

AN ABSTRACT OF THE THESIS OF

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The purpose of this study was to examine the impact of having a child with a chronic illness or handicapping condition on marital quality and perceived marital stability. The subject is important because the belief that marriages in parents of chronically ill or handicapped children are uniformly less happy and more prone to dissolution has been a basis for clinical policy and interventions.

Most of the research in this area has been based on nonrepresentative, clinical samples. The present study utilizes the National Study of Families and Households (NSFH), a nationally representative sample of U.S. families. The experimental group consisted of married mothers and fathers caring for a child with a chronic illness or disability ($n = 94$). This group was contrasted with both a large ($n = 3,693$) control group, and a smaller ($n = 94$), matched group of parents with well children.

Ordinary least squares regression analyses were utilized to answer the questions: (a) Are there significant differences between parents of children with chronic health problems and parents of well children in marital quality?, (b) Do these groups differ significantly with respect to perceived marital stability?, and (c) Does marital quality affect marital stability differently in parents of children with chronic health problems than in parents of well children?

Contrary to the study hypothesis, parents of children with chronic health problems did not report lower marital quality than parents of well children. As expected, however, perceived marital stability was not affected negatively by the presence of a child with a chronic illness or handicapping condition. Contrary to expectations, however, marital quality did not affect the marital stability of parents of children with chronic health problems differently than that of parents of well children.

Although far from definitive, this research indicated that the stress of having a child with a chronic health problem does not necessarily lead to marital unhappiness or dissolution. The findings, from a nationally representative sample, suggest that clinicians and researchers would benefit from an increased understanding of marital processes in families wherein there is a child with a disability or chronic illness. Furthermore, it would be unwise to develop interventions or research programs based exclusively on studies of parents with chronically ill children who seek clinical services.

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THE IMPACT OF CHILDREN WITH CHRONIC HEALTH PROBLEMS ON MARRIAGE

I. INTRODUCTION

There is abundant evidence that having a child who is chronically ill or handicapped is stressful. There is a general belief that the stressors that accompany this unique parenting situation increase the likelihood that the parents of these children will be less happy in and more prone to dissolve their marriages. Considering marriage from a social exchange perspective, however, the issue is more complicated. Initially, one would think that social exchange theory would predict increased marital distress and higher rates of divorce in couples coping with the stress of having a child with a chronic health problem. There is no straightforward link between marital quality and stability, however. Marriages are stable for many reasons, and having a chronically ill or handicapped child should be associated with both reasons for breaking up and reasons for staying together.

If marital stability is a product not only of perceived net outcomes (i.e., rewards minus costs), but is also influenced by barriers to leaving the relationship and alternative attractions, then as social exchange theory posits, unhappy marriages with low rewards and high costs might be stable. The part that children, especially children with chronic health problems, play in this picture is still a puzzle. Not all families are seriously harmed, and some may actually be strengthened, by this crisis (Kazak & Marvin, 1984). Clinicians in any discipline, however, tend to see only those families

that are having difficulty and to miss those that are coping well.

The belief that family dysfunction, including marital problems, necessarily follows a diagnosis of chronic illness or disability in a child serves as an organizing principle in many policies and programs aimed at supporting families, in spite of the lack of valid and reliable research that addresses this assumption directly. For instance, in a nursing text outlining care of families experiencing chronic illness (Wright & Leahy, 1987) there are numerous references to "family problems," "potential or actual family dysfunction," and "keeping the family together" as necessary areas of assessment and intervention. If, in fact, there is more variability in the impact of children with chronic health problems on marriage than was previously supposed, programs might be targeted more at family strengths than weaknesses, and be designed to capitalize on marital quality and stability as positive predictors of the acceptance and integration of children with chronic health problems.

Currently, understanding the impact of children with chronic health problems on marriage is hampered by lack of studies using representative samples, control groups, sufficient participants to control for potential confounds, and widely used measures to facilitate replication. The proposed study will provide a sound research basis for interventions aimed at parents of children with chronic health problems by eliminating some of these problems.

II. REVIEW OF LITERATURE

At first glance, the literature concerning functioning in families of special-needs children seems extensive. Many studies document the impact of children with chronic illnesses and disabilities on both individual outcomes, such as depression or life satisfaction, and dyadic outcomes, such as marital satisfaction or marital stability. On closer examination, however, most of these studies are based on small, non-representative samples.

An unanticipated consequence of relying so heavily on these samples is perpetuation of the myths that having children with chronic health problems is a uniformly negative experience, leading to poor family functioning or even to family disruption. It is imperative that practitioners who work directly with families, such as nurses, therapists, and physicians, are able to sort myth from reality. Biases that might arise from reliance on incomplete information and unsupported assumptions have implications for people's everyday lives. The dearth of studies using representative data to examine functioning in families of children with chronic health problems, and the professional imperative to base family interventions on a solid knowledge base, serve as motivations for this research.

Child Health Status

Child health is defined as the capacity to perform age-appropriate roles and tasks (Stein & Jessop, 1982). Well children have no ongoing behavioral responses to

illness that interfere with normal social role performance, but children with chronic health problems often have modifications in communication, mobility, mood, energy, sleeping, eating, toileting, or other domains that make adjustments in individual and family lifestyle necessary. Although type of illness may be a factor in the impact of children with chronic health problems on marriage, increased parenting stress is found across all types of chronic illness and disability (Tavormina, Boll, & Dunn, 1981). Furthermore, methodological problems, as well as large within-group differences make comparisons across groups difficult (Konstantareas & Homatidis, 1991).

Research in which analyses have distinguished parents of children with chronic health problems from parents of well children revealed few trends and no significant differences in rates of interpersonal problems between parents of children with chronic illnesses (i.e., asthma, cystic fibrosis, cancer) and parents of children with developmental disabilities (i.e., cerebral palsy, mental retardation, sensory impairments) (Cadman, Rosenbaum, Boyle, & Offord, 1991). According to Pless and Pinkerton (1975, p. 52),

The chronicity of the illness and the impact that it has on the child, his [sic] parents, and his [sic] siblings, is more significant than the specific character of the disorder, be it diabetes, cerebral palsy, hemophilia, etc. In other words, there are certain problems common to all chronic illness over and above particular challenges posed by individual needs.

Findings from a longitudinal study of the impact of type of illness or disability on children and their families differentiated families with children with chronic health problems from families of well children, but did not differentiate families of

chronically ill from families of developmentally disabled children (Stein & Jessop, 1982). The findings provide some evidence that the type of illness a child has is irrelevant to marital distress. When marital outcomes do vary by illness, it is often the number of problems associated with the child's illness or disability that influences marital satisfaction and/or stability rather than the diagnosis itself (Peterson, 1988). A noncategorical approach, that is, one that does not differentiate outcomes by type of illness or disability, allows clinicians the opportunity to learn more about the psychosocial needs of parents of children with chronic health problems, and to view the parents and children individually rather than as disease entities.

Although the noncategorical model is helpful in understanding the broad picture of the interrelationship between child health problems and marital outcomes, there is evidence that type and severity of disability is related to some areas of parental functioning. Stress levels, in particular, are higher among parents of children with more severe illnesses or disabilities, or conditions that involve neurological and/or behavioral problems (Friedrich, Cohen, & Wiltner, 1987; Singer & Farkas, 1989). Although these differences have not been directly linked to marital outcomes, stress certainly affects marriage. It is important, therefore, to recognize both the usefulness and limitations of the noncategorical model of childhood illness and disability.

Marital Quality

There continues to be a lack of clarity surrounding subjective evaluations of marriage. Following the lead of prominent researchers (Lewis & Spanier, 1979), I use the general concept of marital quality to encompass such terms as marital satisfaction, marital happiness, marital integration, and marital adjustment. The controversy over whether marital quality is simply a matter of how people feel about their marriages or a characteristic of the dyadic relationship in addition to their separate feelings contributes to considerable definitional confusion. In a comprehensive review of the literature on marital quality, Glenn (1990) argued that the only true measure of marital quality is marital happiness, and that it is unnecessary to include multidimensional measures to measure the construct effectively. Fincham and Bradbury (1987) share this view, proposing that marital quality should be treated solely as the global evaluation of the marriage. This conceptualization of marital quality guides the present research.

Little is known about the processes involved in the maintenance or deterioration of marriages (Kitson, Babri, & Roach, 1985). Factors that seem to impact marital quality negatively and to speed the process of marital dissolution, however, include extramarital sex, personal and financial problems, lack of communication, feeling unloved, lack of family life, and role conflicts (Kitson et al., 1985). Gender and socioeconomic status also influence accounts of the process of marital deterioration (but see Harper, 1994).

Levinger (1979) conceptualized marriage as a special case of close relationships, ideally characterized by high levels of interdependence. Marital quality was seen as a function of perceived rewards versus costs, moderated by barriers to ending the relationship and alternative attractions. The concepts of rewards, costs, barriers, and alternatives can shed light on the effect of children on the quality of the marital relationship.

The effect of children on marital quality

The empirical findings around the impact of children on marital quality are mixed. In a review of the literature on marital quality and stability involving both longitudinal and cross-sectional studies, Glenn (1990) found that the presence of children consistently resulted in a modest drop in marital happiness. In a longitudinal study of 97 couples, both spouses showed a significant decline in marital adjustment at six months postpartum (Wallace & Gotlib, 1990; but see MacDermid, Huston, & McHale, 1990). White and Booth (1985) challenged the assumption that the transition to parenthood necessarily led to lowered marital quality, postulating instead that absence of a nonparent control group in many studies resulted in attributing normative changes in marriage to the arrival of a child. Lewis and Spanier (1979) postulated that the perception of optimal household size was more closely related to marital quality than the actual presence or number of children, reminding us that in some instances the presence of children is positively related to marital quality. They were quick to point out, however, that children took both material resources and time away from the

marital dyad.

Marital quality in families of children with chronic health problems

If parenting normal children is associated with a modest drop in marital quality or happiness (Glenn, 1989), it stands to reason that this drop would be intensified in families of children with special needs. In a review of the literature examining the effects of congenitally handicapped children on marital relationships, however, Benson and Gross (1989) found evidence of both positive and negative effects on the marital dyad. The authors pointed out that conclusions were questionable in light of poor methodological designs, absence of control groups, use of unstandardized measures, and poor control of extraneous variables.

The difficulty of differentiating the impact on marriage of childrearing in general from the impact on marriage of rearing children with chronic health problems was illustrated in a longitudinal, prospective study of 150 women whose infants were at genetic risk for asthma. This study, designed to test childrearing burden including the burden of caring for an ill child, found that there was a significant decline in marital satisfaction after the birth of a child that was sharper with higher levels of caregiving burden, but this decreased satisfaction was not independently related to ill health in the child (Klennert, Gavin, Wamboldt, & Mrazek, 1992). The authors postulated that although the presence of a special-needs child might affect some couples negatively, it might stimulate others to increase their relationship commitment. These two forces were seen as canceling each other out in the analysis.

Similarly, no differences were found in marital satisfaction between an availability sample of 125 parents of handicapped or chronically ill children and a control group of parents of 127 matched well children (Kazak, 1987). Included in the sample were children with severe or profound mental retardation, phenylketonuria (a congenital enzyme deficiency often resulting in motor or neurological deficits), and spina bifida (a physical abnormality of the spinal canal often resulting in severe motor handicaps). There were no differences in marital satisfaction among the four groups of parents, supporting the noncategorical model. Additionally, Kazak and Marvin (1984) found no differences on the Dyadic Adjustment Scale between availability samples of 53 parents of children with spina bifida and 53 parents of well children.

Other small studies have found this same pattern of no significant differences. In a study comparing the marital strengths of 78 couples with school-aged mentally handicapped children and similar couples with intellectually average children, there were no differences on the Dyadic Adjustment Scale, and the parents of the handicapped children actually perceived fewer family problems than the comparison parents (Abbott & Meredith, 1986). Another study comparing parents of sons with Attention Deficit Hyperactivity Disorder (ADHD) ($n = 18$) to parents of "normal" sons ($n = 19$) found no significant differences between the groups in marital satisfaction or marital conflict (Camparo, Christensen, Buhrmester, & Hinshaw, 1994). This study was somewhat unique in its use of observational data in addition to self-report questionnaires, and the lack of difference in marital satisfaction held across both sets of measures.

There is also an ample body of literature supporting the hypothesis that

parenting children with chronic health problems has negative effects on marriage. For example, a study of psychosocial problems among parents of 50 mentally retarded, 50 physically disabled, and 50 well children found marital adjustment scores that were 10 to 15% lower ($p < .01$) in the chronic health problem groups as compared to the controls (Singhi, Goyal, Pershad, Singhi, & Walia, 1990). Friedrich and his colleagues (1986) studied marital satisfaction in 131 two-parent families of retarded children. Marital satisfaction varied, and was related to a variety of psychosocial and child-specific variables, including intimate social support, maternal depression status, the presence of behavior problems associated with retardation, and the gender of the child. Higher levels of marital satisfaction were evident in families with nondepressed mothers, boys, a lack of behavior and toileting problems, and supportive partners. The importance of partner support was revisited in a study of 381 parents of mentally handicapped preschoolers in which marital satisfaction was assessed with the Chinese version of the Kansas Marital Satisfaction Scale (C-KMS) (Shek & Tsang, 1993). The findings revealed that parents who had to provide much of the child's care alone had significantly lower C-KMS scores than parents who shared most of the caregiving with their spouses.

Fisman and Wolf (1991) examined the relationship of perceived parenting stress and depression with level of marital intimacy. Using the Waring Intimacy Questionnaire (WIQ), the authors found that total intimacy scores were significantly lower for both mothers and fathers of autistic children when compared with parents of normal children. The findings suggested a path by which a difficult child generates a high stress situation that adversely impacts the marital relationship. This marital stress

negatively impacts the parent-child relationship, initiating a vicious cycle. Stress was also an important predictor of the lower marital satisfaction found in parents of 34 handicapped children compared to a control sample of parents of nonhandicapped children (Friedrich & Friedrich, 1981).

An early study of the effects of children with handicapping conditions on marital quality suggested that the best predictor among parents of disabled children was the quality of the marital relationship prior to the child's birth (Farber, 1959). Other studies, however, have demonstrated that increased marital tension and decreased intracouple interaction are directly linked to the birth of a disabled child (Gath, 1972; McAlister, Butler, & Lei, 1973). Marital tension is illustrated in a study of the quality of the marital bond in 38 parents of mentally retarded and 34 parents of normal school-aged children (Floyd & Zimich, 1991). Although self-report measures of marital quality were not different between the groups, the corresponding observational data described significantly more negative marital interactions for the parents of mentally retarded children. A comprehensive critique of the literature around marital adjustment to childhood chronic illness concluded that parents of chronically ill children experienced more marital distress than other parents; however, only about one third of the studies reviewed included a control group (Sabbeth & Leventhal, 1984).

Marital Stability

Marital stability has been defined as the status of the marriage, of whether or

not it is intact (Lewis & Spanier, 1979). Separation before divorce is common, and a marriage with a high perceived likelihood of divorce or already in the process of separation is also considered unstable.

The effect of children on marital stability

The birth of a first child reduces the divorce rate significantly, although this effect is not as strong for subsequent births (Koo & Janowitz, 1983; White & Booth, 1985). The presence of older children continues to exhibit some retarding influence on divorce rates (White, Booth, & Edwards, 1986). Using data from the 1985 Current Population Survey, Heaton (1990) found that the likelihood of marital dissolution declined after the birth of the first child, but that the arrival of each subsequent child had a smaller stabilizing effect. The investigator hypothesized that children created dependency and increased the costs of marital dissolution. The stability created by childbearing and childrearing was greatest when the children were small, and the risk of dissolution sharply increased during the teen years.

These findings are supported by a longitudinal study of 4,400 couples in first marriages from the Panel Study of Income Dynamics (Waite & Lillard, 1991). Examining marital dissolution and fertility changes from 1968 to 1985, the researchers found that one third of these marriages ended in divorce or separation, that young children had a stabilizing effect on marriage, and that parenting teens was positively associated with marital dissolution. The combination of the early stabilizing and the later destabilizing effects of childrearing gave parents only a slight edge over

their nonparent counterparts in overall marital stability.

Marital stability in families of children with chronic health problems

The role of child health problems in marital dissolution is inconclusive, with much of the work based on small, nonrepresentative samples. Although many of these studies document increased divorce rates among married couples with chronically ill and handicapped children, the few studies incorporating any kind of representative sample paint a somewhat brighter picture. For instance, an interview study in England found that families with a disabled child were just as likely as families with well children to have both biological parents living in the household (Hirst, 1991). Additionally, the findings revealed that type and severity of disability were not associated with marital status, lending support to the noncategorical model. These findings were corroborated by a review of clinical literature concluding that marital instability in families of disabled children was actually relatively low (Konstantareas & Homitidis, 1991).

As with marital quality, the literature is replete with studies documenting increased marital instability among couples with children with chronic health problems. This is illustrated by a demographic study that examined the effects of child health on marital status and family structure, using the 1988 National Health Interview Study and its Child Health Supplement (Corman & Kaestner, 1992). Findings indicated that having an unhealthy child decreased the likelihood that a woman would be married, regardless of the type of child health problem. Mothers

who were married when the child in question was born were also more likely to be divorced than were mothers of well children. Widerstrom and Dudley-Marling (1986) concluded that an important deciding factor in the marital stability picture was marital quality prior to the child's birth.

The Relationship Between Marital Quality and Marital Stability

Lewis and Spanier (1979) found marital quality to be a function of the social and personal resources of the dyad prior to the relationship, combined with satisfaction with life style and rewards from spousal interaction. These authors found a positive association between marital quality and stability, although they noted that high quality, relatively conflict-free marriages sometimes ended in divorce. They postulated that the relationship between marital quality and marital stability was contingent on two sets of external forces, alternative attractions that affect marital quality and subsequently marital stability, and external pressures to remain married that positively influenced marital quality and subsequent relationship stability.

Findings from a study using a national sample of 2,033 married persons supported this positive relationship between quality and stability of marriage (White & Booth, 1991), but other studies have called this connection into question. Landis (1963) found that marriages with high stability cannot be assumed to be of high quality, and vice versa.

Using the 1988 National Survey of Families and Households, Heaton and Albrecht (1991) found a small fraction of stable but unhappy marriages (7.2%).

Correlates of staying in low quality marriages included age, lack of prior marital experience, commitment to marriage as an institution, low social activity, lack of control over one's life, and a belief that divorce would detract from happiness.

Marital Quality and Marital Stability in Families of Children with
Chronic Health Problems

Most studies of parents of children with chronic health problems document decreased marital satisfaction when compared to parents of well children, but no significant decrease in marital stability. The Sabbeth and Leventhal critique (1984), for instance, found lower levels of marital quality among parents of handicapped children, but no associated decrease in marital stability. Social exchange theorists assert that individuals stay in relationships only as long as they are satisfying in terms of net outcomes, and that relationship stability is contingent upon barriers that increase the costs of relationship dissolution as well as on a dearth of available alternatives (Sabatelli & Shehan, 1993).

From a social exchange perspective, decision making around intimate relationships is based on rationality, interdependence, fairness, and reciprocity. An individual may stay in a low reward and/or high cost relationship if the barriers to leaving the relationship are especially high, or if there is no better alternative available. Central to the theory is that the standards used to evaluate rewards and costs, as well as the importance attached to the relationship behavior of others, differ from person to person and vary over time. According to Levinger (1979), attractions

in marriage may include material rewards, such as increased financial stability; symbolic rewards, such as social status; and affectional rewards, such as satisfaction of companionship, sexual, and esteem needs. Barriers may come in the form of material costs, such as loss of socioeconomic status; symbolic costs, such as obligations toward the marital bond or religious constraints; or affectional costs, such as feelings toward dependent children. Barriers are important influences on relationship stability, often lessening the effects of temporary fluctuations in interpersonal attraction, and providing a rationale for staying in the relationship even if interpersonal attraction becomes negative. Alternative attractions derive from competing sources of need satisfaction (Levinger, 1979). Logically, marital separation occurs because one or both partners view existence outside of the marital bond as more pleasant than staying in the marriage. Potential sources of alternative attractions include affectional rewards, such as preferred alternate partners; material rewards, such as increased social and economic status; or symbolic rewards, such as independence.

Sabatelli and Shehan (1993) postulated that the decrease in marital quality among couples with young children might occur in part because of unmet expectations in this phase of the life cycle. Childbearing often occurs early in the marriage, a period of relatively high marital quality. The expected rewards of having children may not be realized, unexpected costs in the form of time and energy may be encountered, and the dissonance between expectations and outcomes may create disharmony. If unmet expectations negatively influence marital quality for parents of well children, it is easy to see how this effect could be intensified among parents of

children with chronic health problems.

The apparent lack of a positive correlation between marital quality and stability in studies of parents of children with chronic health problems could, in part, be a function of this imbalance between rewards and costs, complicated by unique barriers to relationship dissolution and the lack of alternatives. Parenting an ill child takes time and energy, decreasing relationship rewards and increasing costs, which interfere with marital quality. The presence of a child with a chronic health problem, however, may serve as a barrier to relationship termination, increasing marital stability. Single parenting a child with excessive caregiving needs is often overwhelming. The perceived alternatives may also be few, for many potential intimate partners may be seen as hesitant to take on the coparenting of a chronically ill or handicapped child.

Other Intervening Conditions

In addition to the possible effects of age and number of children on marital quality and stability described previously, several other variables may have an impact. Child gender is a factor both because boys are far more likely to have chronic health conditions than girls (Cook, 1988; Davis & Rushton, 1991), and because boys are associated with lower maternal perception of marital instability than girls (Katzev, Warner, & Acock, 1994). Additionally, Friedrich and his colleagues (1986) found that parents of boys with chronic health problems had higher marital satisfaction than parents of girls. It appears, then, that parents of boys might outnumber parents of girls in the rate of children with chronic health problems, but that boys with chronic

health problems might impact their parents' marriages less negatively than girls.

Race is also a strong and consistent determinant of marital stability. African Americans are more likely than Whites to divorce, and this racial differential persists after controlling for socioeconomic status and other background factors (White, 1990). Divorce rates among Hispanics are similar to those of non-Hispanic Whites (Norton & Moorman, 1987).

Socioeconomic status influences the quality and stability of marriage. Lewis and Spanier (1979) concluded from the literature that the greater the socioeconomic adequacy (reflecting both education and income) of the family, the greater the marital quality. The negative impact of economic hardship on marital quality or stability may be in part a function of its negative influence on marital communication and its positive influence on hostility (Conger et al., 1990).

Length of current marriage is negatively correlated with the chance of divorce (White, 1990), although this may be a result of higher rates of attrition among those couples with the least stable unions. Using data from the 1985 Current Population Survey, however, Heaton (1991) argued that only part of the decline in divorce over marital duration reflects early divorce in undesirable marriages.

Respondent gender has important implications for research involving marital quality and stability. Not only do experiences of and perceptions about marriage differ for women and men (Bernard, 1972; Kurdek, 1991), but women are more likely than men to be the initiators of marital dissolution (Spanier & Thompson, 1983) and they report lower marital quality.

Rationale for the Study

The findings regarding marital satisfaction in parents of children with chronic health problems are mixed. Marital satisfaction was lower overall in parents of children with chronic health problems, and was related to variables such as partner support, depression, child gender, and child behavioral characteristics. Some studies, however, demonstrated higher marital satisfaction in families of ill or disabled children. Most of the studies examining marital satisfaction were based on small, nonrepresentative samples, with dubious generalizability. Studies using representative data samples examining the impact of other types of losses (e.g., infant death) on marital quality suggest, however, that these stressful life events place a great deal of strain on the marital relationship (Umberson, 1994).

The findings regarding marital stability in parents of children with chronic health problems also are mixed. Results of the studies utilizing mostly small, convenience samples found no straightforward link between child health problems and change in family structure. In this area, however, there have been two large studies utilizing representative data sets. The results conflicted: One found that parents of children with chronic health problems were more likely to be divorced than parents of nondisabled children, the other found no significant difference in stability between the two groups.

Overall, marital quality in parents of children with chronic health problems is lower than in parents of well children, but these marriages are surprisingly stable. Because marital quality is usually positively correlated with stability, there may be an

interaction between child health status and marital quality that operates differently for parents of children with chronic health problems than for parents of well children. Because understanding family dynamics provides a framework for family interventions, I have chosen to examine marital satisfaction and stability as outcome measures representative of the many possible dynamics operating in families of children with chronic health problems. This research will make a contribution to the existing literature by examining, with data from a nationally representative sample, marital quality, marital stability, and the association between the two in families of children with chronic health problems. The data set takes advantage of widely used measures, and has sufficient numbers to control for other factors potentially related to the dependent variables.

There are limitations to this proposed study. Most notably, examining marriage-related dependent variables among only those participants who are married may grossly underrepresent both unhappy and unstable relationships. If only a very small number of unhappy marriages are stable (Heaton, 1990), then the findings may be reflective of dyads that differ substantially from the general population in that they are happier and less prone to marital dissolution.

The size disparity between the experimental ($n = 94$) and control groups ($n = 3,693$) is problematic in that interaction effects might be less likely to be revealed with widely disparate sample sizes (Aiken & West, 1991). Because of this size disparity, I analyzed the data twice; once using the entire control group for comparison (Study 1), and a second time using a matched control group (Study 2).

The evolving link between having a child with a more severe chronic health

problem, especially one involving neurological and/or behavioral problems, and higher levels of parental stress might render the mixed chronic illness/disability sample less than optimal even though these differences have not been directly linked to marriage. In spite of these limitations, this study will help to provide a greater understanding of the relationship between child health status and marriage from a representative, nonclinical standpoint with standardized measures and reasonable participant numbers.

Research Questions and Hypotheses

The first research question is whether there are significant differences between parents of children with chronic health problems and parents of well children on perceptions of marital stability. It is also important to ascertain whether there are significant differences between these groups on marital quality. I predict that marital quality will be lower in parents of children with chronic health problems compared to parents of well children, but that there will be no significant differences in marital stability.

Subsequently, I will explore whether the effect of children with chronic health problems on marital stability operates through marital quality. I predict that marital quality will interact with marital stability such that stability will be enhanced by higher marital quality in families of well children, but that stability will be uninfluenced by marital quality in families of children with chronic health problems. An interaction effects model will be used to address the question: Does marital quality

affect marital stability differently in parents of children with chronic health problems than in parents of well children?

III. METHODS

This study used data from the National Survey of Families and Households¹ (NSFH), a national multistage area probability sample of adults living in households in the United States in 1987-1988. The sample size of 13,017 respondents reflects an oversample of African Americans, Hispanics, and Puerto Ricans; and persons in single-parent families, stepfamilies, heterosexual cohabiting relationships, and newly married couples. The response rate was 75% (Sweet, Bumpass, & Call, 1988).

Two groups of married parents were used in the analysis: (a) an "experimental" group ($n = 94$) of mothers or fathers who provide care to their disabled or chronically ill children aged 18 or younger, and a control group total ($n = 3,693$) of married mothers or fathers who have well children in the same age range requiring no caregiving responsibilities beyond normal parenting. Because the focus of the study is on marriage, parents who were not married or who had never been married at the time of the interviews were excluded from both groups. Foster parents also were excluded.

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In the two studies described, I used two different ways of identifying a control group. Selection of parents for the experimental group, measures, and analytical strategies, however, were identical in both studies.

Participants

Experimental Group

Parents were selected for the experimental group if they were married, and a biological, adopted, or step child aged 18 or younger living in the home was reported in response to either of the following questions: (a) "Does anyone living here require care or assistance because of a disability or chronic illness?," or (b) "During the past 12 months, did anyone who lived here require care or assistance because of a disability or chronic illness?" People said 'yes' based on their interpretation that care was required because of disability and of chronic illness.

These responses were further screened for age and relationship to the respondent by the question: "Who required care or assistance? Tell me their first names, ages, and how they are related to you." Type of chronic health problem was obtained by asking an open-ended question: "What is the person's major illness or disability?" One hundred twenty-nine respondents were identified in this way.

Open-ended responses sometimes indicated conditions that would not meet criteria for chronicity. For example, some parents reported colds, ear infections, or broken arms or legs. Because chronic illnesses involve conditions that continue over a

long period of time or recur frequently, and disabilities refer to conditions that deprive one of physical or mental abilities (Pillitteri, 1995, p. 1768), I eliminated participants whose children had minor acute illnesses such as those indicated above from the sample. This reduced the sample size to 94.

Overall, approximately one half (54%) of the 94 parents reported children with chronic physical illnesses and 40% reported developmental or other disabilities. The remaining 6% of the reported problems did not fit into either of the above categories. Parents whose children had chronic physical illnesses or disorders reported the major illness or disability as asthma, diabetes, blood disorders, cancer, heart disease, musculoskeletal disorders, skin or connective tissue disorders, or chronic respiratory diseases. Most of the parents whose children had developmental or other types of disabilities reported congenital malformations (e.g., spina bifida, cleft lip and/or palate) or central nervous system disorders (e.g., mental retardation, seizure disorders, mental illness, brain damage), although some reported visual or auditory disabilities. The problems not fitting into either the chronic illness or disability categories included trauma from motor vehicle accidents and problems resulting from delivery. Most (83%) of the parents had only one child with a chronic health problem to care for, but 15% cared for two chronically ill or handicapped children, and 2% cared for three such children.

Most (57%) of the respondents in the experimental group were mothers, but 43% were fathers. Respondents had a mean age of 35.5 years ($SD = 11.2$). Most (83.2%) of the sample was White, but 8.5% was African American, and 7.3% reported some other racial or ethnic group (i.e., Puerto Rican, Cuban, American

Indian, or Asian). The mean educational level was 13.5 ($SD = 3.5$) years. See Table 1 for complete demographics.

Control Group

Study one. The control group (coded 0) consisted of married parents with children aged 18 or younger living in the home who answered no to both questions about providing care or assistance to someone in the household or who were eliminated from the experimental group as described earlier. Most (56%) of the respondents in the control group were mothers, but 44% were fathers. They had a mean age of 34.9 ($SD = 8.0$) years. Most (75%) of the sample was White, but 13.3% was African American, and 11.7% reported some other racial or ethnic group (i.e., Puerto Rican, Cuban, American Indian, or Asian). The mean educational level was 13.0 ($SD = 2.86$) years.

Mean difference tests (t-tests and chi squares) between the experimental and control groups were not significant on any demographic variables. For a detailed description, see Table 1.

Study two. A matched subsample ($n = 94$) of married mothers or fathers who have well children < 19 years of age living in the home was selected from the larger control group described in Study One. Because matching must be on variables that are theoretically relevant (Bailey, 1987), the control group was

Table 1

Study One Sample Demographic Characteristics

Variable	Experimental Group	Control Group
	(<u>n</u> = 94)	(<u>n</u> = 3,693)
Gender (% women)	57.4	55.9
Mean age (<u>SD</u>)	35.5 (8.0)	34.9 (8.0)
Race (%)		
White	84.0	74.9
African American	8.5	13.3
Other ^a	7.5	11.8
Mean education in years (<u>SD</u>)	13.5 (3.5)	13.0 (2.9)
Mean marriage length in months	160.8	158.2
Mean income ^b	47.4 (43.9)	41.9 (43.5)
Mean times married (<u>SD</u>)	1.3 (.5)	1.3 (.5)

Note. T-tests or chi squares for all variables were nonsignificant at an alpha of .05.

Sample sizes for each analysis varied slightly because of missing data. In the experimental group, n ranged from 93 to 94; in the control group, n ranged from 3,598 to 3,693.

^aIncludes Mexican American, Puerto Rican, Cuban, Other Hispanic, Native

American, and Asian. ^bTotal annual household income in thousands of dollars.

matched on variables that were related to child health status. Because boys are more likely to have chronic health problems or disabilities than girls (Dawson, 1988), it was important to match on gender of the child with the chronic health problem. In addition, there is some evidence that family relationships are more positive when the disabled child is a boy (Friedrich, Cohen, & Wiltner, 1987). Number of children in the family was matched because families with more children are more likely to have a child with a chronic health problem (Hobbs, Perrin, & Ireys, 1985, p. 64). Finally, child age was matched because of its important contribution to stress and burden in parents of children with chronic health problems, with younger children requiring increased task hours (Brust, Leonard, & Sielaff, 1992).

Therefore, the control group was matched on number of children aged 18 or younger in the family, age of the focal child, and gender of the focal child. The focal child was a child selected by the NSFH research team to specify precisely the referent of question sequences about parenting. The child was selected by listing the first names of each of the children meeting a particular set of criteria, and then selecting the child whose first name came first alphabetically (Sweet, Bumpass, & Call, 1988). I initially attempted to match on gender composition of the children in the family in addition to number of children, age, and gender. Although this variable was not theoretically linked to child health status as were the other three, there is evidence that marital stability is higher when there is at least one boy in the family (Katzev, Warner, & Acock, 1994). I was unable to match successfully on four variables, and elected to eliminate gender composition because all four variables were theoretically linked to the dependent variables, but child gender, age, and number were also linked

to child health status. The sample was matched on all three variables simultaneously and, in all cases, there were at least two matches. The matched respondent was selected with the random number generator feature of SAS.

Fifty seven percent of the respondents in this control group were mothers, and 43% were fathers. They had a mean age of 35.3 ($SD = 7.9$) years. Most (73%) were White, but 19% were African American, and 7.8% reported some other racial or ethnic group (i.e., Puerto Rican, Cuban, American Indian, or Asian). The mean educational level was 13.2 ($SD = 2.9$) years. For a detailed comparison, see Table 2. As with Study 1, mean difference tests on demographic variables between the experimental and matched control groups were nonsignificant.

Measures

Dependent Variables

Perceived marital stability. The experimental and control groups were compared with respect to perceived marital stability. As an indicator of perceived chance of divorce, respondents were asked: "It is always difficult to predict what will happen in a marriage, but realistically, what do you think the chances are that you and your husband will eventually separate or divorce?" Responses ranged from 1 (very high) to 5 (very low).

Table 2

Study Two Sample Demographic Characteristics

Variable	Experimental Group	Control Group
	(<u>n</u> = 94)	(<u>n</u> = 94)
Gender (% women)	57.4	57.0
Mean age (<u>SD</u>)	35.5 (8.0)	35.3 (7.9)
Race (%)		
White	84.0	73.0
African American	8.5	19.0
Other ^a	7.5	7.8
Mean education in years (<u>SD</u>)	13.5 (3.5)	13.2 (2.9)
Mean marriage length in months	160.8	135.4
Mean income ^b (<u>SD</u>)	47.4 (43.9)	39.4 (26.2)
Mean times married (<u>SD</u>)	1.3 (.5)	1.3 (.6)

Note. T-tests or chi squares for all variables were nonsignificant at an alpha of .05.

Sample sizes for each analysis varied slightly because of missing data. In the experimental group, n ranged from 93 to 94; in the control group, n ranged from 88 to 94.

^aIncludes Mexican American, Puerto Rican, Cuban, Other Hispanic, Native

American, and Asian. ^bTotal annual household income in thousands of dollars.

Marital quality. The groups were also compared with respect to marital quality. As a global indicator of marital quality, respondents were asked: "Taking all things together, how would you describe your marriage?" Responses ranged from 1 (very unhappy) to 7 (very happy).

Control Variables

A correlation matrix using Pearson correlation coefficients was produced and examined for evidence of multicollinearity among independent variables. All categorical variables (i.e., child gender, gender composition, respondent gender, race, first marriage, and presence of stepchildren) were dichotomized prior to completing the correlations. See Table 3 for the means, standard deviations, and correlations for all variables in Study 1 and Table 4 for Study 2.

Study one. Based on the literature review and because of their association with marital stability and/or marital quality, I controlled for a number of demographic variables in the analyses: (a) child gender (0 = boy, 1 = girl), (b) child age, (c) presence of stepchildren (0 = yes, 1 = no), (d) overall child gender composition of the family (0 = both girls and boys, 1 = all boys, 2 = all girls) with all girls as the reference group, (e) gender of the parent (0 = man, 1 = woman), (f) total annual household income from all sources reported in dollars, (g) respondent's education in years, (h) respondent's race (0 = other, 1 = African American, 2 = non-Hispanic White) with non-Hispanic White as the reference group, (i) number of times married, and (j) length of current marriage in months.

Table 3

Study One Correlations, Means, and Standard Deviations for All Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	<u>M</u>	<u>SD</u>
1. Child age	--	-.04	.16	-.11	.02	.61	.10	-.08	.13	.11	.13	-.01	.66	-.05	-.02	7.76	5.86
2. Child gender ^a	-.04	--	-.18	.26	-.01	-.05	-.01	.01	-.01	.01	-.01	.02	-.05	-.00	-.03	1.62	1.09
3. Child number	.18	-.18	--	-.51	.03	.15	-.01	-.08	-.03	.21	-.02	-.19	-.31	.08	-.08	1.20	1.29
4. Gender composition ^b	-.11	.26	-.50	--	.01	.02	-.01	.02	.03	.13	.02	.09	.02	-.02	-.03	1.68	0.78
5. Parent gender ^a	.01	-.01	.00	.02	--	-.07	.02	-.02	-.03	-.05	-.00	.00	-.01	-.02	.01	1.57	0.50
6. Parent age	.64	-.05	.14	-.10	-.16	--	.06	-.18	.13	.48	.12	.05	.94	.03	.16	35.51	8.05
7. Household income ^c	.09	-.01	-.01	-.02	.02	.17	--	.29	.01	-.02	.01	.13	-.02	-.01	.00	47.34	43.99
8. Parent education ^d	-.09	.02	-.16	.06	-.05	.06	.31	--	-.06	-.12	-.06	.24	-.28	-.02	-.02	13.48	3.55
9. Times married	.13	-.01	-.02	.03	-.02	.22	.02	-.07	--	.02	.91	.07	.17	-.02	-.06	1.33	0.54
10. Stepchildren ^e	.12	-.00	.11	-.06	-.20	.05	-.02	-.02	.26	--	-.01	.12	.50	.11	.13	0.14	0.45
11. First marriage ^f	.13	-.01	-.02	.02	-.01	.20	.03	-.06	.91	-.25	--	.06	.17	-.02	-.06	1.30	0.46
12. Race ^g	-.01	.03	-.17	.10	-.00	-.01	.14	.28	.03	.04	.08	--	.09	.02	.05	1.77	0.58
13. Marriage length	.69	-.05	.18	-.11	-.04	.87	-.08	-.07	.34	-.01	.32	.02	--	.05	.18	160.84	87.40
14. Marital quality ^h	-.04	-.00	.01	-.02	-.01	-.03	-.00	-.02	.00	.02	-.00	.01	-.03	--	.44	5.77	1.32
15. Marital stability ^h	-.01	-.03	.05	-.03	.01	.06	.00	.04	-.02	-.03	-.03	.03	.06	.47	--	4.51	0.75
<u>M</u>	7.76	1.62	1.20	1.91	1.54	40.55	41.50	12.66	1.28	2.74	1.23	1.70	246.00	5.96	1.47		
<u>SD</u>	5.86	1.09	1.29	0.82	0.50	13.33	45.30	3.13	0.56	2.94	0.42	0.63	185.65	1.35	1.00		

(table continues)

Note. Information for respondents caring for children with chronic health problems ($n = 94$) appears above the diagonal wherein all correlations greater than $\pm .20$ are significant at an alpha of .05. Information for respondents with well children ($n = 3,693$) appears below the diagonal wherein all correlations greater than $\pm .01$ are significant at an alpha of .05.

^a0 = boys and men, 1 = girls and women. ^b0 = both girls and boys or all boys, 1 = all girls. ^cTotal annual household income from all sources in thousands of dollars. ^dYears of education. ^e0 = stepchildren present, 1 = no stepchildren. ^f0 = first marriage, 1 = second or later marriage. ^g0 = other, 1 = non-Hispanic White. ^hThe higher the score is, the greater the marital quality and perceived marital stability.

Table 4

Study Two Correlations, Means, and Standard Deviations for All Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	<u>M</u>	<u>SD</u>
1. Gender composition ^a	--	.01	.02	-.01	.02	.03	.13	.02	.09	.00	-.02	-.03	1.83	.80
2. Parent gender ^b	.04	--	-.07	.04	-.02	-.02	-.05	-.00	.00	.01	-.02	.01	1.57	.50
3. Parent age	-.07	-.19	--	.05	-.17	.13	.48	.11	.05	.22	.03	.16	35.38	7.87
4. Household income ^c	.10	-.08	.20	--	.28	.01	-.02	.02	.13	.01	-.00	.00	39.40	26.23
5. Parent education	-.03	-.02	.09	.38	--	-.06	-.13	-.05	.24	-.05	-.02	-.02	13.26	2.98
6. Times married	-.14	-.07	.24	.01	-.13	--	.02	.90	.07	-.02	-.02	-.06	1.33	.62
7. Stepchildren ^d	-.27	-.35	.06	-.10	-.12	.46	--	.46	.16	.14	.11	.13	.23	.58
8. First marriage ^e	-.15	-.03	.20	.07	-.12	.90	.45	--	.06	-.02	-.02	-.06	1.27	.45
9. Race ^f	-.01	-.01	-.19	-.05	.05	.13	.01	.09	--	.06	.02	.05	1.65	.62
10. Marriage length	-.13	-.01	.88	.14	-.10	.40	.03	.38	.06	--	.01	.18	169.43	100.11
11. Marital quality ^g	-.03	.01	.02	-.22	-.13	.12	.02	.09	.02	.01	--	.44	5.86	1.45
12. Marital stability ^h	.05	.15	.05	.22	.04	.00	-.03	-.09	.05	.18	.44	--	4.52	.76
<u>M</u>	1.90	1.54	40.57	49.34	12.65	1.28	2.74	1.22	1.70	203.35	5.95	1.47		
<u>SD</u>	.82	.50	13.33	43.99	3.13	.56	2.94	.42	.63	653.33	1.35	1.00		

(table continues)

Note. Information for respondents caring for children with chronic health problems ($n = 94$) appears above the diagonal.

Information for respondents with well children ($n = 94$) appears below the diagonal. All correlations greater than $\pm .20$ are significant at an alpha of .05.

^a0 = both girls and boys or all boys, 1 = all girls. ^b0 = men, 1 = women. ^cTotal annual household income from all sources in thousands of dollars. ^dYears of education. ^e0 = stepchildren present, 1 = no stepchildren. ^f0 = first marriage, 1 = second or later marriage. ^g0 = other, 1 = non-Hispanic White. ^hThe higher the score is, the greater the marital quality and perceived marital stability.

The model originally contained two other control variables: whether the respondent was in a first marriage, and respondent's age. These variables were eliminated from the final analysis, because, in the case of independent variables correlated at .70 or higher, only the variable most highly correlated with the dependent variable was entered into the analysis (Hanushek & Jackson, 1977) (see Table 3). Number of times married and whether the respondent was in a first marriage were highly intercorrelated, and their correlations with the dependent variables were almost identical. Number of times married was retained in the analyses because there is some evidence that third and subsequent marriages are even more unstable than second marriages (Weed, 1980). In the same way, marriage length was retained over parent age, with which it was highly correlated, because of its stronger association with the dependent variables.

Study two. The variables controlled for in this study were similar to those in Study 1, except that there was no need to control for child age, child gender, or number of children in the family because the two groups were matched on these variables. In addition, only one control variable was dropped from the analyses due to multicollinearity (see Table 4). Whether the respondent was in a first marriage was highly correlated with number of times married, and their correlations with the dependent variables were nearly identical. Because there is some evidence that third and subsequent marriages are even less stable than second marriages (Weed, 1980), number of times married was retained in the analyses.

Data Analysis

Because approximately 18% of the data on income from both groups is missing, values on this variable were imputed through regression analysis using the respondent's age and the husband's education as predictor variables. These imputed values were substituted for the missing data in all analyses for both the control and experimental groups. Mean substitution was used to impute values for the small amount of missing data on other control variables. Missing data are a potentially significant problem in an experimental group of only 94 participants, and the assumption that the data are missing at random might be readily violated in this group of parents. Parents of children with developmental disabilities (e.g., mental retardation) may be reluctant to report their income because they fear losing services. They also may hesitate to report their age or educational level because of concern that people would think they were responsible for their child's illness or disability.

The main effect of child health status on perceived marital stability was examined by ordinary least squares multiple regression analysis using the PROC REG procedure from the SAS computerized statistical analysis program. The effect of child health status on marital quality was also tested using ordinary least squares multiple regression. The model that was estimated contained a dichotomous variable indicating child health status and the control variables of child age and gender, gender composition of children in the family, respondent gender, race, household income, education, times married, and presence or absence of stepchildren. Child age and gender were not included as control variables in Study 2 because the control and

experimental samples were matched on those variables.

The relationship between marital quality and perceived marital stability was examined using ordinary least squares multiple regression. The interaction term of child health status by marital quality was included to determine whether marital quality moderates the effect of child health status on perceived marital stability. The model that was estimated contained the following variables: the dichotomous variable indicating child health status, level of marital quality, the cross product of the two, and the control variables of child age, gender, gender composition of the children in the family, times married, respondent gender, race, household income, education, and presence or absence of stepchildren. Again, child age and gender were not included as control variables in Study 2 because they were the matched variables.

IV. RESULTS

Although I analyzed the data in two ways (using the entire control group and a matched subsample), the findings did not differ between Study 1 and Study 2.

Because type of control group did not matter, the major findings are reported here without differentiating between Study 1 and Study 2. Results that did differ in the two studies (e.g., significance of control variables) are highlighted, however. An alpha level of .05 was used to determine significance for all statistical tests.

Most of the control variables were not highly correlated with the dependent variables (see tables 3 and 4). In the experimental group, there were no control variables that correlated significantly with marital quality or perceived marital stability at an alpha level of .05. The matched control group was similar, with only one (household income) significant control variable. As expected with a large sample size, there were a number of significant correlations between the control variables and the dependent variables in the large control group in Study 1. Respondents with younger children and those who themselves were younger reported higher perceived marital quality. Respondents with boy children and more children reported greater perceived marital stability. Relationships also were more likely to be seen as stable by older and more educated respondents, and those who had been married longer. Group status, or having or not having a child with a chronic illness or disability was unrelated to both marital quality and perceived marital stability.

Marital quality and marital stability were positively correlated in all three groups ($p < .001$). The relationship was weaker in the experimental group, however,

($r = .31$) than in either the large control group ($r = .47$) or the matched control group ($r = .58$).

Research Question One

The first question of interest was whether there are significant differences between parents of children with chronic health problems and parents of well children with respect to marital quality. The hypothesis that marital quality would be lower in parents of children with chronic health problems was not supported. No significant differences were found in marital quality between persons grouped by child health status, nor were any of the control variables significant in this model. The unstandardized and standardized coefficients for this regression model are shown in Table 5 for Study 1 and in Table 6 for Study 2. The F value for the model was 1.17, and the model was nonsignificant ($p = .30$). The proportion of variance accounted for by this model was essentially 0.

Research Question Two

The hypothesis that perceived marital stability would not differ between parents of children with chronic health problems and parents of well children was supported. As predicted, there were no significant differences between parents of children with chronic health problems and parents of well children with respect to perceived marital stability. The regression analyses delineating the effect of child

Table 5

Study One Regression of Marital Quality on Child Health Status

Variable	b	β
Child health status ^a	-.07	-.01
Child gender ^b	-.00	-.00
Gender composition ^c	-.04	-.02
Child age	-.01	-.04
Income	.00	.01
Education	-.01	-.02
Race ^d	.04	.02
Parent gender ^b	-.02	-.01
Times married	-.00	-.01
Presence of stepchildren ^e	.06	.02
R^2		.00

Note. $n = 94$ in the experimental group. $n = 3,693$ in the control group. All variables were nonsignificant at an alpha of .05.

^a1 is children with chronic health problems, 2 is well children. ^b0 is male, 1 is female. ^c0 is both sexes, 1 is boys, 2 is girls (reference group). ^d0 is other, 1 is African American, 2 is Non-Hispanic White (reference group). ^e1 is yes, 2 is no.

Table 6

Study Two Regression of Marital Quality on Child Health Status

Variable	b	β
Child health status ^a	-.10	-.03
Gender composition ^b	.03	.04
Income	-.00	-.00
Education	-.06	-.17
Race ^c	.11	.05
Parent gender ^d	-.07	-.04
Parent age	-.01	-.07
Times married	-.06	-.02
Presence of stepchildren ^e	.06	.02
R^2		-.01

Note. $n = 94$ in both groups. Samples are matched on child age, child gender, and number of children in the family. All variables were nonsignificant at an alpha of .05.

^a1 is children with chronic health problems, 2 is well children. ^b0 is both sexes, 1 is boys, 3 is girls (reference group). ^c0 is other, 1 is African American, 2 is Non-Hispanic White (reference group). ^d0 is men, 1 is women. ^e1 is yes, 2 is no.

health status on perceived marital stability are summarized in Table 7 for Study 1 and in Table 8 for Study 2.

Study one

Independent variables found to be significant in this model included child number, gender, and age; parent race, age, and gender; presence of stepchildren, and marital quality. Respondents with more children ($p < .05$) and younger children ($p < .05$) reported higher perceived marital stability. Persons with more formal education ($p < .01$) and persons reporting their race as non-Hispanic White ($p < .05$) had higher levels of perceived marital stability. Respondent age was negatively ($p < .01$) and gender positively ($p < .05$) related to perceived stability. Contrary to much of the literature, respondents who were younger and who were women reported higher levels of perceived stability. Marital quality was also positively related ($p < .001$) to perceived marital stability. Although this model was statistically significant, $F(1) = 78.93$, $p = .0001$, accounting for 21% of the variance in R^2 , the variable of interest, child health status, was not significant ($p = .65$).

Study two

The only independent variable found to be significant in this model was marital quality. Persons reporting higher ($p < .0001$) levels of marital quality also reported higher perceived marital stability. Although this model was also significant, $F(1) = 4.93$, $p = .0001$, with an R^2 of .23, child health status was not significant ($p = .99$).

Table 7

Study One Regression of Marital Stability on Marital Quality and Marital Quality xChild Health Status

Variable	Model 1		Model 2	
	b	β	b	β
Child health status ^a	-.04	-.01	.47	.09
Child number	.03**	.04	.03**	.04
Child gender ^b	-.01	-.01	-.01	-.01
Gender composition ^c	-.02	-.02	-.02	-.02
Child age	-.00**	-.06	-.00**	-.07
Income	-.00	-.03	-.00	-.03
Education	.01**	.03	.00**	.03
Race ^d	.04*	.03	.04*	.03
Parent age	.01**	.13	.01**	.13
Parent gender ^b	.06*	.04	.06*	.04
Times married	-.05	-.04	.01	.13
Presence of stepchildren	-.08	-.04	-.08	-.04
Marital quality	.27***	.48	.27***	.48
Child health status x			-.09	-.10

Marital quality

R²

.21

.21

Note. Model 1 is the regression of marital stability on child health status, and Model

2 adds the interaction of marital quality by child health status.

^a1 is children with chronic health problems ($n = 94$), 2 is well children ($n = 3,693$).^b0 is male, 1 is female. ^c0 is both sexes, 1 is boys, 2 is girls (reference group). ^d0 is other, 1 is African American, 2 is Non-Hispanic White (reference group).* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8

Study Two Regression of Marital Stability on Marital Quality and Marital Quality x
Child Health Status

Variable	Model 1		Model 2	
	b	β	b	β
Child health status ^a	.00	.00	.73	.48
Gender composition ^b	-.05	-.02	.06	.02
Income	-.00	-.09	-.00	-.06
Education	.02	.11	.02	.11
Race ^c	.09	.07	.05	.04
Parent gender ^d	.13	.08	.13	.09
Parent age	-.00	-.01	-.00	-.03
Times married	-.06	-.04	-.05	-.03
Presence of stepchildren ^e	-.06	-.03	-.06	-.03
Marital quality	.25***	.45	.31***	.56
Child health status x			-.13	-.50
Marital Quality				
<u>R</u> ²		.23		.24

Note. Model 1 is the regression of marital quality on child health status, and Model 2 adds the interaction of marital quality by child health status. n = 94 in both groups.

^a1 is children with chronic health problems, 2 is well children. ^b0 is both sexes, 1 is boys, 2 is girls (reference group). ^c0 is other, 1 is African American, 2 is Non-Hispanic White (reference group). ^d0 is male, 1 is female. ^e1 is yes, 2 is no.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Research Question Three

The final question to be answered was whether marital quality differentially affected perceived marital stability for parents of children with chronic health problems than for parents of well children. The hypothesis that marital quality would be positively related to perceived stability in parents of well children but would be unrelated to perceived stability in parents of children with chronic health problems was not supported. No interaction effect was revealed, although the correlation between marital quality and perceived marital stability was weaker in the experimental group than in either control group.

Study one

Child number and age, as well as respondent education, race, age, gender, and level of marital quality were found to be significant in the same direction as in the previous model. Respondents with more children ($p < .05$) and younger children ($p < .05$) reported higher perceived marital stability. Persons with more formal education ($p < .01$) and persons reporting their race as non-Hispanic White ($p < .05$) had higher levels of perceived marital stability. Respondent age was negatively ($p < .01$) and gender positively ($p < .05$) related to perceived stability. Contrary to much of the literature, respondents who were younger and who were women reported higher levels of perceived stability. Marital quality was also positively related ($p < .001$) to perceived marital stability. The model with the added interaction term was significant, $F(1) = 73.50$, $p < .0001$, but the interaction term added nothing to the

R^2 . The interaction of Child Health Status x Marital Quality is presented in Table 7 for Study 1 and in Table 8 for Study 2.

Study two

Marital quality was the only significant independent variable in this model. Respondents who reported higher levels of marital quality ($p < .001$) also had higher levels of perceived stability. This model was also significant, $F(1) = 4.69$, $p < .001$, but the interaction term added nothing to the R^2 .

V. DISCUSSION

I introduced this study with the statement that having a child with a chronic health problem is stressful. Professionals and parents would be unlikely to dispute this fact. My concern, however, and the reason I wanted to explore the impact of children with chronic health problems on marriage, is that too often stress is equated with distress. Something can be stressful without resulting in negative consequences. In fact, from a social exchange perspective, relationship costs (including stressors) may be less predictive of relationship stability than are barriers to leaving the relationship (Sabatelli & Shehan, 1993). It is not surprising, therefore, that marriages complicated by even severe stress or crisis often last. As this study reveals, the belief that the stress associated with having a child with a chronic illness or handicapping condition necessarily leads to marital distress and/or dissolution may be untrue.

This study focused on two related areas of interest. First, the impact of having a child with a chronic illness or handicapping condition on marital quality was assessed. This was followed by an assessment of the effect of this situational life crisis on parental perception of marital stability. There were no significant differences between parents of children with chronic health problems and parents of well children on either marital quality or perceived marital stability. Additionally, marital quality did not affect perceived marital stability any differently in families of children with chronic health problems than in families of well children. The findings of no difference, however, are important to researchers and clinicians interested in processes in families of children with chronic health problems, especially with respect

to perceived marital stability.

Some of the study findings differed significantly from what I expected. The hypothesis that marital quality would be lower in the experimental group of parents of children with chronic health problems was not supported in this study. Controlling for child age, gender, number, gender composition of the family, and respondent age, gender, race, household income, education, and presence of stepchildren, parents of children with chronic health problems did not differ from parents of well children on global assessment of marital happiness. Although this finding was surprising, it may be explained in several ways. This result may reflect the fact that children, even children with chronic health problems, do not necessarily exert a negative effect on marriage. There is a widely held assumption that the transition to parenthood is accompanied by a drop in marital quality (Glenn, 1990; Wallace & Gotlib, 1990). This assumption has been questioned by some marriage researchers (Belsky & Rovine, 1990; MacDermid, Huston, & McHale, 1990; White & Booth, 1985), however, who have found both positive and negative influences of children on marriage.

Although many researchers have found marital satisfaction to be lower in parents of children with chronic health problems when compared to parents of well children (Butler & Lei, 1973; Fisman & Wolf, 1991; Friedrich et al., 1986; Gath, 1972; Shek & Tsang, 1993; Singhi et al., 1990), most of this research was based on small nonrepresentative samples. In fact, I found no studies about marital quality in families of children with chronic health problems based on large, representative samples. The fact that this study was based on a representative sample may shed some

light on the reasons for the contradictory findings. Perhaps there is a tendency to view child health status as having a uniformly negative effect on marriage because the data often come from families involved in some type of clinical services. Families who seek services, however, are likely to differ from the general population.

Some studies have found marital quality in parents of handicapped children either not to differ from or to be higher than that in parents of well children (Abbott & Meredith, 1986; Kazak, 1987; Kazak & Marvin, 1984). These studies were also based on nonrepresentative, convenience samples but the sample sizes were larger and, similar to the present study, they tended to use a mix of chronic health problems instead of limiting their samples to either chronic illnesses or disabilities.

It might be that having a chronically ill or handicapped child really does not affect marital quality negatively. Alternatively, the insignificant results could be attributable to the single-item measure of marital quality in the NSFH data set. It would be interesting to see how these marriages fared if factors other than global happiness, such as communication and conflict (Fincham & Bradbury, 1987) were considered. Parents of children with supportive spouses might feel happy in their marriages because of the presence of a second person to help with the child's care (Bronstein & Cowan, 1988, p. 76), even though most research shows that true coparenting is rare (Kalmuss, 1992; Mederer, 1993; Traustadottir, 1991). If communication and/or conflict is measured, however, a different picture might emerge; a picture that more accurately represented the effect of the child's illness and its associated caregiving and behavioral problems on the marital dyad.

As expected, respondents with chronically ill and handicapped children did not differ from their counterparts with well children on level of perceived marital stability. This makes some sense. Having children generally is thought to increase marital stability (Koo & Janowitz, 1983; White & Booth, 1985). From a social exchange perspective, children constitute important marital capital. That is, they increase the barriers to leaving the marriage relationship. Not only are most parents invested in caring for their children, but caring for them with the help of another adult may be seen as easier than lone parenting, especially if the child has special needs. Furthermore, from an economic standpoint, many women would find it difficult to support themselves and care for a chronically ill or handicapped child.

It is important to identify just how these children with chronic health problems serve as marital capital and as barriers to marital dissolution. There is a general belief that parents (especially fathers) leave their partners because they tolerate poorly a less than perfect child. Although it may be true that some parents leave their marriages after the birth of a child with a chronic health problem because of a perception of "damaged goods" (or less than optimal capital), there is no evidence that this is the case for a significant number of parents. Instead, it seems likely that chronically ill children, as do other children, serve more as barriers to than as instigators of marital dissolution.

The difficulty inherent in single-parenting a child with special needs may be a plausible explanation for the finding that child health status had no effect on perceived marital stability in the present study. The advantage of a second adult to assist with parenting a child with special needs may help to explain the relative stability of these

marriages. The potential costs of losing a coresidential coparent may be a strong incentive to maintaining a marital relationship.

At odds with my hypothesis, marital quality did not affect perceived marital stability differently in the experimental group than in the control group. Although marital quality and marital stability are usually related positively (Lewis & Spanier, 1979), I suggested that unions wherein a child with special needs is present might be unhappy but stable (Heaton, 1990). This insignificant finding may be a reflection of marriages that are not unhappy, as the results of this study indicated, or it could be explained on the basis of the limited measure of marital quality. Alternatively, it may well be that having a child with a chronic health problem is not a very important factor in the degree to which the participants are happy or unhappy in their marriages.

Limitations

This study has several limitations. There might be no real differences between respondents with chronically ill or handicapped children and respondents with well children in how they view their marriages. Alternatively, the findings might be related to sampling problems. One potential issue is the 26% nonresponse rate in the NSFH (Sweet, Bumpass, & Call, 1988). Nonresponders may differ from people who do volunteer (Bailey, 1990). They are more likely to be divorced, for example. If people with unstable marriages systematically were more likely not to participate, it might be problematic to examine questions of marital stability with this data set.

Restricting the sample to married respondents when considering marital

stability may also be problematic, because the least stable unions might have already been eliminated from the sample. To examine this possibility, I compared the proportion of unmarried (divorced) and remarried parents of children younger than 19 in the data set. In this sample, 60% of parents caring for a child with a chronic health problem were in a first marriage, compared with 67% of parents with well children. Similarly, 15% of caregiving parents were in a remarriage or were divorced, compared with 8% of parents with well children. These figures suggest that families with chronically ill or handicapped children might have marriages that are more prone to dissolution. The divorce, however, could have occurred before the target child's birth, or the child could have been born into the remarriage.

A univariate 2 (group) x 2 (marital status) chi square analysis revealed a significant, $\chi^2(2, N = 4,860) = 7.48, p < .05$, association between having a handicapped or chronically ill child and marital status: Parents with children who needed special care were less likely to be married and more likely to be remarried. Examining marital status rather than perceived likelihood of divorce as an indicator of marital stability alleviates some of the methodological issues associated with the measurement of marital stability among only those respondents who are married, but marital status is suspect because it does not reveal the timing of the target child's birth in relationship to a marital dissolution or a remarriage.

Another option is to examine the marital stability of the experimental group in comparison with that of the control group longitudinally. Using the second wave of

the NSFH in which data were gathered in 1992 to 1993², a 2 (group) x 2 (marital status) chi square analysis was examined to determine the percentage of experimental group respondents who remained in the same marital relationship as in the first wave.

Of the original 94 respondents in the experimental group, 71 (76%) participated in the second wave. Of those 71 respondents, 69 (97%) remained in the original marriage after 5 years, and only 2 people (3%) were no longer married. Similarly, of the original 3,593 respondents in the control group, 2,557 (71%) were available for reinterview. Of these 2,557 respondents, 2,446 (96%) remained married, and only 91 (3.6%) had divorced. Chi square analyses revealed no significant differences between the groups in either study attrition, $\chi^2(1, N = 3,593) = .06, p = .92$, or percentage of marital disruptions, $\chi^2(1, N = 2,628) = .11, p = .74$. These results lend validity to the finding that child health status does not impact marital stability negatively, but it is important to note that 24% of the original experimental group participants and 29% of the control group participants were unavailable for reinterview. The fact that divorced persons are more likely to change their place of residence (Price & McKenry, 1988, p. 121), and therefore may be harder to contact at follow-up, casts doubt on the validity of this analysis. Nevertheless, given that the proportion of nonrespondents was the same in both groups, concern about different rates of marital stability in the two groups is minimized. That the proportion of unmarried and remarried parents with chronically ill children is greater at wave 1, however, suggests that there may be an association between marital status and marital

²Data electronically transferred from the Center for Demography and Ecology, University of Wisconsin.

stability that cannot be determined in a married sample.

Measurement issues might also be a limitation. Single-item, global measures were used to assess both marital quality and marital stability. There is ongoing confusion about what constitutes marital quality, and researchers taking a dyadic perspective feel that there is much that contributes to marital satisfaction besides global perceptions. The single-item indicator of marital quality used in the NSFH, however, has been widely used in research on marriage (Demo & Acock, 1994; Hoyert et al., 1992), and there is no reason to believe it is problematic in the present study.

In the same way, the only available measure of marital stability in this cross-sectional study was a single-item assessment of perceived marital stability. Perceived marital stability is not the same as marital stability, although other researchers have examined stability in this way (McCarthy, 1978).

Implications

There are both research and clinical implications of these findings. This study is not definitive in answering questions about the impact of children with chronic health problems on marriage, but it does provide information previously unavailable from a representative sample. It also raises some questions of theoretical and clinical significance. For instance, how does having a child with special needs affect marriage for persons in the general population not involved in clinical services? Should we continue to examine these important issues entirely in small clinical samples?

Although potentially valuable information is gained through these convenience samples, use of data sets based on representative samples would give a less biased picture of these families.

There are methodological issues involving the use of single-item measures and cross-sectional data to investigate marital quality and stability. Would the results have differed if a more complex index of marital quality, involving communication and conflict for instance, had been used? Was perceived marital stability the most defensible measure of stability, or might marital status have been equally valid as a dependent variable?

Families of children with chronic health problems might benefit if clinicians approached them from a strength rather than a deficit stance. Family stress does not necessarily equal family disruption. This study provides some evidence that the stress of having a child with a chronic health problem does not always impact marriage negatively. Families want interventions focused on their needs. Instead of trying to repair something that is not broken, especially in the current climate of scarce resources available for family support, clinicians should center their attention on actual family needs.

Future research might focus on within-group variability in families with chronically ill or handicapped children. If clinicians are to focus on family strengths rather than weaknesses or deficits, more information is needed about factors associated with positive outcomes in these families. Factors to be investigated might include the meaning of the diagnosis to the family, the meaning of marriage and commitment, the role of partner support, social support, division of family work, and

formal support services for families caring for children with special needs in influencing marital and family outcomes.

This study examined the impact of children with chronic health problems on marriage, using a representative sample. The results indicated that marital quality and perceived marital stability did not differ in parents of children with chronic illnesses and disabilities and parents with well children. Although the results are far from definitive, there is evidence that having a child with a chronic illness or disability may not have the uniformly negative association with marital quality and stability that is often suggested. The results support the need for additional research, as well as the attention of clinicians on the actual needs of families wherein some members require special care.

REFERENCES

- Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage Publications.
- Bailey, K. D. (1987). Methods of Social Research. New York: Free Press.
- Belsky, J., & Rovine, M. (1990). Patterns of marital change across the transition to parenthood: Pregnancy to three years postpartum. Journal of Marriage and the Family, 52, 5-19.
- Benson, B. A., & Gross, A. M. (1989). The effect of a congenitally handicapped child upon the marital dyad: A review of the literature. Clinical Psychology Review, 9, 747-758.
- Bernard, J. (1972). The future of marriage. New York: World.
- Bronstein, P., & Cowan, C. P. (1988). Fatherhood today: Men's changing role in the family. New York: John Wiley & Sons.
- Brust, J. D., Leonard, B. J., & Sielaff, B. H. (1992). Maternal time and the care of disabled children. Public Health Nursing, 9, 177-184.
- Bumpass, L. L., & Sweet, J. A. (1972). Differentials in marital instability: 1970. American Sociological Review, 37, 754-766.
- Cadman, D., Rosenbaum, P., Boyle, M., & Offord, D. (1991). Children with chronic illness: Family and parent demographic characteristics and psychosocial adjustment. Pediatrics, 87, 884-889.

- Camparo, L., Christensen, A., Burhmester, D., & Hinshaw, S. (1994). System functioning in families with ADHD and non-ADHD sons. Personal Relationships, 1, 301-308.
- Conger, R. D., Elder, Jr., G. H., Lorenz, F. O., Conger, K. J., Simons, R. L., Whitbeck, L. B., Huck, S., & Melby, J. N. (1990). Linking economic hardship to marital quality and instability. Journal of Marriage and the Family, 52, 643-656.
- Cook, J. A. (1988). Who "mothers" the chronically mentally ill? Family Relations, 37, 42-49.
- Corman, H., & Kaestner, R. (1992). The effects of child health on marital status and family structure. Demography, 29, 389-408.
- Darlington, R. B. (1990). Regression and linear models. New York: McGraw-Hill.
- Davis, H., & Rushton, R. (1991). Counseling and supporting parents of children with developmental delay: A research evaluation. Journal of Mental Deficiency Research, 35, 89-112.
- Dawson, D. A. (1991). Family structure and children's health: United States, 1988. Vital and Health Statistics Series 10, No. 178. Hyattsville, Maryland: U.S. Department of Health and Human Services.
- Farber, B. (1959). Effects of a severely handicapped mentally retarded child on family integration. Monograph of the Society for Research in Child Development, 24(2), 1-115.
- Fincham, F. D., & Bradbury, T. N. (1987). The assessment of marital quality: A reevaluation. Journal of Marriage and the Family, 49, 707-809.

Fisman, S., & Wolf, L. (1991). The handicapped child: Psychological effects of parental, marital, and sibling relationships. Psychiatric Clinics of North America, 14, 199-217.

Floyd, F. J., & Zmich, D. E. (1991). Marriage and the parenting partnership: Perceptions and interactions of parents with mentally retarded and typically developing children. Child Development, 62, 1434-1448.

Friedrich, W. N., Cohen, D. S., & Wiltner, L. S. (1987). Family relations and marital quality when a mentally handicapped child is present. Psychological Reports, 61, 911-919.

Friedrich, W. N., & Friedrich, W. L. (1981). Psychosocial assets of parents of handicapped and nonhandicapped children. American Journal of Mental Deficiency, 85, 551-553.

Gath, A. (1972). The mental health of siblings of congenitally abnormal children. Journal of Child Psychology and Psychiatry, 13, 211-218.

Glenn, N. D. (1989). Duration of marriage, family composition, and marital happiness. National Journal of Sociology, 3, 3-24.

Glenn, N. D. (1990). Quantitative research on marital quality in the 1980s: A critical review. Journal of Marriage and the Family, 52, 818-831.

Hanushek, E. A., & Jackson, J. E. (1977). Statistical methods for social scientists. New York: Academic Press.

Heaton, T. B. (1990). Marital stability throughout the child-rearing years. Demography, 27, 55-63.

- Heaton, T. B. (1991). Time-related determinants of marital dissolution. Journal of Marriage and the Family, 53, 285-295.
- Heaton, T. B., & Albrecht, S. L. (1991). Stable unhappy marriages. Journal of Marriage and the Family, 53, 747-758.
- Hirst, M. (1991). Dissolution and reconstitution of families with a disabled young person. Developmental Medicine and Child Neurology, 33, 1073-1079.
- Hobbs, N., Perrin, J. M., & Ireys, H. T. (1985). Chronically ill children and their families. London: Jossey-Bass Publishers.
- Hoyert, D. L., & Seltzer, M. M. (1992). Factors related to the well-being and life activities of family caregivers. Family Relations, 41, 74-81.
- Kalmuss, D., Davidson, A., & Cushman, L. (1992). Parenting expectations, experiences, and adjustment to parenthood: A test of the violated expectations framework. Journal of Marriage and the Family, 54, 516-526.
- Katzev, A. R., Warner, R. L., & Acock, A. C. (1994). Girls or boys? Relationship of child gender to marital instability. Journal of Marriage and the Family, 56, 89-100.
- Kazak, A. E. (1986). Families with physically handicapped children: Social ecology and family systems. Family Process, 25, 265-281.
- Kazak, A. E. (1987). Families with disabled children: Stress and social networks in three samples. Journal of Abnormal Child Psychology, 15, 137-146.
- Kazak, A. E., & Marvin, R. S. (1984). Differences, difficulties and adaptation: Stress and social networks in families with a handicapped child. Family Relations, 33, 67-77.

Kitson, G. C., Babri, K. B., & Roach, M. J. (1985). Who divorces and why: A review. Journal of Family Issues, 6, 255-293.

Klennert, M. D., Gavin, L. A., Wamboldt, F. S., & Mrazek, D. A. (1992). Marriages with children at medical risk: The transition to parenthood. Journal of the American Academy of Child and Adolescent Psychiatry, 31, 334-342.

Konstantareas, M. M., & Homatidis, S. (1991). Effects of developmental disorder on parents: Theoretical and applied considerations. Psychiatric Clinics of North America, 14, 183-196.

Koo, H., & Janowitz, B. (1983). Interrelationships between fertility and marital dissolution. Demography, 20, 129-145.

Kurdek, L. A. (1991). The relations between reported well-being and divorce history, availability of a proximate adult, and gender. Journal of Marriage and the Family, 53, 71-78.

Landis, J. T. (1963). Social correlates of divorce or nondivorce among the unhappily married. Marriage and Family Living, 25, 178-180.

Levinger, G. (1979). A social psychological perspective on marital dissolution. In G. Levinger & O. Moles (Eds.), Divorce and separation: Causes, context, and consequences (pp. 37-60). New York: Basic Books.

Lewis, R. A., & Spanier, G. B. (1979). Theorizing about the quality and stability of marriage. In W. Burr, R. Hill, F. Nye, & I. Reiss (Eds.), Contemporary theories about the family: Vol. 2. Research-based theories (pp. 268-294). New York: Free Press.

MacDermid, S. M., Huston, T. L., & McHale, S. M. (1990). Changes in marriage associated with the transition to parenthood: Individual differences as a function of sex-role attitudes and changes in the division of household labor. Journal of Marriage and the Family, 52, 475-486.

McAlister, R., Butler, E., & Lei, T. (1973). Patterns of social interaction among families of behaviorally retarded children. Journal of Marriage and the Family, 35, 93-100.

McCarthy, J. (1978). A comparison of the probability of the dissolution of first and second marriages. Demography, 15, 345-360.

Mederer, J. J. (1993). Division of labor in two-earner homes: Task accomplishment versus household management as critical variables in perceptions about family work. Journal of Marriage and the Family, 55, 133-145.

Norton, A. J., & Moorman, J. E. (1987). Current trends in American marriage and divorce. Journal of Marriage and the Family, 49, 3-14.

Petersen, P. (1984). Effects of moderator variables in reducing stress outcome in mothers of children with handicaps. Journal of Psychosomatic Research, 28, 337-344.

Pillitteri, A. (1995). Maternal and child health nursing: Care of the childbearing and childrearing family. Philadelphia: J. B. Lippincott Company.

Pless, I. B., & Pinkerton, P. (1975). Chronic childhood disorder: Promoting patterns of adjustment. London: Jerry Kimpton.

Price, S. J., & McKenry, P. C. (1988). Divorce. Newbury Park, CA: Sage Publications.

Roesel, R., & Lawlis, G. F. (1983). Divorce in families of genetically handicapped/mentally retarded individuals. American Journal of Family Therapy, 11, 45-50.

Sabatelli, R. M., & Shehan, C. L. (1993). Exchange and resource theories. In P. G. Boss, W. J. Doherty, R. LaRossa, W. R. Schumm, & S. K. Steinmetz (Eds.), Sourcebook of family theories and methods: A contextual approach. New York: Plenum Press.

Sabbeth, B. F., & Leventhal, J. M. (1984). Marital adjustment to chronic childhood illness: A critique of the literature. Pediatrics, 73, 762-768.

Shek, D. T. L., & Tsang, S. K. M. (1993). The Chinese version of the Kansas marital satisfaction scale: Some psychometric and normative data. Social Behavior and Personality, 21, 205-214.

Singer, L., & Farkas, K. J. (1989). The impact of infant disability on maternal perception of stress. Family Relations, 38, 444-449.

Singhi, P. D., Goyal, L., Pershad, D., Singhi, S., & Walia, B. N. S. (1990). Psychosocial problems in families of disabled children. British Journal of Medical Psychology, 63, 173-182.

Spanier, G., & Thompson, L. (1983). Relief and distress after marital separation. Journal of Divorce, 7, 31-49.

Stein, R. E. K., & Jessop, D. J. (1982). A noncategorical approach to chronic childhood illness. Public Health Reports, 97, 354-362.

Tavormina, J. B., Boll, T. J., & Dunn, N. J. (1981). Psychosocial effects on parents of raising a physically handicapped child. Journal of Abnormal Child Psychology, 9, 121.

Traustadottir, R. (1991). Mothers who care: Gender, disability, and family life. Journal of Family Issues, 12, 211-228.

Waite, L. J., & Lillard, L. A. (1991). Children and marital disruption. American Journal of Sociology, 96, 930-953.

Wallace, P. M., & Gotlib, I. H. (1990). Marital adjustment during the transition to parenthood: Stability and predictors of change. Journal of Marriage and the Family, 52, 21-29.

Weed, J. (1980). National estimates of marriage dissolution and survivorship: United States (DHHS, Vital and Health Statistics, Series 3). Washington, DC: U. S. Government Printing Office.

Widerstrom, A. H., & Dudley-Marling, C. (1986). Living with a handicapped child: Myth and reality. Childhood Education, 86, 359-367.

White, L., & Booth, A. (1985). The transition to parenthood and marital quality. Journal of Family Issues, 6, 435-449.

White, L., Booth, A., & Edwards, J. (1986). Children and marital happiness: Why the negative relationship? Journal of Family Issues, 7, 131-148.

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

White, L. K., & Booth, A. (1991). Divorce over the life course: The role of marital happiness. Journal of Family Issues, 12, 5-21.

Wright, L. M., & Leahey, M. (1987). Families and chronic illness.

Philadelphia: Springhouse.