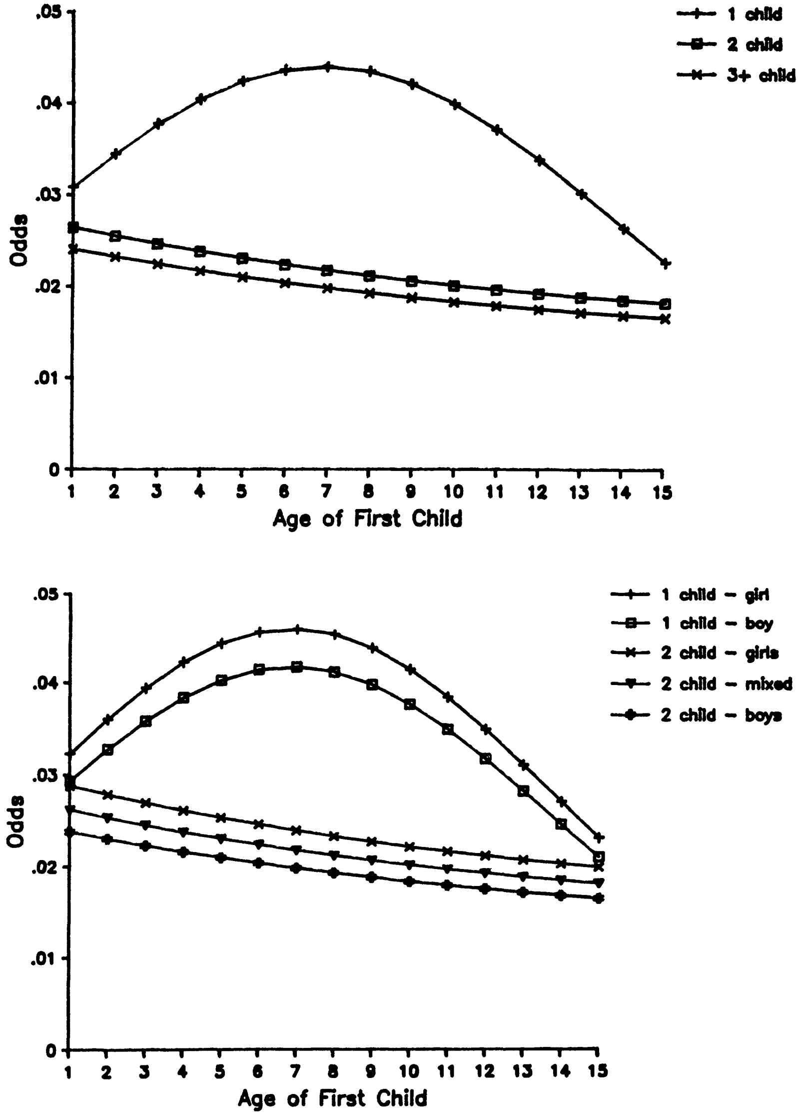

FIG. 2.—Expected odds of parents' marital disruption for first children by age and by number of children in family (upper panel) and by age and by number and sex of children in family (lower panel).

TABLE 1

ESTIMATED CUMULATIVE PROPORTION OF FIRST CHILDREN WHO WOULD, DURING FIFTEEN YEARS OF LIFE, EXPERIENCE THE DISRUPTION OF THEIR PARENTS' MARRIAGE BY PRESENCE AND SEX OF SIBLING

	Cumultative Proportion Experiencing Parents' Marital Disruption
1. Boy	.399
2. Girl	.428
3. Boy and boy	.273
4. Girl and girl	.312
5. Boy and girl	.289
6. Girl and boy	.295

NOTE.—Siblings in items 3–6 are born when first child is two years old.

females. The remaining childbearing scenarios allow for a sibling born when the first child is two years old. The proportion of first children experiencing separation decreases with the addition of a sibling but decreases by slightly more if the sibling is a male. The differences by sex of sibling are generally about one-third as great as the effect of having an additional child.

Our theoretical arguments suggest that the effect of sex of children on marital disruption will be modest, but the effects are as predicted and are probably not caused by sampling variability (sex effects are significant at the .03 level). Because sex of children is unrelated to other covariates of marital disruption, the results we present are unlikely to be spurious. However, the effect we document could be isolated within subsets of the sample population we have analyzed. The results above refer only to white women (and their children). Although we do not show it here, we tested for variability in the estimated sex-of-children effect by race and found very similar results for whites and blacks. However, other subgroups of the population might also show different effects of sex of children on marital disruption. One could argue that sex differentiation in child rearing is less in higher-status families (measured by mother's having more than a high school education) or among recent cohorts (marriages contracted since 1968). We find no strong evidence for either hypothesis.

ARE FATHERS MORE INVOLVED IN RAISING SONS THAN DAUGHTERS? DATA, METHODS, AND RESULTS

We have argued that fathers' greater involvement with sons produces marital-disruption differentials by the sex of the children. Developmental psychologists find substantial evidence of greater paternal involvement with sons than daughters, beginning at very young ages. Even in the first year of life (Lamb 1976; Kotelchuck 1976), fathers give more attention to sons than daughters (Lamb 1977; Belsky 1979). By the end of the second year, sons are said to respond more actively to fathers than do daughters. Lamb (1986, p. 10) finds that fathers' greater interest and involvement with sons holds regardless of the children's ages. Using the National Survey of Children (NSC), one of the few nationally representative surveys dealing with this substantive area, we have addressed a number of questions concerning fathers' involvement with children. Specifically, Are fathers reported to be "closer" to sons than to daughters? Do they engage in more activities with sons? and Are they more involved in rule making and disciplining for sons than for daughters? The NSC data suggest clear positive answers to each of these questions.

The NSC Data

The data for this analysis are from the 1981 (second) round of the NSC, a longitudinal study of a nationally representative sample of children first interviewed in 1976, when they were aged 7–11. In both rounds, data were collected from the children, a parent, and a teacher. Of interest to us are the data relevant to the questions posed above that were collected in 1981 from the child and a parent (usually the mother). Substantive interests in the effects of marital disruption led the 1981 follow-up survey to be restricted to (1) all children who lived in a disrupted family in 1976, (2) all children whose parents had a poor quality marriage and were therefore at high risk of experiencing marital disruption in the future, and (3) a random subsample of children whose parents were in medium and high quality marriages. Tabulations reported here have been weighted by the differential likelihood of being reinterviewed. (See Furstenberg et al. [1983] for a further description of the sample and data collection procedures.)

Results

In almost all cases the parental respondent was the child's mother. For a child living with his biological father and mother, table 2 shows the mother's report of her closeness to the child by the child's sex and a parallel report of the mother's report of the father's closeness to the child. There is little difference in the mother's closeness by the sex of the child; the null hypothesis of no association cannot be rejected. However, there is clear evidence of an association between her report of her husband's closeness to the child and the child's sex. Mothers are much more likely to

TABLE 2

Mother's Report of Child's Closeness to Mother and Father by the Sex of the Child

	Close to Mother[a]			Close to Father[b]		
Degree of Closeness	Sons	Daughters	Sons/ Daughters	Sons	Daughters	Sons/ Daughters
Extremely close	187 (42)	161 (39)	1.16	171 (39)	116 (29)	1.47
Quite close	210 (47)	198 (48)	1.06	185 (42)	175 (43)	1.06
Fairly close	48 (11)	49 (12)	.98	75 (17)	88 (22)	.80
Not close	5 (1)	2 (1)	2.50	10 (2)	27 (7)	.37
Total	450 (100)	410 (100)		442 (100)	406 (100)	

Note.—Percentages are in parentheses.
[a] Is your relationship with (child): 1) extremely close, 2) quite close, 3) fairly close, or 4) not very close? $N = 860$, $\chi^2 = 1.4$, $P > .70$.
[b] Is (spouse)'s relationship with (child): 1) extremely close, 2) quite close, 3) fairly close, or 4) not very close? $N = 848$, $\chi^2 = 13.0$, $P < .01$.

TABLE 3

Children's Reports of Frequency of Doing Things They Enjoy with Their Mothers and Fathers

	Do Things with Mothers[a]			Do Things with Fathers[b]		
Frequency of Activities	Sons	Daughters	Sons/ Daughters	Sons	Daughters	Sons/ Daughters
Often	132 (30)	161 (39)	.82	245 (55)	123 (30)	1.99
Sometimes	267 (60)	190 (46)	1.41	157 (36)	206 (51)	.76
Hardly ever	48 (11)	59 (14)	.81	41 (9)	76 (19)	.54
Total	448 (100)	410 (100)		443 (100)	405 (100)	

Note.—Percentages are in parentheses.
[a] Do you and she (your mother) do things together that you enjoy: 1) often, 2) sometimes, or 3) hardly ever? $N = 858$, $\chi^2 = 15.3$, $P < .01$.
[b] Do you and he (your father) do things together that you enjoy: 1) often, 2) sometimes, or 3) hardly ever? $N = 848$, $\chi^2 = 55.6$, $P < .01$.

TABLE 4

PERCENTAGE OF MOTHERS AND CHILDREN WHO REPORT THAT FATHERS MAKE MOST DECISIONS IN OR HAVE RESPONSIBILITY FOR SPECIFIC AREAS

	MOTHER'S REPORT		CHILD'S REPORT	
	Sons	Daughters	Sons	Daughters
Decisions about:				
Buying clothes	0	0	3	1
How child spends money	...	...	10	5
Friends child goes out with	3	1	4	2
How late child stays out	7	5	19	16
Amount of allowance	...	...	31	24
How much television child watches	3	1	9	6
Religious training	2	1	7	3
Responsibility for:				
Seeing homework is done	...	...	6	2
Discipline problems	...	...	19	15
School conferences	...	...	3	2

report sons than daughters as close to their fathers. The sex ratio (sons/daughters) is 1.47 for reports of "extremely close" and declines steadily to .37 for reports of "not very close." The reliability of this finding is bolstered by similar results obtained from the childrens' reports of closeness to mothers and fathers (results not shown here).

A second hypothesis is that fathers will engage in more activities with sons than daughters. The NSC contains a general question asked of the child: "How often do you and your mother [also asked separately about the father] do things together that you enjoy?" This question attempts to measure the amount of "quality time" parents spend with children. Table 3 shows responses to these questions. The results are quite clear: daughters report more frequent activities with their mothers than do sons, and sons report more activities with their fathers than do daughters.

Third, we hypothesized that fathers are more involved in setting rules for and disciplining sons than daughters. Again the NSC provides strong evidence for this hypothesis. Children were asked the following question: "When you've done something wrong, does your mother [asked separately for father] often, sometimes, or never talk to you about what you did wrong?" Sons reported more discussions with both parents, but the sex differential was much larger for the question about discussions with fathers (results not shown). Table 4 shows responses to questions asked of the mother and the child about whether the mother, the father, or the child most often made decisions or was responsible in a number of areas of the child's behavior. Respondents were asked to report who most often did this "thing" (see response items in table 4): the child, the mother, the father, or some other person. Fathers were much less likely than mothers to be involved in these activities (not shown in this table), but fathers were consistently more likely to be mentioned by sons (or mothers of sons) than by daughters (or mothers of daughters).

We also examined whether these findings on the differential involvements of fathers with sons and daughters held across major social structural categories such as mother's education and mother's race. The differences appear to be quite pervasive, although more detailed study of additional indicators is needed. This pervasive differential in paternal participation by child's sex fits well with our findings of a pervasive difference in the risks of marital disruption by child's sex.

SUMMARY AND DISCUSSION

Using marital and birth histories from the 1980 CPS, we have shown that women who have daughters are more likely to experience marital disruption than those who have sons. Likewise, daughters are more likely than sons to experience the disruption of their parents' marriages. The relative risk of disruption is about 9% greater for daughters or for couples that have a daughter. We have argued that parenthood creates a new basis for marital stability and that this basis is especially strong if fathers are actively involved in parenting. But since norms encourage greater paternal participation in raising sons than daughters, active parenting by fathers is more common when there are sons.

Using data from the NSC, we find considerable evidence that fathers are actually more involved in rearing sons than in rearing daughters. Judging from the reports of both mothers and children, sons are closer to fathers than are daughters; according to the children, fathers participate in more activities with sons than with daughters; and children and mothers report that fathers are more involved in rule setting and discipline for boys than for girls.

While the differential in the risk of disruption for daughters and sons is small, it is important because it provides important clues about the reasons for the association between parenthood and marital stability. Many studies have shown that parents are less likely to separate than couples with no children. Because parents are a select group of all couples and differ from nonparents on a number of dimensions besides parenthood (see Morgan and Waite 1987), it is very difficult to demonstrate that parenthood actually produces greater marital stability. In addition, the association between numbers of children and marital stability may represent the opposite causal chain, that is, that marital stability leads to children. In contrast, the sex of children does not generally involve selection, and before the child's birth those who subsequently have sons are indistinguishable on the confounding variables from those who have daughters. Our finding of differential rates of disruption by sex of children provides indirect support for the overall theory that children provide a new basis for marital stability built on parents' involvement with and investments in children. All children increase stability, but sons promote greater stability than daughters because they elicit a greater investment and involvement from fathers.

APPENDIX

Methods Used to Estimate the Effects of Number and Sex of Children on the Risk of Marital Disruption

We estimated discrete-time, event-history models with the risk of marital disruption at various durations of marriage (table A1) or age of the child (table A2) as the dependent variable. The number-by-sex composition of children is a time-varying covariate. The top panel of table A1 shows the number of women at each duration of marriage by the number and sex composition of their children. The data are analyzed using minimum logit χ^2 regression (Berkson 1953).

In this method, the dependent variable is defined as the natural logarithm of the odds of disruption: $Y = \ln [(A + ½)/(B + ½)]$, where A is the number of women who experience disruption and B is the number who do not.

In this method, each cell defined in the cross-classification of the independent variables is used as an observation. The logit in each cell is the dependent variable, and the factors included are the independent variables (in this case, the number and sex composition of the woman's children). Each cell is weighted by the ratio of its sample size (n) to its sampling variance.

The weighted cases are then analyzed by any least-squares program that takes weighted input. The regression coefficients from this "weighted least-squares" regression are estimates of the parameters of the model. Interaction models can be handled in the usual way. The fit of the model is evaluated using the residual sum of squares (RSS) from the weighted least-squares regression. The RSS is distributed approximately as χ^2 with df equal to the number of logits (cases) minus parameters estimated.

Table A3 shows six selected models fitted to the data in tables A1 and A2. Each of the first three models represents the effects of duration by a linear and squared term. Such a constraint fits the data well as long as the pattern of dependence is allowed to vary across the childless, those with one child, and those with two or more children. The interaction terms allow for different patterns of duration dependence for these groups.

TABLE A1

NUMBER OF MARRIAGES AND ODDS OF DISRUPTION BY MARITAL DURATION AND NUMBER AND SEX OF CHILDREN IN FAMILY: FIRST MARRIAGES BEGUN 1/60–9/79

	MARITAL DURATION IN MONTHS														
	0–7	8–15	16–23	24–31	32–39	40–47	48–55	56–63	64–71	72–79	80–87	88–95	96–103	104–11	112–19
Number and sex of children in family:															
No children	15,851	11,191	8,385	6,406	4,858	3,815	2,961	2,312	1,817	1,472	1,191	988	841	714	617
One child–boy	1,305	2,972	3,565	3,467	3,123	2,732	2,366	1,939	1,584	1,323	1,098	885	702	596	500
One child–girl	1,180	2,764	3,339	3,268	2,978	2,618	2,245	1,863	1,541	1,288	1,041	838	687	553	465
Two children–boys	...	22	167	435	704	899	1,812	1,121	1,124	1,107	1,039	988	920	847	768
Two children–mixed	...	34	303	807	1,250	1,604	1,822	1,985	2,114	2,111	1,997	1,881	1,796	1,633	1,457
Two children–girls	...	26	149	420	644	814	928	960	976	961	918	841	767	688	620
Three children	...	...	10	49	213	481	843	1,212	1,511	1,797	2,042	2,229	2,363	2,406	2,451
Observed odds:															
No children	.0195	.0222	.0300	.0260	.0278	.0254	.0330	.0310	.0245	.0226	.0280	.0318	.0300	.0310	.0156
One child–boy	.0207	.0225	.0178	.0229	.0231	.0173	.0192	.0256	.0183	.0236	.0209	.0213	.0270	.0214	.0131
One child–girl	.0150	.0175	.0282	.0227	.0253	.0201	.0193	.0250	.0222	.0218	.0302	.0115	.0246	.0250	.0231
Two children–boys	...	.0222	.0533	.0128	.0225	.0107	.0097	.0177	.0149	.0217	.0122	.0149	.0149	.0077	.0125
Two children–mixed	...	.1111	.0288	.0379	.0158	.0187	.0153	.0151	.0141	.0176	.0140	.0088	.0144	.0133	.0157
Two children–girls	...	.0588	.0309	.0181	.0214	.0258	.0305	.0142	.0109	.0175	.0194	.0151	.0206	.0155	.0057
Three children	...	...	.0476	.0526	.0071	.0158	.0249	.0138	.0117	.0155	.0141	.0139	.0131	.0099	.0134

TABLE A2

NUMBER AT RISK AND ODDS OF EXPERIENCING MARITAL DISRUPTION BY CHILD'S AGE AND NUMBER AND SEX OF CHILDREN IN FAMILY: FIRST CHILDREN IN FIRST MARRIAGES BEGUN 1/60–6/79

	AGE OF FIRST CHILD IN YEARS														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Number and sex of children in family:															
One child–boy	6,089	4,074	2,413	1,404	911	660	497	387	308	233	185	139	111	91	65
One child–girl	5,709	3,878	2,341	1,384	893	618	449	362	277	218	162	123	100	76	51
Two children–boys	68	789	1,324	1,401	1,258	1,092	927	777	657	549	457	363	291	224	173
Two children–mixed	94	1,436	2,278	2,524	2,374	2,075	1,755	1,496	1,273	1,049	864	708	568	444	339
Two children–girls	65	748	1,151	1,215	1,059	920	775	629	518	424	343	279	230	176	139
Three children	4	54	489	1,182	1,781	2,190	2,454	2,518	2,469	2,335	2,137	1,958	1,744	1,461	1,215
Observed odds:															
One child–boy	.0297	.0341	.0385	.0365	.0453	.0401	.0517	.0224	.0317	.0331	.0362	.0182	.0323	.0279	.0076
One child–girl	.0286	.0373	.0453	.0363	.0414	.0627	.0169	.0476	.0202	.0355	.0284	.0206	.0254	.0922	.0097
Two children–boys	.0222	.0122	.0299	.0237	.0174	.0210	.0192	.0203	.0194	.0120	.0099	.0182	.0192	.0204	.0205
Two children–mixed	.0270	.0283	.0208	.0212	.0244	.0194	.0248	.0208	.0229	.0179	.0170	.0179	.0044	.0148	.0226
Two children–girls	.0233	.0281	.0263	.0353	.0207	.0182	.0258	.0219	.0206	.0278	.0346	.0018	.0065	.0261	.0409
Three children	.1111	.0280	.0240	.0194	.0209	.0188	.0164	.0209	.0209	.0230	.0183	.0153	.0160	.0149	.0154

TABLE A3

SELECTED MODELS FIT TO DATA

	Fit to Data in Table A1			Fit to Data in Table A2		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Variables:						
1. Interval (1–15)	.122	.122	.122	...	...	...
2. $(\text{Interval})^2$	−.007	−.007	−.007	...	...	...
3. Age (1–15)	...	...	...	−.035	−.036	−.038
4. $(\text{Age})^2$	...	...	...	.001	.001	.001
5. One child	.064	.057	.098	...	...	...
6. Two children	1.089	1.073	1.165	−.052	−.042	.013
7. ≥ Three children	1.113	1.106	1.110	−.062	−.041	−.081
8. One child–girl	.071	...	...	.063	...	...
9. Two children–mixed	.055	...	...	.052	...	...
10. Two children–girls	.201	...	...	.234	...	...
11. Number girls (0–2)	...	.088	...	...	.095	...
Interactions:						
(5 + 6 + 7) × (1)	−.352	−.350	−.350	...	...	...
(5 + 6 + 7) × (2)	.017	.016	.016	...	...	...
(5) × (1)	.252	.250	.250	...	...	...
(5) × (2)	−.010	−.010	−.010	...	...	...
(6 + 7) × (3)	...	...	...	.176	.177	.179
(6 + 7) × (4)	...	...	...	−.011	−.011	−.011
Constant	−3.993	−3.993	−3.993	−3.64	−3.657	−3.610
χ^2	114.9	115.5	120.4	83.6	84.9	91.1
df	86	88	89	79	81	82

Interest focuses on the number and sex of children contrasts (rows 6–9). Model 3 allows for an effect of number of children but not an effect of the sex of children. Expected odds from this model are plotted in the top panel of figure 1. Model 1 adds to model 3 an unconstrained effect of sex of children. Model 2 constrains the effects to be linear—having each additional girl increases the log odds of disruption by .088. Model 2 provides an improved fit over model 3 at approximately the .03 level. This is the preferred model for these data and is shown graphically in figure 1, bottom panel.

The analysis of data in table A2 proceeds in the same way, and the set of models using data arranged by age of first child parallel those just discussed.

REFERENCES

Becker, Gary S. 1981. *A Treatise on the Family*. Cambridge, Mass: Harvard University Press.

Becker, Gary S., Elizabeth M. Landes, and Robert T. Michael. 1977. "An Economic Analysis of Marital Stability." *Journal of Political Economy* 85:1141–87.

Belsky, J. 1979. "Mother-Father-Infant Interaction: A Naturalistic Observation Study." *Developmental Psychology* 15:601–7.

Berkson, J. 1953. "A Statistically Precise and Relatively Simple Method of Estimating Bioassay with Quantal Response Based on the Logistic Function." *Journal of the American Statistical Association* 48:565–99.

Blake, Judith. 1981. "The Only Child in America: Prejudice versus Performance." *Population and Development Review* 7:43–54.

Bumpass, Larry, and Ronald R. Rindfuss. 1983. "Children's Experience of Marital Disruption." *American Journal of Sociology* 85:49–65.

Cherlin, Andrew. 1977. "The Effect of Children on Marital Dissolution." *Demography* 14:265–84.

Durkheim, Émile. (1893) 1933. *The Division of Labor in Society*. London: Macmillan.

Furstenberg, Frank F., Jr., and Paul D. Allison. 1985. "How Marital Dissolution Affects Children: Variations by Age and Sex." Paper presented at the annual meetings of the Society for Research in Child Development, Toronto.

Furstenberg, Frank F., Jr., S. Philip Morgan, and Paul D. Allison. 1987. "Paternal Participation and Children's Well-Being after Divorce." *American Sociological Review* 52:695–701.

Furstenberg, Frank F., Jr., Christine W. Nord, James L. Peterson, and Nicholas Zill. 1983. "The Life Course of Children of Divorce." *American Sociological Review* 48:656–67.

Guilkey, David D., and Ronald R. Rindfuss. 1984. "Logistic Regression Multivariate Life Tables: A Communicable Approach." Paper presented at the annual meetings of the Population Association of America, Minneapolis.

Hetherington, E. M., M. Cox, and R. Cox. 1978. "The Aftermath of Divorce." Pp. 149–76 in *Mother/Child-Father/Child Relationships*, edited by J. H. Stevens and M. Matthews. Washington, D.C.: National Association for the Education of Young Children.

———. 1982. "Effects of Divorce on Parents and Children." Pp. 233–88 in *Nontraditional Families*, edited by M. E. Lamb. Hillsdale, N.J.: Erlbaum.

Howell, N. 1979. *Demography of the Dobe! Kung*. New York: Academic.

Koo, Helen P., C. M. Suchindran, and Janet D. Griffith. 1984. "The Effects of Children on Divorce and Remarriage: A Multivariate Analysis of Life Table Probabilities." *Population Studies* 38:451–71.

Kotelchuck, M. 1976. "The Infant's Relationship to the Father: Experimental Evidence." Pp. 329–44 in *The Role of the Father in Child Development,* edited by M. E. Lamb. New York: Wiley.

Lamb, M. E. 1976. "Interactions between 8-month-old Children and Their Fathers and Mothers." Pp. 307–27 in *The Role of the Father in Child Development,* edited by M. E. Lamb. New York: Wiley.

———. 1977. "The Development of Mother-Infant and Father-Infant Attachments in the Second Year of Life." *Developmental Psychology* 13:637–48.

———. 1986. "The Changing Roles of Fathers." Pp. 3–27 in *The Father's Role,* edited by M. E. Lamb. New York: Wiley.

Morgan, S. Philip, and Ronald R. Rindfuss. 1985. "Marital Disruption: Structural and Temporal Dimensions." *American Journal of Sociology* 90 (5): 1055–77.

Morgan, S. Philip, and Linda J. Waite. 1987. "Parenthood and Attitudes of Young Adults." *American Sociological Review* 52:541–47.

Preston, Samuel H. 1975. "Estimating the Proportion of American Marriages That End in Divorce." *Sociological Methods and Research* 3:435–60.

———. 1984. "Children and the Elderly: Divergent Paths for America's Dependents." *Demography* 21:435–58.

Renne, Karen S. 1970. "Correlates of Dissatisfaction in Marriage." *Journal of Marriage and the Family* 32:54–67.

———. 1976. "Childlessness, Health, and Marital Satisfaction." *Social Biology* 23:183–97.

Russell, Graeme. 1986. "Primary Caretaking and Role Sharing Fathers" Pp. 29–57 in *The Father's Role,* edited by M. E. Lamb. New York: Wiley.

Ryder, R. G. 1973. "Longitudinal Data Relating Marriage Satisfaction and Having a Child." *Journal of Marriage and the Family* 35:604–6.

Spanier, Graham B., and Paul C. Glick. 1981. "Marital Instability in the United States: Some Correlates and Recent Changes." *Family Relations* 31:329–38.

Swicegood, C. Gray, S. Philip Morgan, and Ronald R. Rindfuss. 1984. "Measurement and Replication: Evaluating the Consistency of Eight U.S. Fertility Surveys." *Demography* 21:19–33.

Thompson, Russ A. 1983. "The Father's Case in Child Custody Disputes: The Contributions of Psychological Research." Pp. 53–100 in *Fatherhood and Family Policy,* edited by M. E. Lamb and Abraham Sagi. Hillside, N.J.: Erlbaum.

Thornton, Arland, and Willard L. Rodgers. 1987. "The Influence of Individual and Historical Time on Marital Dissolution." *Demography* 24 (1): 1–22.

U.S. Bureau of the Census. 1984. "Money Income and Poverty Status of Families and Persons in the United States: 1983." Current Population Reports Series P-60, No. 145. Washington, D.C.: Government Printing Office.

———. 1985. "Money Income and Poverty Status of Families and Persons in the United States: 1984." Current Population Reports Series P-60, No. 149. Washington, D.C.: Government Printing Office.

Waite, Linda J., Gus W. Haggstrom, and David E. Kanouse. 1985. "The Consequences of Parenthood for the Marital Stability of Young Adults." *American Sociological Review* 50:850–57.

Wallerstein, Judith S., and Joan Berlin Kelly. 1980. *Surviving the Breakup.* New York: Basic.

White, Lynn K., and Alan Booth. 1985. "The Quality and Stability of Remarriages: The Role of Stepchildren." *American Sociological Review* 50:689–98.