Longitudinal Studies of Effects of Divorce on Children in Great Britain and the United States

ANDREW J. CHERLIN, FRANK F. FURSTENBERG, JR., P. LINDSAY CHASE-LANSDALE, KATHLEEN E. KIERNAN, PHILIP K. ROBINS, DONNA RUANE MORRISON, JULIEN O. TEITLER

National, longitudinal surveys from Great Britain and the United States were used to investigate the effects of divorce on children. In both studies, a subsample of children who were in two-parent families during the initial interview (at age 7 in the British data and at ages 7 to 11 in the U.S. data) were followed through the next interview (at age 11 and ages 11 to 16, respectively). At both time points in the British data, parents and teachers independently rated the children's behavior problems, and the children were given reading and mathematics achievement tests. At both time points in the U.S. data, parents rated the children's behavior problems. Children whose parents divorced or separated between the two time points were compared to children whose families remained intact. For boys, the apparent effect of separation or divorce on behavior problems and achievement at the later time point was sharply reduced by considering behavior problems, achievement levels, and family difficulties that were present at the earlier time point, before any of the families had broken up. For girls, the reduction in the apparent effect of divorce occurred to a lesser but still noticeable extent once preexisting conditions were considered.

AT CURRENT RATES, ABOUT 40% OF U.S. CHILDREN WILL witness the breakup of their parents' marriages before they reach 18 (*1*). The research literature leaves no doubt that, on average, children of divorced parents experience more emotional and behavioral problems and do less well in school than children who live with both biological parents (*2*). But much less is known about why children whose parents divorce do less well. Most observers assume that their troubles stem mainly from the difficult adjustment children must make after their parents separate. Studies emphasize how difficult it can be for a recently separated mother or father to function effectively as a parent. "Put simply," wrote Wallerstein and Kelly, "the central hazard which divorce poses to the psychological health and development of children and adolescents is in the diminished or disrupted parenting which so often follows in the wake of the rupture and which can become consolidated within the post-divorce family" (*3*). Largely because of the widespread perception that marital disruption makes children more vulnerable to problems, a series of social policies and legal reforms were enacted in the 1970s and 1980s to increase and enforce child support payments and to encourage new custody practices that promote contact and cooperation between divorced parents (*4*).

We agree that events occurring after the separation can be critical for children's adjustment and that adequate child support payments and workable custody arrangements are indispensable. However, we present evidence that, at least for boys, tempers the conclusion that the aftermath of divorce is the major factor in children's adjustment. Our evidence, which comes from statistical analyses of national, longitudinal studies of children in both Great Britain and the United States, indicates that a substantial portion of what is usually considered the effect of divorce on children is visible before the parents separate. For boys, the apparent effect of divorce on behavior problems and school achievement falls by about half to levels that are not significantly different from zero, once preexisting behavior problems, achievement test scores, and family difficulties evident before the separation are taken into account. For girls, the same preexisting conditions reduce the effects of divorce to a lesser but still noticeable degree.

The observed differences between children from families in which the parents have separated or divorced and children from two-parent families may be traced to three distinct sources. The first source is the effect of growing up in a dysfunctional family—a home where serious problems of the parents or the children make normal development difficult. Parents with psychological impairments are reportedly more prone to divorce and their children are more likely to experience developmental difficulties (*5*). A second source, often accompanying the first, is severe and protracted marital conflict, which is known to harm children's development and often leads to divorce (*6*). The third source is the difficult transition that occurs only after couples separate—the emotional upset, fall in income, diminished parenting, continued conflict, and so forth. Although some researchers acknowledge the potentially adverse contribution of each source (*7*), nearly all empirical studies have focused exclusively on the third—the period after the separation—and have collected information only after the separation occurred (*8*).

Moreover, the current understanding of the effects of divorce on children is largely based on intensive, observational studies of a

A. J. Cherlin and D. R. Morrison are in the Department of Sociology, Johns Hopkins University, Baltimore, MD 21218. F. F. Furstenberg, Jr., and J. O. Teitler are in the Department of Sociology, 3718 Locust Walk, University of Pennsylvania, Philadelphia, PA 19104. P. L. Chase-Lansdale is at the Chapin Hall Center for Children, University of Chicago, 1155 East 60 Street, Chicago, IL 60637. K. E. Kiernan is at the Family Policy Studies Centre, 231 Baker Street, London NW1 6XE, United Kingdom. P. K. Robins is in the Department of Economics, University of Miami, Coral Gables, FL 33124.

relatively small number of families (*9*). These studies are invaluable because of the detailed observations of family interaction and child development they provide, but they typically are based on nonrandom samples of the population. In some influential clinical studies, there has not been a comparison group of intact families (*3*).

The British National Child Development Study

We describe two prospective studies that began with large samples of intact families. The British data come from the National Child Development Study (NCDS). Originally a study of perinatal mortality, the NCDS began as a survey of the mothers of all children born in England, Scotland, and Wales during the week of 3 to 9 March 1958 (*10*). Interviews were completed with 17,414 mothers, representing 98% of all women giving birth (*11*). In 1965, when the children were 7, the parents (usually the mothers) of 14,746 children were successfully reinterviewed. Local authority health visitors (trained nurses who normally saw every family before and after the birth of a child and frequently conducted follow-up visits, especially to families with difficulties) asked the mothers the majority of questions from the Rutter Home Behaviour Scale, which measured the children's behavior problems (*12*), and reported on the family's difficulties and use of social welfare services.

Our factor analyses of the Rutter items identified the two clusters of behavior problems typical of assessments such as these: "externalizing disorders" (aggression, disobedience) and "internalizing disorders" (depression, anxiety). However, the reliability of the internalizing subscale was considerably lower than that of the externalizing subscale. Consequently, we constructed a single, 18-item summated scale (α reliability = 0.72). The items were: temper tantrums, reluctance to go to school, bad dreams, difficulty sleeping, food fads, poor appetite, difficulty concentrating, bullied by other children, destructive, miserable or tearful, squirmy or fidgety, continually worried, irritable, upset by new situations, twitches or other mannerisms, fights with other children, disobedient at home, and sleepwalking.

In addition, the children's teachers filled out a detailed behavioral assessment at age 7, the Bristol Social Adjustment Guide (BSAG) (*13*). Again, our factor analyses showed the externalizing versus internalizing distinction, but the internalizing subscale was weaker. So again we constructed a single scale (α = 0.68). The children also were given reading and mathematics tests (*14*) and physical examinations at age 7. Then in 1969, when the children were 11, another round of interviews and testing was undertaken. Parents again were asked questions on children's behavior problems, and teachers once again filled out the BSAG (*15*). The reading and mathematics tests that had been given earlier were not appropriate for 11-year-olds; instead, the study used reading and mathematics achievement tests constructed specifically for this round of the NCDS, and standardized against normal populations, by the National Foundation for Educational Research in England and Wales (*16*).

Divorce and Children's Adjustment

We use parent-rated and teacher-rated behavior problems and reading and mathematics achievement, all measured at age 11, as the four outcome measures of children's adjustment in our analyses. In order to evaluate the relative contributions of pre- and post-separation sources of children's adjustment at age 11, we restricted our analyses to children whose parents were in an intact, first marriage in 1965, when the children were 7—the first time we have detailed information about the children's behavior and achievement. Then we followed these children as they split into two groups by age 11: those whose parents had divorced or separated and those who parents had remained together (*17*). (Henceforth by "divorce" we mean divorce or marital separation; we do not distinguish between them.)

The number of children living with both parents at age 7 and for whom outcome variables were observed at age 11 ranged from 11,658 to 11,837 for the four outcome variables. Among these, there were 239 instances of a divorce occurring between ages 7 and 11. A remarriage before age 11 occurred in only 47 of these instances, so we have not analyzed separately data on non-remarried and remarried cases but rather have combined them. One limitation of the NCDS is that it did not obtain the exact date at which a marital disruption occurred. We can determine whether or not a divorce occurred between the age 7 and age 11 interviews, but we cannot determine the exact timing of the divorce. We conducted all analyses separately by the child's gender because of evidence in the literature that the effect of divorce is different for boys than for girls (*2*).

As expected, we found that boys and girls whose parents had divorced between the age 7 and age 11 interviews showed more behavior problems at age 11, as rated by parents and by teachers, and scored lower than other children on reading and mathematics achievement tests at age 11, even after controlling for predictors such as social class and race (*18*) (model 1 in Fig. 1). On average, the magnitude of the differences was modest, although significantly different from zero. For example, boys whose parents divorced showed 19% [standard error (SE) = 8%] more behavior problems at age 11, according to ratings by their parents, than did boys whose

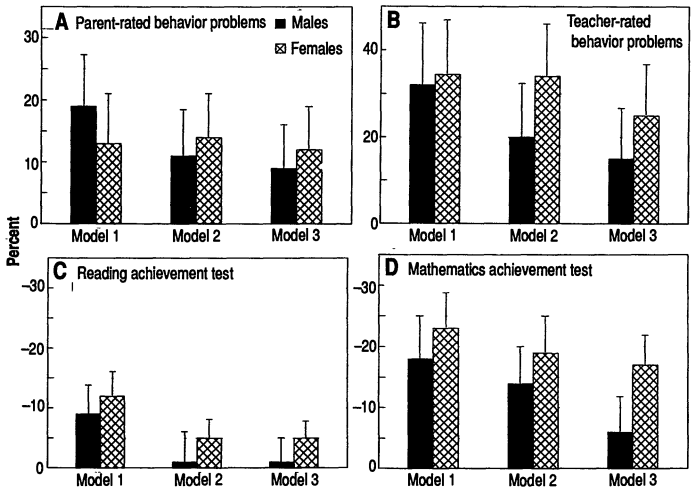

Fig. 1. Effects of a parental divorce or separation between ages 7 and 11 on four outcome measures for children age 11 in 1969 from the National Child Development Study, Great Britain (estimates restricted to children living with two married parents in 1965). (**A**) Behavior problems scale score as reported by parents. (**B**) Behavior problems scale score as reported by teachers. (**C**) Reading achievement test score. (**D**) Mathematics achievement test score. The height of the boxes shows the percentage by which the score of children whose parents divorced or separated between ages 7 and 11 was greater or less than the score of children whose parents remained married. In each of the four diagrams, three estimates of the effects of divorce are shown. Model 1 controls only for the social class and race of the child; model 2 controls additionally for the child's score on the same outcome measure at age 7, before anyone's parents were divorced; and model 3 adds further controls for characteristics of the child and family when he or she was 7. These included scales of family problems and difficulties from the Health Visitor's report and physician's reporting of physical handicap, mental retardation, or emotional maladjustment. Error bars represent one standard error.

parents were together, controlling for social class and race (Fig. 1A).

Unlike nearly all previous studies, we were able to introduce information on the children and parents before any of the families broke up. The measures we introduce may be proxies for family dysfunction and marital conflict. We first added the comparable 7-year-old behavior problems scale or achievement test score of the child (model 2 in Fig. 1). This step essentially adjusted the estimated effect of divorce for preexisting differences in behavior or achievement between children whose families would later divorce and children whose families would remain intact. For boys, the apparent effects of divorce dropped for all four outcome measures; for girls there was a drop in reading and mathematics achievement test scores. Finally, we controlled for other age 7 characteristics of the child and his or her family, such as the physician's rating of the child's mental and physical health and the Health Visitor's rating of the family's difficulties and use of social services (*19*) (model 3 in Fig. 1). After all the preseparation characteristics were taken into account, the apparent effect of divorce for boys fell by about half to levels that no longer were significantly different from zero for all four outcomes. For example, boys whose parents divorced now showed just 9% (SE = 7%) more behavior problems, according to parent ratings. For girls, the decline was smaller, and the remaining effect was significantly different from zero for two of the four outcomes (*20*).

The U.S. National Survey of Children

In order to determine whether these findings were generalizable beyond Great Britain in the 1960s, we estimated a similar set of models from U.S. data from the National Survey of Children (NSC), which began in 1976 with a random-sample survey of 2279 children aged 7 to 11 from 1747 families (*21*). In 1981, when the children were ages 11 through 16, additional interviews were conducted with parents and children in all families in which there already had been a separation or a divorce by 1976 or in which there was substantial marital conflict in 1976, and in a randomly selected subsample of intact, low-conflict families in 1976.

In both waves of the survey, a parent, usually the mother, was asked a series of questions about behavior problems similar in content to the Rutter Home Behaviour Scale in the NCDS (*12*) and to items in the Achenbach Child Behavior Checklist (*22*). In parallel with the procedure for the NCDS, we constructed single-factor scales from nine items in the 1976 data ($\alpha = 0.69$) and 24 items in the 1981 data ($\alpha = 0.90$). The items in the 1976 scale are fights too much, cannot concentrate, often tells lies, easily confused, breaks things, acts too young, very timid, has strong temper, and steals things. The items in the 1981 scale are changes in mood, feels no one loves him or her, high strung, tells lies, too fearful, argues too much, difficulty concentrating, easily confused, cruel to others, disobedient at home, disobedient at school, impulsive, feels inferior, not liked by other children, has obsessions, restless, stubborn or irritable, has strong temper, sad or depressed, withdrawn, feels others are out to get him or her, hangs around with kids who get into trouble, secretive, and worries too much.

Married parents in 1976 also were asked questions about conflict with their spouses covering nine areas, as follows: "Most married couples have some arguments. Do you ever have arguments about (i) chores and responsibilities, (ii) your children, (iii) money, (iv) sex, (v) religion, (vi) leisure time, (vii) drinking, (viii) other women or men, or (ix) in-laws?" We constructed a scale of marital conflict, which was the number of affirmative responses; scores ranged from 0 to 8 with a mean of 2.26 ($\alpha = 0.63$).

As with the British data, we restricted our analyses to children who were living with both of their parents at the first interview in 1976. As in the British study, these children were followed as their families split into divorced and nondivorced groups by 1981. Parent-rated behavior problems was the only outcome that could be compared adequately with the British findings (Fig. 2). The results for U.S. boys are similar to the results for British boys. Controlling for social class, race, and whether the mother was employed outside the home in 1976, boys whose parents had divorced between 1976 and 1981 showed 12% (SE = 4%) more behavior problems, on average (model 1). But when a control was added for behavior problems in 1976, before any of the parents divorced, the effect of divorce fell (model 2). And after a second control was introduced for the amount of marital conflict that was present in the home in 1976, the effect of divorce had fallen by approximately half, as in the British data, to 6% (SE = 4%), and it was no longer significantly different from zero.

For girls, however, the results are different from the British study. Controlling for class and race (model 1), there is little difference between girls from divorced families and girls from intact families. But with controls for 1976 behavior problems (model 2) and 1976 marital conflict (model 3), girls whose parents had divorced were showing somewhat fewer behavior problems than girls from intact families. In view of the inconsistency with the British data, we think it is prudent to be skeptical of this finding until it can be confirmed.

Conclusion

Overall, the evidence suggests that much of the effect of divorce on children can be predicted by conditions that existed well before the separation occurred. These predivorce effects were stronger for boys than for girls. Just when children begin to experience the process that precedes a divorce we cannot say. Our survey-based studies do not allow us to differentiate between a generally dysfunctional family and a family that has functioned adequately until the time that marital conflict becomes acute and the divorce process begins. It is also possible that the effects of divorce may differ for children older or younger than the ones in our studies or that divorce may have long-term effects on adult behavior. Nevertheless, the British and U.S. longitudinal studies suggest that those concerned with the effects of divorce on children should consider reorienting their thinking. At least as much attention needs to be paid to the processes that occur in troubled, intact families as to the trauma that children suffer after their parents separate.

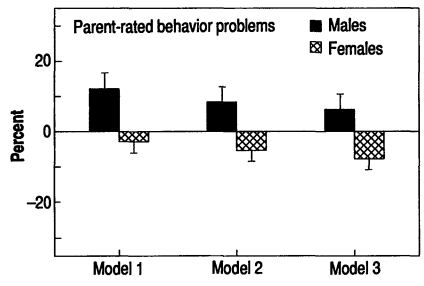

Fig. 2. Effects of a parental divorce between 1976 and 1981 on the behavior problems of children in 1981, when the children were ages 11 to 16, based on a behavior problems scale score as reported by parents from the U.S. National Survey of Children (estimates are restricted to children living with two married parents in 1976). The height of the boxes shows the percentage by which the score of children whose parents divorced between 1976 and 1981 was greater (or less) than the score of children whose parents remained married. Three estimates of the effects of divorce are shown: model 1 controls only for social class, race, and whether the mother was employed outside the home in 1976; model 2 controls additionally for the child's score on the behavior problems scale in 1976, as reported by parents, before anyone's parents were divorced; and model 3 adds further controls for the parents' score on a nine-item marital conflict scale in 1976. Error bars represent one standard error.

REFERENCES AND NOTES

1. L. L. Bumpass, *Demography* **21**, 71 (1984).
2. R. E. Emery, *Marriage, Divorce, and Children's Adjustment* (Sage, Beverly Hills, CA, 1988); P. L. Chase-Lansdale and E. M. Hetherington, in *Life-Span Development and Behavior*, P. B. Baltes, D. L. Featherman, R. M. Lerner, Eds. (Erlbaum, Hillsdale, NJ, 1990), vol. 10, pp. 105–150; S. S. McLanahan, *Am. J. Sociol.* **94**, 130 (1988).
3. J. S. Wallerstein and J. B. Kelly, *Surviving the Breakup: How Children and Parents Cope with Divorce* (Basic Books, New York, 1980), p. 316.
4. See, for example, L. J. Weitzman, *The Divorce Revolution: The Unexpected Consequences for Women and Children* (Free Press, New York, 1985); M. A. Glendon, *Abortion and Divorce in Western Law* (Harvard Univ. Press, Cambridge, MA, 1987); I. Garfinkel and S. S. McLanahan, *Single Mothers and Their Children: A New American Dilemma* (The Urban Institute Press, Washington, DC, 1986).
5. K. E. Kiernan, *Popul. Stud.* **40**, 1 (1986).
6. R. E. Emery, *Psychol. Bull.* **92**, 310 (1982).
7. E. M. Hetherington, M. Cox, R. Cox, in *Mother-Child, Father-Child Relations*, J. H. Stevens and M. Mathews, Eds. (National Association for the Education of Young Children Press, Washington, DC, 1978); E. M. Hetherington and K. Camara, in *Review of Child Development Research*, R. D. Parke, Ed. (Univ. of Chicago Press, Chicago, 1984), vol. 7.
8. But see J. H. Block, J. Block, P. F. Gjerde, *Child Dev.* **57**, 827 (1986); N. Baydar, *J. Marriage Family* **50**, 967 (1988).
9. The leading set of studies of this type have been conducted by E. M. Hetherington, M. Cox, and R. Cox [in *Nontraditional Families, Parenting, and Child Development*, M. E. Lamb, Ed. (Erlbaum, Hillsdale, NJ, 1982); *J. Am. Acad. Child Psychiatr.* **24**, 518 (1985)] and E. M. Hetherington [in *Remarriage and Stepparenting Today*, K. Pasley and M. Ihinger-Tallman, Eds. (Guilford Press, New York, 1987)].
10. The NCDS is described in a paper by P. M. Shepherd, "The National Child Development Study: An introduction to the background to the study and the methods of data collection" (Social Statistics Research Unit, City University, London, October 1985).
11. Information in medical records at birth also was recorded. Between 1958 and 1965, a supplementary sample was added consisting of 1142 children from recent immigrant families who had 3 to 9 March 1958 birth dates. We include this sample in our analyses.
12. M. Rutter, J. Tizard, K. Whitmore, Eds., *Educaton, Health, and Behaviour* (Longman, London, 1970).
13. D. H. Stott, *The Social Adjustment of Children* (Univ. of London Press, London, 1969).
14. V. Southgate, *Southgate Group Reading Tests: Manual of Instructions* (Univ. of London Press, London, 1962); M. L. K. Pringle, in *The Sixth Mental Measurements Yearbook*, O. K. Buros, Ed. (Gryphon Press, Highland Park, NJ, 1965). The mathematics test was developed for the NCDS by M. L. K. Pringle, N. Butler, and R. Davie [*11,000 Seven Year Olds* (Longman, London, 1966)].
15. Ten of the 11 items in the parent-rated scale ($\alpha = 0.68$) were identical to the items in the age 7 parent-rated scale (*12*). For the BSAG scale at age 11, $\alpha = 0.71$.
16. K. Fogelman, *Br. J. Educ. Psychol.* **48**, 148 (1978).
17. There are two sources of nonrandomness that could have arisen with respect to the sample of families analyzed in 1969, when the children were 11: (i) the restriction that when the child was 7 the family was intact, was successfully found and reinterviewed, and had valid data on behavior and achievement; and (ii) the restriction that when the child was 11 the family was successfully reinterviewed and had valid data on behavior and achievement. To determine whether these sources of nonrandomness could possibly have biased our results, we specified and estimated several selection models. [G. S. Maddala, *Limited Dependent and Qualitative Variables in Econometrics* (Cambridge Univ. Press, Cambridge, 1983).] The coefficients for the effect of divorce were nearly identical in the selection models and the ordinary least squares (OLS) models we present here.
18. Among boys, the coefficient for the effect of divorce on three of the four outcomes was positive and at least twice its standard error in model 1 of Fig. 1 (for the reading test, the coefficient was 1.8 times its standard error). Among girls, all the coefficients for the effect of divorce, except on parent-rated behavior problems, were more than twice their standard errors in model 1. As in any nonexperimental study, it is possible that the variables we "control" for are actually markers for other, unmeasured variables. However, we have relied on a large literature in sociology and developmental psychology to guide our choice of variables. In the OLS regressions (*17*) for the NCDS, which form the basis for Fig. 1, we used the natural logarithms of the outcomes as dependent variables because the logarithmic transformation resulted in a more normally shaped distribution of the scale scores. The key independent variable was a dummy variable that indicated whether or not a divorce occurred during the time between the age 7 and age 11 interviews . Let β be the coefficient for the divorce dummy variable. Then, for the logarithmically transformed outcomes, the percentage change in the scale score produced by the occurrence of a divorce is $(e^{\beta} - 1) \cdot 100$. In model 1, the only additional independent variables in the equation (all measured at age 7) were father's social class (six-category classification), housing tenure (whether renting from a public agency, renting in the private market, or owning one's home), number of persons per room, and race (white, Asian, black, mixed). In our regression models, mean values were imputed for missing information on independent variables.
19. From the health visitor's report at age 7 we constructed five scales: use of children's services (five items, $\alpha = 0.56$), family conflict (two items, $\alpha = 0.44$), family problems (two items, $\alpha = 0.64$), and use of mental health services (three items, $\alpha = 0.60$). For models in which behavior problems at age 11 were the dependent variables, the age 7 reading test score was entered at this stage; and for models in which age 11 achievement tests were the dependent variables, age 7 teacher-rated behavior problems were added at this stage.
20. For boys, none of the model 3 estimates in Fig. 1 was twice its standard error; for girls, two of four were twice their standard errors. The death of a parent between the ages of 7 and 11 had no significant effects for girls on any of the four outcome measures and no significant effect on behavior problems for boys, even before controls for age 7 characteristics. The death of a parent did have a negative effect on reading and mathematics achievement at 11 for boys; this effect was reduced by age 7 controls but remained statistically significant.
21. See F. F. Furstenberg, Jr., C. W. Nord, J. L. Peterson, N. Zill, *Am. Sociol. Rev.* **48**, 656 (1983). We restricted the sample to include only families that were intact in 1976, in which the biological mother of the child or children was the parent respondent at both times and was living with the target child or children, and in which the father was not reported to have died between 1976 and 1981. Among this subsample of 822 children, there were 65 cases of a divorce or separation occurring between the 1976 and 1981 interviews.
22. T. M. Achenbach and C. S. Edelbrock, *Monogr. Soc. Res. Child Dev.* **33** (no. 166) (1981).

23. Supported primarily by NICHHD grant HD25936, with additional support from NSF grant SES-8908503. We thank M. Trieb for computer programming assistance. Complete sets of the estimated coefficients and other detailed documentation are available from A.J.C.