

THE INFLUENCE OF PARENTAL DISABILITY ON CHILDREN:  
AN EXPLORATORY INVESTIGATION OF THE ADULT  
CHILDREN OF SPINAL CORD INJURED FATHERS

by

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Investigation of the Adult Children of Spinal Cord Injured Fathers

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## ABSTRACT

The present study examined the effects of physical disability in fathers on the development and adjustment of their children. There is little empirically based information about the influence of physical characteristics of parents on children, but speculative articles have described many deleterious effects of being raised by a physically handicapped parent. These hypothesized relations between parental disability and child adjustment were tested. Two groups of adult children selected through the Veterans Administration Spinal Cord Injury system were studied: (a) Disabled Parent (DP)--17 male and 28 female children, mean age 21.6, who were raised by a spinal cord injured father from a mean age of 1.31, and (b) Comparison (C)--15 male and 21 female children, mean age 23.8, with nondisabled fathers. The two groups were matched on father's age, education level, state of residence, and disposable family income. Children had lived with both parents until age 15, and their fathers were veterans. Subjects completed a battery of tests: the Minnesota Multiphasic Personality Inventory (MMPI), Sixteen Personality Factor Questionnaire (16PF), Bem Sex Role Inventory, Body-Cathexis scale, Parent-Child Relations Questionnaire II (PCR), and Buck-Hohmann questionnaire (designed specifically for this study). The results did not support any of the hypothesized relations between parental disability status and child adjustment. DP and C children scored within the normal range on the MMPI and 16PF. The only significant difference which emerged was that DP children tended to be more

cautious in emotional expression than did C subjects. The DP and C groups did not differ in body image or sex role orientation. On the Rokeach Value Survey, DP children ranked national security, a world at peace, clean, obedient, and responsible higher than did C children. C children valued being logical more than did DP children. As perceived by the children, DP and C fathers did not differ significantly in the degree to which they were loving or rejecting, casual or demanding (PCR). On the Buck-Hohmann questionnaire, there was no evidence that disabled fathers excluded themselves from discipline and child-rearing aspects of parenthood or that disabled fathers lose control over their children. DP children were found to hold significantly more positive attitudes toward their fathers than were C children. There were no effects on children's health patterns or interpersonal relations as a function of the father's disability status. DP children expressed more interest and participation in athletics than did C children. It was concluded that parental disability does not pose a severe threat to child adjustment. Children with spinal cord injured fathers appeared to be well-adjusted, emotionally stable persons who highly regarded their fathers. Limitations of the study and implications for rehabilitation programs, adoption and court custody decisions, and future research were discussed.

## INTRODUCTION

Despite confronting a broad range of problems, physically disabled persons may be as psychologically, socially, and vocationally well-adjusted as the able-bodied (Deyoe, 1972; Hohmann, 1975; Shontz, 1971; Trieschmann, 1978; Wright, 1960). One could conclude from the research on psychological aspects of disability that like the nondisabled person, the individual with a physical disability goes to school, works, plays, travels, serves in the community, loves and marries. Yet, one significant aspect of living is missing from the literature--parenthood. While significant strides have been made toward understanding the effects of child-rearing practices and personality characteristics of the parent on child adjustment, "there is little in the literature regarding the effect on children of a chronically ill, visibly disabled parent in the home" (Olgas, 1974, p. 319). Heslinga, Schellen, and Verkuyl (1974) have pointed to the need for study of the children of disabled parents: "Studies on this are very necessary. Objective, verifiable facts have to be collected. The subjective data obtained from parents and children are inadequate" (p. 173). The present study takes a step in this direction by examining the adjustment and personality characteristics of children raised by a physically disabled parent--the spinal cord injured father.

The Influence of Parental Disability and  
Illness on Children

The few investigations that have been done on the relationship between physical illness and disability in a parent and child adjustment have used two research strategies. One method has been to compare the incidence of physical illness in parents of children referred to psychiatric clinics and other social institutions with parents of children not referred for psychiatric care. In general, parents of psychologically disturbed and delinquent children show a higher incidence of physical illness than control groups of parents. Glueck and Glueck (1950) found that of 500 institutionalized delinquent boys, 39.6 percent of the fathers and 48.6 percent of the mothers had a "serious physical ailment" as contrasted to 28.6 percent of the fathers and 33 percent of the mothers of non-delinquent children. High incidences of chronic illness were also found in parents of children with behavior disorders (Craig, 1956; Holman, 1953). A more recent and systematic study by Rutter (1966) investigated the parents of children with diagnoses of primary childhood behavior, personality, and neurotic disorders with a group of parents whose children were psychologically adjusted. A series of comparisons revealed that the incidence of chronic and recurrent physical illness in parents of disturbed children was twice that found in a matched control group of parents with adjusted children. Rutter (1966) suggests that the association of chronic illness with a disruption of family life, financial hardship, and the probability of greater emotional disturbance in chronically ill persons may account for the finding that

"children are at risk when parental illness becomes recurrent or chronic" (p. 107). Using number of hospital admissions during the child's lifetime as an index of parental illness, Wolff and Acton (1968) replicated Rutter's findings for mothers but not fathers.

A second series of studies have assessed the effects of parental disability on children by selecting families with a disabled parent and then looking at various aspects of familial response. Castro de la Mata and his colleagues have conducted two field-observational studies on the reaction of families to the sudden, severe disablement of the father. In the first report, essentially a series of eight case studies, the authors interviewed each family member and observed the family in the home (Castro de la Mata, Gingras, and Wittkower, 1960). No objective measures were used. They found that "disablement of the father obviously constitutes a stress on the dynamic equilibrium of the family . . . and various mechanisms were adopted to counteract the blow and restore homeostasis" (p. 1018). Children were observed to react differently according to their ages. Preadolescents felt their routine disrupted, missed the father as a functioning person, and reacted with the prevalent mood of the family. Older children were concerned more about the disrupted family unit. In a later study, Castro de la Mata et al. (1970) increased the number of families studied, employed measuring instruments, primarily projective, and observed the family in the home. Three basic patterns of familial reaction to disablement of the father were identified,

depending on the father's attitude. In a despotic reaction pattern, the father demanded complete submission from the family. Children reacted with frustration and fear of the father, and they tended to be emotionally insecure. A patriarchal adjustment pattern was marked by less family strife and more feelings of security in children, but the family still focused on the father's interests. In a companionate family pattern, focus remained on the children, and little detrimental effect was noted. Similar patterns of familial adjustment were found by Deutsch and Goldston (1960).

Severely disabled fathers themselves see the impact of their disability on the family unit primarily in terms of the distribution of responsibilities and financial status. Questionnaire data reveal that disabled fathers believe their disablement resulted in greater responsibility for home management by their wives, reduced social and recreational activities for the family, additional responsibilities for their children, financial distress, and changed plans for the size of the family (Marra and Novis, 1959).

In the most sophisticated and well-designed study to date, Olgas (1974) investigated the relationship between visible disability resulting from multiple sclerosis in a parent and body image in children (Olgas, 1974). On the basis of identification theory, she predicted that: (a) children with disabled parents would show greater body image distortion than children with healthy parents, and (b) children of a same sexed parent with multiple sclerosis would show greater body image distortion than children of an opposite sexed parent with multiple sclerosis. Male and female children of

nondisabled parents, multiple sclerotic mothers, and multiple sclerotic fathers were given three measures of body image. Only one significant finding emerged--girls with multiple sclerotic mothers demonstrated more body image distortion than girls with multiple sclerotic fathers. Although not significant, children with multiple sclerotic parents tended to show greater body image distortion than children with healthy parents.

Due to the limited scope and methodological liabilities of the few studies done, not much is known about the influence of parental physical disability on children. Two issues in particular are unresolved. The first set of studies looks at chronic and recurrent illness, and the question arises whether physical illness and physical disability are comparable in their effects on children. Second, two of the studies specifically assessing parental physical disability focus on the response of children immediately following disablement of a parent, a period of considerable upheaval. The long-term effects of living with a disabled parent have not been assessed.

In contrast to empirical research, speculations about the effects of parental disability on children are much more numerous in the literature. The hypothesized influences of parental disability on children have arisen as the scope of rehabilitation efforts expanded from a concern with physical variables to psychological aspects of disability (Berger and Garret, 1952). Although considered within the context of developing more comprehensive rehabilitation programs and



without empirical verification, the prevailing views about children's response to parental disability point to potentially important variables for study.

The influence of parental disability has been analyzed most commonly in terms of the concept of social role (Burnett, 1973; Christopherson, 1968; Gibson and Ludwig, 1968; Hilbourne, 1973; Thomason and Clifford, 1972). Considerable role modifications are believed to result from disablement of a parent. A major change is in the father's traditional role of provider. "Disability may create role ambiguity and role reversal in which the husband is forced to stay at home and become the homemaker while the wife works and becomes the breadwinner" (Thomason and Clifford, 1972, p. 23). The disruption of roles is seen to result not only in reduced financial status, but more importantly in strained interpersonal relationships and altered family structure (Gibson and Ludwig, 1968; Thomason and Clifford, 1972). For example, "the family as a group may no longer have the social and psychological cohesion it once had" (Thomason and Clifford, 1972, p. 23). Anthony (1970) denotes four areas of change in the home following disablement of the father: (a) role status and evaluations of the father, especially with respect to dominance, (b) the strength and direction of feelings between family members, (c) the maintenance of discipline, and (d) the performance of routine household activities. In brief, the father's authority diminishes, and the family pays less attention to his feelings. Although the father may regain some of his former power

and status, "there is some permanent damage to the power structure of the family" (Anthony, 1970, p. 133).

The alterations in family structure resulting from parental disablement are thought to have a wide variety of effects on children, most of them detrimental. Disability in a father is thought to produce withdrawal of attention from children, who lose maternal support to the father (Anthony, 1970; Deutsch and Goldston, 1960). A young child, "who does not have the cognitive skills to understand realistically the events associated with becoming disabled" is deprived of emotional anchors and physical support (Romano, 1976, p. 310). Older children experience loneliness, apprehension, anger, and guilt and try to replace the parent in the home (Romano, 1976).

A second effect on children is that the obligations, responsibilities, and activities of the child change both quantitatively and qualitatively (Dicaprio, 1971; Heslinga et al., 1974; Hilbourne, 1973). As Hilbourne (1973) writes, "In so far as they have to take on additional burdens, tasks, and responsibilities, in addition to those they would normally be expected to assume, this limits the flexibility they have in playing other roles and may mean foregoing activities and roles which would otherwise be available to them" (p. 502).

A third major concern is that the child of a disabled parent lacks an appropriate role model with whom to identify (Heslinga et al., 1974; Hohmann, 1977). Hohmann (1977) notes that adoption agencies believe that a disabled father is less able to model appropriate masculine behavior, such as financially supporting the family, expressing

aggression, and engaging in physically oriented activities. As a result of identifying with this more "passive" father, it is believed that the boy will fail to develop a masculine self-concept and appropriate adult role behavior. As Burnett (1973) succinctly captures the concern, "When we consider children growing up in a family where because of a handicap, the parents are not playing the adult parental roles, which society considers normal, we question what effect this might have on the children's development of adult roles" (p. 505).

Discipline and power relations between parent and child are speculated to be a problem in a home with a disabled parent (Dicaprio, 1971; Heslinga et al., 1974). Due to impairments in mobility, the parent is less able to discipline and maintain control of the child, often leaving it to the spouse. "Difficulty with this aspect of child-rearing can greatly affect the child's evaluation of his parents and may result in his fearing and respecting only the nondisabled parent" (Dicaprio, 1971, p. 182). However, Dicaprio (1971) notes that the cooperation of both parents can overcome this problem. Hohmann (1977) similarly says that verbal discipline and control of the child can be used effectively in place of physical control. A related concern of adoption agencies (Hohmann, 1977) and some rehabilitation workers (Heslinga et al., 1974) is that the physically disabled parent is less able to manage the physical care of children, which may interfere with the normal bonding processes between parent and child. However, Nordqvist (1972) disagrees, "A severe orthopedic handicap does not prevent a person from being a good parent. Being a good parent involves

not only the practical care of the child, but also giving it emotional security and love" (p. 68).

A sixth influence on children hypothesized to result from disablement of a parent arises from the "social stigma" attached to them for having a handicapped parent (Hilbourne, 1973; Thomason and Clifford, 1972). Children experience "handicaps and disabilities" which stem from the father's physical disability and the ways in which it is perceived through the operation of "courtesy stigma" (Hilbourne, 1973). As Thomason and Clifford (1972) write, "Children have problems adjusting to a physical disability of the parent, especially as curious schoolmates learn that Dad is a paraplegic. This is often followed by their playmates expressing regret and sympathy," and children learn to see themselves and their family as different and in circumstances to be pitied (p. 23). Rather than feelings of being pitied, Heslinga et al. (1974) believe that children feel shame and try to conceal the parent's condition due to ostracism from peers.

Finally, parental disability may result in changed leisure and recreational activities, especially with regard to athletics. "Family holidays or outings, playing games or just romping about are all together more difficult than they are for healthy people, and may even be out of the question" (Heslinga et al., 1974, p. 177). The limitations which a disabled parent encounters in engaging in physically oriented activities are presumed to be so important that adoption agencies cite it as a primary reason for precluding the adoption of children by disabled parents (Hohmann, 1977). Descriptions of children,

such as the following, are given as evidence of the void in children's experience when the parent cannot be a playmate and companion (Hohmann, 1977): "The young boy with tears in his eyes saying to his father, 'it sure is too bad you're hurt Daddy, cause now you can't play catch and hit the ball with me and we won't be able to go camping'" (Thomason and Clifford, 1972, p. 23).

In sum, the prevailing opinion in the literature, although not uncontested (e.g., Dicaprio, 1971; Nordqvist, 1972), is that the presence of a disabled parent in the home poses many threats to the normal development and adjustment of the child. But, at present, these speculated "influences" remain just that--opinions untested empirically. Clearly, it seems important to begin the empirical investigation of the children of handicapped parents, given: (a) the widespread practical implications for rehabilitation programs, adoption agencies, court custody decisions, family counseling services, handicapped persons and the children themselves, and (b) the theoretical contributions to the psychology of parent-child relations.

#### Parent-Child Relationships

The psychology of parent-child relations provides a larger context within which the present study can be set. Theory and research on the relationship between parental characteristics and child adjustment point to aspects of parenting conducive to normal child development and to personality and behavior variables in children which are of importance in assessing and understanding the impact of parental disability on children. In addition, a conceptual as well as methodological

difficulty in research on parent-child relations is revealed--the distinction between association and causation (Kysar, 1968; Walters and Stinnet, 1971). This distinction is important to consider in the present study, since variables other than paternal disability may differ in the home environment of children with disabled and nondisabled fathers. Thus, while different patterns of adjustment may be associated with parental disability status, it cannot be assumed that the father's disability status has caused the differences.

#### Parent Attitudes and Behavior

Considerable research indicates that there are two, perhaps three, basic dimensions which characterize parental attitudes and behavior (Becker, 1964; Roe and Siegelman, 1963; Schaefer, 1959, 1961, 1965; Sears, Maccoby, and Levin, 1957; Slater, 1962). Despite differing names given to these factors, the variables defining each are similar across studies and investigators (Roe and Siegelman, 1963). The first major dimension of parental behavior, loving versus rejecting (warmth-hostility), refers to such variables on the loving end as accepting, approving, affectionate, helpful, understanding, and child centered (Singer and Singer, 1969). Restrictiveness-permissiveness (casual-demanding), the second dimension, is commonly defined on the restrictive end by a parent who sets many rules and regulations, is strict in enforcing them, demands unquestioning respect, and uses power-assertive discipline (Singer and Singer, 1969). Less consistently, third factors have been found, such as attention (Roe and

Siegelman, 1963; Siegelman and Roe, 1977) and anxious-emotional versus calm detachment (Becker, 1964).

In addition to describing parent behavior and attitudes, these dimensions are significantly related to many aspects of child development. Parental warmth is a "most crucial and pervasive factor affecting the child" (Medinnus and Johnson, 1969, p. 356). It is positively related to variables associated with emotional, social, and intellectual development. Research points to the conclusion that children of warm, loving parents are more mature, intellectually achieving, emotionally stable, psychologically adjusted, and able to form intimate relationships than are children of rejecting parents (Aronfreed, 1964, 1970; Baumrind, 1967; Becker, 1964; Manley, 1977; Rohner, 1975; Rousell and Edwards, 1971; Sears et al., 1957; Siegelman, 1965, 1966; Su, 1976; Walters and Stinnet, 1971). Differences in children raised by restrictive and permissive parents have been demonstrated as well. In general, whereas intellectual growth, autonomy, and outgoing, sociable, and assertive behavior are characteristic of children with permissive parents; children of restrictive parents show more well-controlled, socialized behavior, less aggressiveness, and more persistence (Baldwin, Kalhorn, and Breese, 1945; Becker, 1964; Kagan and Moss, 1962; Moore, 1965; Sears, 1961; Walters and Stinnet, 1971). Moreover, interactions between and degrees of parental warmth-hostility and permissiveness-restrictiveness are associated with different patterns of child adjustment, both normal and disordered (Baumrind, 1975; Becker, 1964; Becker et al., 1962; Jacobs et al., 1972; Levin, 1958;

Lidz, Parker, and Cornelison, 1956; McCord, McCord, and Howard, 1961; Peterson et al., 1961; Rosenthal et al., 1962; Rousell and Edwards, 1971; Sears et al., 1957; Walters and Stinnet, 1971).

Given the pervasive significance of parental behavior for child adjustment, the present study assessed the behavior of parents toward their children as perceived by the child. This procedure allowed comparisons between how children of spinal cord injured and nondisabled fathers perceive their parents. Also, the comparative impact of perceived parental behavior versus parental disability status on measures of child adjustment was tested.

The Parent-Child Relations Questionnaire II was used to measure parent behavior (Siegelman and Roe, 1977). The PCR II measures, from the child's perspective, behaviors characterizing the dimensions of loving-rejecting, casual-demanding, and attention separately for mother and father. Although parental behavior is measured indirectly by this procedure, "a child's perception of his parents' behavior may be more related to his adjustment than the actual behavior of his parents" (Schaefer, 1965, p. 413). Moreover children's reports of parent behavior markedly parallel more direct indices of parent behavior. After reviewing a large number of studies, Schaefer (1965) concludes that research supports the validity of children's reports of parent behavior.

#### Parent Identification

Identification is the mechanism hypothesized to account for the process by which children acquire the personality characteristics,



behavior, motivations, values, and attitudes of parents. Identification has been conceptualized from diverse perspectives: psychoanalytic (Bronfenbrenner, 1960), learning (Kagan, 1958; Lazowick, 1955; Mowrer, 1950; Sears, Rau, and Alpert, 1965), social learning (Bandura, 1969; Mischel, 1966, 1970), developmental cognition (Kohlberg, 1966), status envy (Whiting, 1959), and social power or role theory (Hetherington, 1967). As can be discerned, the conceptualization and mechanism of identification is by no means consistent or clear (Heilbrun, 1973; Sanford, 1955). However, there is research evidence that (a) parent-child similarities in behavior, personality, and attitudes occur, and (b) parental variables--such as nurturance, warmth, dominance, control over resources, involvement with the family, and child-rearing practices--affect identification with the parent (Aronfreed, 1970; Bandura, 1969; Biller, 1971; Block, Von der Lippe, and Block, 1973; DiSabatino, 1977; Heilbrun, 1973; Hetherington, 1967; Hoffman, 1963; Kelly and Worrel, 1976; Medinnus and Johnson, 1969; Mickleson, 1976; Mischel, 1970; Moulton et al., 1966; Mussen and Rutherford, 1963; Mussen et al., 1963; Sears et al., 1965). In the present study, three aspects of child personality which could be influenced by identification with a disabled father were examined: body image, values, and sex role.

Body image refers to perceptions, beliefs, and feelings toward one's body--its appearance, functions, limits, and inner structure (Jourard, 1963). Body image is an integral part of the self-concept and stands in relation to the body ideal, or set of values pertaining to the appearance of the body (Jourard, 1963). Although the concept

of body image has received less emphasis in personality theory during the last two decades, the onset of physical disability raises interest in the issue (Trieschmann, 1978). As Jourard (1963) writes, physical handicap can bring about changes in body image due to a limitation of potential activities and ability to achieve previously valued goals. Although research shows that distorted perceptions of the body in space and of posture/movement occur following spinal cord injury, body image as a personality variable "has not been demonstrated to relate to adjustment to disability" (Trieschmann, 1978, p. 4). Nevertheless, it has been speculated that identification with a disabled parent may result in body image distortion in the child (Olgas, 1974). Body image was assessed in the present study using a modified version of the Body-Cathexis scale (Secord and Jourard, 1953).

A second variable explored was the nature of values held by children of disabled and nondisabled fathers. According to Wright (1960), both what is valued and the structure of values change following disability. Three basic changes in the value system of the disabled person occur. First, there is an enlargement of the scope of values, which "means the emotional realization of the existence of other values" (Wright, 1960, p. 108). A second change is the containment of disability effects, so that physical deviation does not spread to other areas of physical, social, and personal appraisal of self and others. Finally, the value of physique is subordinated to a relatively minor status, and the structure of values is transformed from comparative to asset values. Because identification with a parent may include

acquiring similar values (Mowrer, 1950; Mussen and Distler, 1959), the Rokeach Value Survey (Rokeach, 1973) was used to measure and compare the value systems of children with disabled and nondisabled parents.

Sex role development is considered to be one of the major consequences of identification (Biller, 1971; Sears et al., 1965). Sex role has been defined as the "constellation of qualities an individual understands to characterize males and females in his culture" (Block, 1973, p. 512). Traditionally, research has focused on the development of sex-appropriate masculinity and femininity in sex role orientation, preference, and adoption (Biller, 1971; Sears et al., 1965). However, "in recent years, our understanding of the development of sex role identity, and its various constructs, has undergone revolutionary thinking" (Pleck, 1975, p. 161). Current research and theory have challenged the traditional notions that (a) the outcomes of identification are masculine males, feminine females, and sex-reversed deviants, and (b) masculinity in males and femininity in females is necessary for psychological adjustment (Baruch, 1975; Baruch and Barnett, 1975; Bem, 1972, 1974, 1975; Block, 1973; Broverman et al., 1970; Pleck, 1975; Rebecca, Hefner, and Oleshansky, 1976; Spence, Helmreich, and Stapp, 1975). Recent conceptions of sex role are based on the assumption that masculinity and femininity are two separate dimensions, rather than bipolar ends of a single dimension (Bem, 1974, 1975, 1977; Heilbrun, 1976; Spence et al., 1975). As a result, it is possible for an individual "to be both instrumental and expressive, both assertive and yielding, both masculine and feminine" (Bem, 1975, p. 634). The

androgynous sex role is defined as a stable psychological trait, where an integration of male and female characteristics allows the individual to engage in situationally appropriate behavior, regardless of its connotations as masculine or feminine (Bem, 1972, 1975). Further refinements of this model have resulted in four possible sex role types, based on the degrees of masculinity and femininity in the self-concept: (a) masculine--high masculinity, low femininity, (b) feminine--low masculinity, high femininity, (c) androgynous--high masculinity, high femininity, and (d) undifferentiated--low masculinity, low femininity (Bem, 1977; Heilbrun, 1976; Kelly and Worell, 1977; Spence et al., 1975).

Since its inception, a proliferation of research has focused on the personality and behavioral correlates of sex-typed and androgynous sex roles. Androgyny is positively related to such personality characteristics as self-esteem (Bem, 1977; Orlofsky, 1977; Spence et al., 1975; Wetter, 1975), identity achievement in terms of stable ideological and occupational commitments (Orlofsky, 1977), psychological health and self-actualization (Nevill, 1977; Ott, 1976; Pettus, 1976), maturity in moral judgments (Block, 1973), and social poise and intellectuality (Berzins, 1975). Moreover, a series of studies show that behavioral flexibility is characteristic of androgynous sex role orientations, thus potentially affording a wider range of behavior options and satisfactions (Bem, 1975, 1977; Bem and Lenney, 1976; Bem, Martyna, and Watson, 1976). In general, androgynous more than sex-typed and undifferentiated persons are willing and able to engage in

situationally appropriate behavior, irrespective of the sex-stereotyped nature of the situation. While androgynous males and females can act both independently (masculine trait) and expressively (feminine trait), sex-typed subjects reveal behavioral deficits in cross-sex behaviors (Bem, 1975; Bem et al., 1976). Persons with undifferentiated role orientations are less independent and nurturant behaviorally than androgynous persons (Bem, 1977). In addition, sex-typed persons are less willing to perform cross-sex activities and feel more uncomfortable when they do (Bem and Lenney, 1976).

In the present study, sex role orientation was measured by the Bem Sex Role Inventory (Bem, 1974). In line with her revised scoring system (Bem, 1977), subjects were classified into feminine, masculine, androgynous, and undifferentiated sex role types.

#### Paternal Influence on General Personality Functioning

Although the mother-child relationship traditionally has been the focus of more research and theoretical interest than the father-child relationship, a growing body of literature attests to the important influence of fathers on human development (Biller, 1971; Hamilton, 1977; Lamb, 1975). An idea of the important role of the father in the family can be gleaned from a study by Tasch (1952). Tasch (1952) asked 85 fathers of 160 children to complete a questionnaire tapping activities in which the father routinely participated with their children and what they saw as functions of a father. Some of the activities in which fathers participated most with their children are as follows:

routine daily care; development of motor abilities; acquisition of skills and interests; development of intellectual abilities and interests; going to places of recreation; development of social standards, conduct, and control; emotional development; moral and spiritual development; maintaining family unity; assignment of chores; development of artistic interests; and development of personality characteristics. The basic functions of a father were seen to be guide and teacher, economic provider, authority figure, personal characteristic and habit model, companion, child rearer, disciplinarian, and maintainer of the family unit.

As research on paternal influence accumulates, it has become clear that the father not only plays a role in sex role development, as most often emphasized, but he also has an impact on cognitive, emotional, and behavioral functioning (Biller, 1971; Hamilton, 1977). After reviewing a large number of studies on paternal influence on children, Hamilton (1977) summarizes that "competence, high achievement motivation, self-esteem, successfulness, internal control, and, to a lesser extent, creativity, seem closely related to behavior patterns" of the father (p. 140). In contrast, personality maladjustment and behavior disorders in children are associated with father absence from the home and inadequate fathering, as defined by low salience in family decision-making, low degree of limit setting and discipline ineffectuality, minimal emotional involvement, passivity, low dominance in family life, low self-confidence, and low instrumental competence (Biller, 1971; Crumley and Blumenthal, 1973; Hamilton, 1977). Although

severe psychopathology does not develop simply as a function of disturbed father-child relations, "most children are handicapped if they have experienced paternal deprivation or inadequacy" (Biller, 1971, p. 79).

Given the importance of the father for normal child development, the personality adjustment of children of disabled and nondisabled fathers was measured with the Minnesota Multiphasic Personality Inventory and the Sixteen Personality Factor Questionnaire. In addition, a questionnaire was developed specifically for the present study to assess other aspects of adjustment suggested to be important by the parental disability and parent-child relations literature. The Buck-Hohmann Questionnaire explored occupational and academic achievement, health patterns, athletic and recreational interests, interpersonal relations, and parent-child relations.

#### Purposes of the Present Study

The aims of the present study were fourfold. The psychological adjustment of adult children raised by severely disabled fathers, the spinal cord injured, was compared with adult children of physically healthy parents to determine the long-term effects of parental disability on children. Second, specific areas of personality which could be influenced by identifying with a disabled parent were examined: body image, sex role orientation, and values. Third, aspects of child behavior and personality speculated by rehabilitation workers to be adversely affected by parental disability were measured. Finally, parent behavior as described by the adult child was assessed, both to

determine differences in how disabled and nondisabled parents are perceived by their children and to compare the relative influence of parent behavior versus disability on child development.



## METHOD

### Subjects

Two groups of subjects were located through the Veterans Administration national Spinal Cord Injury system: (a) Disabled parent (DP) --17 male and 28 female adult children raised by spinal cord injured fathers, and (b) Comparison (C)--15 male and 21 female adult children with nondisabled parents. The fathers of subjects were veterans, and the parents were not divorced or widowed during the first fifteen years of the child's lifetime. Four parents were divorced in the DP group and three parents in the C group after this time. DP and C children were matched on father's age, education, state of residence, and total family income. No significant differences emerged between groups in father's age, education, or disposable family income (see Table 1). Seventy-five percent of the DP and C subjects (27/36) were matched on father's state of residence. A chi square analysis of geographical region (Northeast, South, Midwest, and West) revealed no significant differences between groups.

Subjects ranged from 16 to 31 years old, with a mean age of 21.6 in the DP group and 23.8 in the C group. The groups differed significantly in age,  $F(1, 79) = 5.88, p \leq .05$ . The children had lived with a spinal cord injured father since a mean age of 1.31 ( $SD = 1.98$ ). About 60 percent of the fathers were injured before the subject was born. In the C group, no father had been disabled while the subject lived at home. However, during the subject's adult years, six of the

Table 1. F-Ratios and Chi-Square Values for Comparisons between Disabled Parent and Comparison Groups on Matching Variables

Variable	Analysis*
Father's Age	F (1, 79) = .36
Father's Education	$\chi^2$ (3) = 1.05
Father's State of Residence	$\chi^2$ (3) = 1.89
Total Family Income	F (1, 69) = .01

\*No comparisons are significant at  $p \leq .05$ .

C fathers had contracted a disability, including: heart condition (3/6), emphysema (1/6), kidney and hearing problems (1/6), and bronchitis (1/6). Eight of the DP children and one C child were adopted,  $\chi^2$  (1) = 3.02,  $p \leq .10$ .

### Instruments

#### Buck-Hohmann Questionnaire

The Buck-Hohmann questionnaire was developed specifically for the present study. Items were chosen on the basis of interviews with the son of a paraplegic father and areas of concern cited in the literature on parental disability (see Appendix D for the items). The questionnaire consists of nine sections. The first three ask for demographic information on the subject, the subject's father, and the

subject's mother. Sections IV and V assess health patterns and athletic/recreational interests. In Section VI, aspects of interpersonal relationships are explored, including: social skill, friendship and dating patterns, and valued personality characteristics in friends and dating partners/mates, and relationships among the subject, friends, and parents. Section VII examines parent-child relations. Section VIII addresses itself to various personality characteristics and attitudes which might be influenced by spinal cord injury in a parent. Finally, there are several open-ended questions for the children of spinal cord injured fathers only.

#### Minnesota Multiphasic Personality Inventory (MMPI)

The standard group booklet form of the MMPI was used (Dahlstrom, Welsh, and Dahlstrom, 1972). The test yields ten clinical, psychopathology scales and four validity scales (see Appendix E). The MMPI is one of the most thoroughly researched personality inventories available and has been applied to a wide variety of clinical and research problems. Considerable evidence supports the reliability and validity of the test (Dahlstrom, Welsh, and Dahlstrom, 1975). Raw scores were K-corrected and converted to T-scores (Hathaway and McKinley, 1967).

#### Sixteen Personality Factor Questionnaire, Form A (16PF)

The 16PF yields sixteen personality traits (see Appendix F), which are "unitary, independent, and practically important 'source

traits,' i.e., traits affecting much of the overt personality" (Cattell and Eber, 1957, p. 1). Adequate reliability and validity for the 16PF have been demonstrated (Cattell and Eber, 1957; Cattell, Eber, and Tatsuoka, 1970). Raw test scores were age corrected and converted to sten scores through the use of appropriate normative tables based on sex and population (Tabular Supplement No. 1, 1970).

#### Body-Cathexis Scale

An adapted version of the Body-Cathexis scale developed by Secord and Jourard (1953) was used to assess body-image. The original measure consists of a listing of 46 body parts and functions on which the subject rates his/her satisfaction using a five point scale (see Appendix G). The scale was modified for the present study by adding six additional items from a body image questionnaire developed by Berscheid, Walster, and Bohrnstedt (1973a, 1973b). The test score was the mean rating of the 52 items. Some evidence, albeit limited, points to the reliability and validity of the test (Secord and Jourard, 1953).

#### Bem Sex Role Inventory

The Bem Sex Role Inventory (Bem, 1974, 1977) contains both a masculinity and femininity scale, each consisting of twenty sex-typed personality characteristics (see Appendix H). In addition, twenty items, neutral with respect to sex-typing, measure social desirability. The person indicates on a seven point scale how well each of the personality characteristics describe him/herself. The masculinity, femininity, and social desirability scores were the mean self-ratings

on each scale. In line with recent suggestions (Bem, 1977; Heilbrun, 1976; Spence et al., 1975), subjects were classified on the basis of a median split into four sex role types: masculine (high masculine-low feminine), feminine (low masculine-high feminine), androgynous (high feminine-high masculine), and undifferentiated (low masculine-low feminine). Accumulating evidence supports the reliability and validity of the test in measuring sex role typing (Bem, 1974, 1975, 1977; Bem and Lenney, 1976; Bem et al., 1976; Kelly and Worell, 1977; Olds, 1976).

#### Rokeach Value Survey, Form D

The value survey measures the relative importance of 18 instrumental and 18 terminal values in an individual's life (see Appendix I).

A value is defined by Rokeach (1973) as;

an enduring prescriptive or proscriptive belief that a specific mode of behavior or end-state of existence is preferred to an opposite mode of behavior or end-state. This belief transcends attitudes toward objects and toward situations; it is a standard that guides and determines action, attitudes toward objects and toward situations, ideology, presentations of self to others, evaluation, judgments, justifications, comparisons of self to others, and attempts to influence others (p. 25).

Instrumental values are idealized modes of behavior which are instrumental to the attainment of all values concerning end-states of existence. Terminal values are the idealized end-states of existence. Form D of the value survey presented the sets of instrumental and terminal values in alphabetical order on removable gummed labels. The subject's task was to rank the values in order of importance. The score for each value was its rank order. The adequacy of the

psychometric and theoretical properties of the test has been demonstrated (Rokeach, 1973).

#### Parent-Child Relations Questionnaire II (PCR)

The PCR II, developed by Roe and Siegelman (1963) and Siegelman and Roe (1977), measures the behavior of parents toward their children as perceived by the adult child. The test contains five subtests, ten items each, which measure the following categories of parent behavior: loving, rejecting, demanding, casual, and attention (see Appendix J for description of these behaviors). There are four forms of the test, in which some of the items differ: Son-Father, Son-Mother, Daughter-Father, and Daughter-Mother. A score for each of the five variables was obtained and converted to three factor scores: Love-Reject, Casual-Demand, and Attention. Siegelman and Roe (1977) cite evidence for the reliability and validity of the test.

#### Friend Scale

The Friend scale contains a series of items taken from the Buck-Hohmann questionnaire (see Appendix K). Subjects were asked to give the Friend scale to a friend who knew him/her well. The friend was instructed to answer questions about the subject to the best of his/her knowledge and was assured anonymity and confidentiality. The Friend scale was returned separately so that the subject had no knowledge of his/her friend's responses. The Friend scale served as a check on the subject's self-reports on the Buck-Hohmann questionnaire.

## Procedure

### Recruitment of Subjects

Nine psychologists and social workers in Veterans Administration Spinal Cord Injury centers throughout the United States helped conduct the present study. Each person was asked to recruit adult children of spinal cord injured fathers and a comparison group of adult children of able-bodied parents. Recruiters were instructed to match each disabled parent subject with a comparison subject on father's age, education, state of residence, and disposable family income. It was emphasized that the recruiters were not to consider any factors other than subject's age (18-30), parent disability status, subject's age when the father was injured (less than two), marital status of the parents (not divorced or widowed before the child was 15), and parental matching variables in selecting subjects for either group. The full instructions given to the psychologists and social workers are found in Appendix A. As data collection proceeded, it became necessary to allow slight deviations in subject's age and subject's age when the father was disabled in order to obtain an adequate number of subjects. However, recruiters were asked to stay as close as possible to the criteria cited in the instructions.

### Measurement

Each subject received an assessment package containing the eight scales and answer sheets in the following order: (a) Buck-Hohmann questionnaire, (b) MMPI, (c) 16PF, (d) Body-Cathexis scale, (e) Bem Sex

Role Inventory, (f) Rokeach Value Survey, (g) PCR II, and (h) Friend scale. Each test was preceded by its instructions. The subject was instructed to stop work and rest after the Buck-Hohmann questionnaire, 16PF, and Bem Sex Role Inventory. Cover sheets preceding the assessment scales introduced the study, provided a consent form, and presented the general instructions (see Appendices B and C). After reading the consent form and agreeing to participate, subjects were given the assessment package to take home and complete. When the tests were completed, subjects returned the testing materials to the primary investigator. All subjects were paid \$20.00 for their participation.



## RESULTS

### Demographic Information on the Adult Children, their Fathers and Mothers

Disabled parent (DP) and comparison (C) children, their mothers, and their fathers were compared on demographic variables via one-way analyses of variance and chi square analyses. Table 2 summarizes the results of these analyses. DP children did not differ significantly from C children on any of the demographic variables. Approximately 68 percent of the DP and C children were single, 27 percent married, and 5 percent divorced. The DP and C groups averaged 13.64 and 14.39 years of education and attained mean grade point averages of 2.92 and 3.00, respectively. Occupations were classified according to the Dictionary of Occupational Titles (U. S. Department of Labor, 1977) into nine major categories plus the additional categories of student, homemaker, disabled, and unspecified. About 40 percent in each group were students, with the rest employed in (a) professional, technical, and managerial occupations, 20 percent; (b) clerical and sales occupations, 20 percent; (c) service occupations, 4 percent; (d) agricultural, fishery, and forestry occupations, 2 percent; (e) benchwork, 2 percent; (f) homemaker, 5 percent; and (g) miscellaneous occupations or unspecified, 7 percent. Because few subjects were employed in categories c-g above, these were collapsed into one miscellaneous category for analysis. The DP and C children did not differ significantly in occupation.

Table 2. F-Ratios and Chi-Square Values for Comparisons between the Disabled Parent and Comparison Groups on Demographic Variables describing the Adult Children, the Fathers, and the Mothers

Variable	Analysis
<u>Adult Children</u>	
Marital Status	$\chi^2 (2) = .18$
Education (No. years)	$F (1, 79) = 1.51$
Grade Point Average	$F (1, 78) = .36$
Occupation Category	$\chi^2 (3) = 4.79$
<u>Fathers</u>	
Age	$F (1, 79) = .36$
Education Category	$\chi^2 (3) = 1.05$
Occupation Category	$\chi^2 (3) = 26.06^*$
Employment Status (Full, part, not)	$\chi^2 (2) = 29.48^*$
<u>Mothers</u>	
Age	$F (1, 74) = 3.43$
Education Category	$\chi^2 (3) = 2.63$
Occupational Category	$\chi^2 (3) = 5.72$
Employment Status (Full, part, not)	$\chi^2 (2) = 4.46$

\*  $p \leq .001$

The mean ages of the DP and C fathers were 52.71 and 53.58 years. Eighty-two percent of the DP fathers were paraplegic and 18 percent quadriplegic, and they had been injured for a mean of 25 years. About half of the spinal cord injured fathers were service-connected veterans. The DP and C fathers differed significantly in occupation ( $p \leq .001$ ). This difference is due primarily to 50 percent of the DP fathers being classified in the "disabled" category. All C fathers were employed full (97 percent) or part-time (3 percent) while the child was growing up, whereas 11 percent of the DP fathers were employed part-time and 40 percent full time ( $p \leq .001$ ).

DP and C mothers did not differ significantly on any of the demographic variables. The mean ages of the DP and C mothers were 50.16 and 53.09 years. Fifty-two percent of the DP mothers and 61 percent of the C mothers were employed part or full time while the subject was growing up.

#### Child Personality, Behavior, and Attitudes

Associations between physical disability in a parent and measures of child personality, behavior, and attitudes were tested via 2 x 2 analyses of variance (Group x Subject Sex) and chi square analyses. Only significant main effects for father disability status and interactions are discussed on variables analyzed with the F-test. Appendix M provides F-ratios and mean scores for males and females where significant sex differences were found.

### Measures of Adjustment

On the MMPI, mean T-scores of DP and C children fell within the range considered to reflect normal adjustment. Analyses of variance revealed no significant main effects for parental disability status or interactions with subject sex on any of the four validity or ten psychopathology scales of the MMPI. Table 3 provides mean scores and F-ratios for the DP versus C group comparisons.

Comparisons on the 16PF yielded a similar pattern of results, indicating that both the DP and C children manifested no significant maladjustment. On each personality trait, most mean scores fell within the expected range of 5 to 6, and no sten score exceeded .75 standard deviation of the normative mean. Table 4 shows mean sten scores and F-ratios for the DP versus C group comparisons. Only one personality factor yielded a significant main effect for parental disability status. DP children scored lower on Factor A (Sizothymia-Affectothymia) than did C children ( $p \leq .005$ ). Thus, DP children described themselves as more cautious in emotional expression, critical/objective in outlook, and aloof in manner than did C children. Parental disability status and subject sex interacted on Factor I (Harria-Premsia),  $F(1, 77) = 5.31$ ,  $p \leq .05$ ; Factor M (Praxernia-Autia),  $F(1, 77) = 5.25$ ,  $p \leq .05$ ; and Factor O (Untroubled Adequacy-Guilt Proneness),  $F(1, 77) = 4.25$ ,  $p \leq .05$ . On Factor I, male DP children scored as more tough-minded, self-reliant, and realistic in temperament than did male C children, whereas female DP and female C children scored in the reverse direction. On Factor M, male DP children reported more conventional and

Table 3. Mean T-Scores<sup>a</sup> and F-Ratios on the MMPI as a Function of Parental Disability Status

Scale	Disabled Parent	Comparison	F (1, 77) <sup>b</sup>
<u>Validity Scales</u>			
Cannot Say (?)	42.02	41.28	1.80
Lie (L)	48.09	47.61	.07
Infrequency (F)	54.51	56.75	.66
Correction (K)	53.20	54.81	.68
<u>Clinical Scales</u>			
Hypochondriasis (Hs)	49.47	51.28	.72
Depression (D)	51.87	54.58	.90
Hysteria (Hs)	54.42	56.28	1.17
Psychopathic deviate (Pd)	59.33	60.53	.20
Masculinity-femininity (Mf)	52.73	55.86	.91
Paranoia (Pa)	59.04	57.81	.29
Psychasthenia (Pt)	57.58	56.22	.40
Schizophrenia (Sc)	59.18	58.28	.16
Hypomania (Ma)	61.33	62.25	.11
Social Introversion (Si)	51.56	50.39	.27

<sup>a</sup>Scale scores are K-corrected

<sup>b</sup>F-ratios are not significant at  $p < .05$

Table 4. Mean Sten Scores and  $F$ -Ratios on the 16PF as a Function of Parental Disability Status

Personality Factor	Disabled Parent	Comparison	$F$ (1, 77)
A	4.07	5.28	10.57*
B	6.80	6.78	.00
C	6.31	5.92	.58
E	6.09	6.14	.02
F	5.91	6.28	.70
G	5.29	4.67	1.88
H	5.60	6.14	1.54
I	5.84	6.28	1.21
L	5.09	5.47	.56
M	5.73	6.06	.46
N	5.24	5.28	.00
O	4.73	4.89	.13
Q1	5.80	5.39	.76
Q2	6.40	6.28	.09
Q3	5.40	5.42	.00
Q4	5.04	5.22	.14

\* $p \leq .005$

practical concerns than did C males, but female DP children scored as more unconventional and imaginative than did C females. Lastly, mean scores on Factor O indicated that DP males felt more apprehensive, insecure, and inadequate than did C males, but DP females felt more self-assured, secure, and resilient than did C females. Although these interactions were significant, no mean sten score was sufficiently deviant from expected to indicate psychopathology.

The comparative impact of parental disability and parent behavior, as reported by the adult child, on the long-term adjustment of children was assessed in a second set of comparisons. Based on a median split of the PCR II factor scores Love-Reject and Casual-Demand, fathers were classified as loving or rejecting and casual or demanding. Scores on the MMPI and 16 PF were compared as a function of (a) father disability status and loving versus rejecting father behavior, and (b) father disability status and casual versus demanding father behavior.

Only three significant effects emerged on the MMPI as a function of loving versus rejecting father behavior. Children of rejecting fathers scored higher than children of loving fathers on the Infrequency validity scale,  $F(1, 77) = 4.05, p \leq .05$ ; Hypochondriasis scale,  $F(1, 77) = 4.3, p \leq .05$ ; and the Psychopathic deviate scale,  $F(1, 77) = 11.2, p \leq .001$ . No significant effects for father disability status or interactions occurred on the MMPI.

Analyses of variance on the 16PF yielded one significant effect for loving-rejecting father behavior and the same difference between DP and C children on Factor A discussed previously,  $F(1, 77) = 9.1,$

$p \leq .005$ . Children of rejecting fathers scored lower on Factor F (Desurgency-Surgency) than did children of loving fathers, indicating that the former tended to be more introverted, serious, and cautious than did children of loving fathers,  $F(1, 77) = 4.26$ ,  $p \leq .05$ . Father disability status interacted with father behavior on Factor I (Harria-Premia),  $F(1, 77) = 5.61$ ,  $p \leq .05$ , and Factor N (Naivete-Shrewdness),  $F(1, 77) = 5.66$ ,  $p \leq .05$ . Mean scores on Factor I showed that DP children with loving fathers were more sensitive, intuitive, and dependent than were C children with loving fathers, whereas the reverse pattern occurred for DP and C children with rejecting fathers. On Factor N, DP children with loving fathers scored as more worldly and astute than C children with loving fathers, but DP children with rejecting fathers were more naive and unpretentious than C children with rejecting fathers.

Adjustment in children appeared to be less associated with casual-demanding behavior than loving-rejecting behavior of the father. On the MMPI, analyses of variance revealed only one significant finding, an interaction. DP children with casual fathers scored higher than C children with casual fathers on the Hypochondriasis scale, whereas DP children with demanding fathers scored lower than did C children with demanding fathers,  $F(1, 77) = 6.86$ ,  $p \leq .01$ . On the 16PF, no main effects for casual versus demanding father behavior or interactions with father disability status emerged. The difference between DP and C children on Factor A again was significant,  $F(1, 77) = 8.51$ ,  $p \leq .005$ .



### Measures of Parent Identification

Three aspects of child personality which could be affected by identification with a disabled father were studied: sex role orientation, body image, and values. Based on a median split on the Bem Sex Role Inventory Masculinity and Femininity scales, DP and C subjects were classified into four sex role orientations: undifferentiated, feminine, masculine, and androgynous. No differences in sex role orientation emerged as a function of parental disability status for males,  $\chi^2(3) = 1.88$ , ns, or for females,  $\chi^2(3) = 1.65$ , ns. However, because the expected frequency was less than five in more than 20 percent of the cells, which limits the validity of the chi square analysis (Siegel, 1956), a second chi square analysis was done. Collapsing across sex, DP and C subjects were classified as undifferentiated, cross-sex typed, same-sex typed, and androgynous. Again, no significant differences in sex-role orientation emerged between DP and C children,  $\chi^2(3) = 2.69$ , ns. Table 5 presents the percentages of DP and C children in each category of sex role orientation, for males and females separately and combined.

Body image in children was not associated with parental disability status. Analysis of variance revealed no significant differences between DP and C children,  $F(1, 77) = .15$ , ns, or interactions with subject sex,  $F(1, 77) = .01$ , ns, on the Body-Cathexis scale. The mean self-ratings of DP and C children were 3.615 and 3.580. In addition, body image did not vary as a function of the two dimensions of father behavior (Loving vs. Rejecting or Casual vs. Demanding).

Table 5. Percentage of Disabled Parent and Comparison Children Classified by Four Sex Role Orientations<sup>a</sup>

Group	Undifferen- tiated	Cross-Sex Typed	Same-Sex Typed	Androgynous
<u>Males</u>				
Disabled Parent	29.4	5.9	58.8	5.9
Comparison	33.3	6.7	40.0	20.0
<u>Females</u>				
Disabled Parent	14.3	10.7	50.0	25.0
Comparison	14.3	19.1	33.3	33.3
<u>Males and Females</u>				
Disabled Parent	20.0	8.9	53.3	17.8
Comparison	22.2	13.9	36.1	27.8

<sup>a</sup>Feminine males and masculine females have been reclassified as cross-sex typed, and masculine males and feminine females have been reclassified as same-sex typed.

The nature of values held by children was the third factor studied which could be affected by identification with a disabled parent. Tables 6 and 7 show the Rokeach terminal and instrumental value rankings for the two groups of children and the results of statistical comparisons. Due to the ranked nature of the data, differences between DP and C children on the Rokeach Value Survey were tested via Mann-Whitney U, with significance levels corrected for ties. Only two of the 18 terminal values showed statistically significant differences between DP and C children. DP children valued "a world at peace" ( $p \leq .05$ ) and "national security" ( $p \leq .005$ ) more than did C children. Four instrumental values differentiated DP and C children. DP children ranked "clean" ( $p \leq .001$ ), "obedient" ( $p \leq .05$ ), and "responsible" ( $p \leq .05$ ) as being more important idealized modes of conduct than did C children. C children valued "logical" more than did DP children ( $p \leq .001$ ).

#### Measures of Parent Behavior

Being disabled appeared to have little effect on the way a father behaves toward his children, as perceived by the adult children. On the PCR II, DP and C subjects described their fathers' behavior as more loving than rejecting and slightly more demanding than casual. All factor scores fell within .5 standard deviation of the normative means (Siegelman and Roe, 1977). Analyses of variance (Group x Subject Sex) revealed no significant main effects for parental disability status on the three father factor scores of Love-Reject, Casual-Demand, or Attention. However, DP mothers were perceived by their children as

Table 6. Rokeach Terminal Values: Median Scores, Composite Ranks,<sup>a</sup> and Mann-Whitney U Results as a Function of Parental Disability Status

Terminal Value	Disabled Parent	Comparison	<u>U</u> (45, 36)
A Comfortable Life	11.00 (11)	13.10 (14)	715.5
An Exciting Life	12.86 (12)	10.93 (10)	619.0
A Sense of Accomplishment	10.33 (10)	10.17 ( 9)	787.5
A World at Peace	8.25 ( 9)	11.50 (11)	554.0*
A World of Beauty	13.00 (13)	13.30 (15)	780.5
Equality	13.00 (14)	12.00 (13)	671.0
Family Security	6.25 ( 4)	4.83 ( 2)	786.0
Freedom	6.60 ( 5)	6.25 ( 6)	726.0
Happiness	4.43 ( 1)	4.50 ( 1)	772.5
Inner Harmony	7.38 ( 7)	5.83 ( 5)	659.0
Mature Love	5.81 ( 3)	5.25 ( 3)	741.0
National Security	14.38 (18)	16.77 (18)	503.5**
Pleasure	13.33 (15)	11.50 (12)	681.5
Salvation	13.63 (16)	14.83 (16)	702.0
Self-Respect	5.75 ( 2)	5.67 ( 4)	787.0
Social Recognition	14.33 (17)	15.00 (17)	745.0
True Friendship	6.95 ( 6)	6.50 ( 7)	808.0
Wisdom	8.08 ( 8)	6.50 ( 8)	718.5

<sup>a</sup>Figures shown are median rankings and, in parentheses, composite rank orders.

\*  $p \leq .05$

\*\*  $p \leq .005$

Table 7. Rokeach Instrumental Values: Median Scores, Composite Ranks,<sup>a</sup> and Mann-Whitney U Results as a Function of Parental Disability Status

Instrumental Value	Disabled Parent	Comparison	<u>U</u> (45, 36)
Ambitious	9.00 ( 7)	9.00 ( 8)	805.0
Broadminded	8.13 ( 6)	7.70 ( 6)	647.0
Capable	9.42 ( 8)	9.25 ( 9)	751.5
Cheerful	9.60 ( 9)	10.83 (13)	699.0
Clean	11.86 (14)	16.10 (17)	410.0**
Courageous	10.00 (10)	11.25 (14)	686.0
Forgiving	7.38 ( 4)	9.83 (10)	779.0
Helpful	10.57 (12)	7.50 ( 5)	661.0
Honest	2.75 ( 1)	2.41 ( 1)	759.0
Imaginative	12.00 (15)	10.10 (11)	721.5
Independent	7.38 ( 5)	7.30 ( 4)	789.5
Intellectual	10.25 (11)	8.50 ( 7)	698.5
Logical	14.69 (17)	10.50 (12)	459.0**
Loving	3.31 ( 2)	3.50 ( 2)	805.0
Obedient	15.67 (18)	17.00 (18)	601.5*
Polite	12.25 (16)	12.00 (16)	804.0
Responsible	5.00 ( 3)	6.90 ( 3)	582.0*
Self-Controlled	11.25 (13)	11.25 (15)	796.0

<sup>a</sup>Figures shown are median rankings and, in parentheses, composite rank orders.

\*  $p < .05$

\*\*  $p < .001$

more demanding than were C mothers ( $p \leq .05$ ). DP and C mothers did not differ significantly on the Love-Reject or Attention factors. Parental disability status did not interact with subject sex on any factor score for mothers or for fathers. Table 8 presents mean factor scores for mothers and fathers of DP and C children and F-ratios for DP versus C group comparisons.

Table 8. Mean Factor Scores and F-Ratios on the PCR II as a Function of Parental Disability Status

Factor Score	Disabled Parent	Comparison	F <sup>a</sup>
<u>Father</u>			
Love-Reject	65.42	63.19	.82
Casual-Demand	46.18	48.08	.83
Attention	22.60	21.28	2.40
<u>Mother</u>			
Love-Reject	66.64	68.06	.47
Casual-Demand	45.32	49.56	4.65*
Attention	24.84	24.11	.69

<sup>a</sup>On Father Factor scores,  $df = 1, 77$  and on Mother Factor scores,  $df = 1, 76$ .

\*  $p \leq .05$

## Buck-Hohmann Questionnaire

Several areas of behavior and attitudes were tapped by the Buck-Hohmann questionnaire: health patterns, athletic/recreational interests, interpersonal relations, parent-child relations, and various personality characteristics. Appendix N lists the specific dependent measures within these major areas which were tested via analyses of variance (Group x Subject Sex) and chi square analyses. F-ratios and chi square values are provided for all DP versus C group comparisons. Appendix M shows mean scores and F-ratios on measures where significant main effects for subject sex were found. To facilitate a reporting of results from the Buck-Hohmann questionnaire, the discussion focuses on significant main effects for parental disability status and interactions with subject sex. The reader is referred to Appendix N for a listing of variables on which no significant differences were found.

Health Patterns. None of the nine measures assessing aspects of physical health differentiated significantly DP and C children. One significant interaction between parental disability status and subject sex emerged on the Psychosomatic Index (Item No. 37), F (1, 77) = 5.60, p  $\leq$  .05. In order, the mean scores of male DP, female DP, male C, and female C children on this item were 7.82, 5.01, 3.09, and 13.29. The interaction seems to be a function of the deviant score by female C children. Why comparison females in particular experienced psychosomatic symptoms so often is unknown.

Athletics. DP children expressed more interest and participation in athletic and recreational activities than did C children ( $p \leq .05$ ). However, the DP and C groups did not differ significantly in the number of dangerous or nondangerous sports in which they reportedly engaged. Mean scores of DP and C children and F-ratios as a function of parental disability status are shown in Table 9.

Interpersonal Relations. No aspect of interpersonal relations varied solely as a function of parental disability status, a finding inconsistent with hypotheses in the literature. One interaction between parental disability status and subject sex emerged. In comparison with male and female C children, male DP children felt that their dates treated them differently after meeting their fathers the most often, whereas female DP children felt that they were treated differently by their dates the least often,  $F(1, 75) = 5.13$ ,  $p \leq .01$ . However, mean scores ranged from 3.12 to 3.78, indicating that being treated differently by dates seldom occurred.

Parent-Child Relations. Although few differences emerged on the three general dimensions describing parent behavior (PCR II), the Buck-Hohmann questionnaire revealed several significant differences on more specific aspects of parent-child relations. First, DP children reported that their mothers and fathers differed in the degree to which they used two of the four discipline modes measured. DP mothers spanked their children more often ( $p \leq .005$ ) and withdrew privileges



Table 9. Mean Scores and F-Ratios on Buck-Hohmann Questionnaire Measures on which Disabled Parent and Comparison Children Differ Significantly

Measure	Disabled Parent	Comparison	df	F
Athletics Total Score	72.49	66.67	1, 77	4.46*
Mother Spanks	2.68	2.08	1, 76	8.58***
Mother Withdraws Privileges	2.82	2.42	1, 76	4.14*
Father Withdraws Privileges	2.87	2.39	1, 75	5.23*
Quick Response to Mother's Requests	3.18	2.67	1, 76	6.76**
Quick Response to Father's Requests	3.33	2.81	1, 75	7.72**
Father Expresses Physical Affection	3.11	2.44	1, 76	9.47***
Father Expresses Verbal Affection	3.13	2.64	1, 76	4.85*
Attitude toward Father	33.29	30.94	1, 75	3.93*
Protective of Father	7.27	5.25	1, 75	12.50***
Protective of Mother	6.80	5.36	1, 76	5.96*
Help Father	3.69	3.31	1, 76	7.30**
Couch Tragedy in a Humorous Way	2.76	3.56	1, 77	8.90***
Judge Negatively People Who Complain	3.53	2.89	1, 77	6.85**
Feel Sorry for Disabled People	2.69	3.56	1, 77	10.57***

\*  $p \leq .05$

\*\*  $p \leq .01$

\*\*\*  $p \leq .005$

more often ( $p \leq .05$ ) when the child misbehaved than did C mothers. Children indicated that DP fathers used withdrawal of privileges more often than did C fathers ( $p \leq .05$ ). In addition children perceived that DP fathers expressed physical affection ( $p \leq .005$ ) and verbal affection ( $p \leq .05$ ) toward them more often when they were growing up than did C fathers.

Second, children reported several differences in their behavior toward the parents when the father was disabled. DP children tended to respond more quickly and willingly to both their fathers' requests ( $p \leq .01$ ) and their mothers' requests ( $p \leq .01$ ) than did C children. Also, DP children reported helping their fathers more than did C children ( $p \leq .01$ ), although they did not resent helping their fathers significantly more than did C children.

Finally, a number of children's attitudes toward their parents varied as a function of parental disability status. DP children scored as holding significantly more positive attitudes toward their fathers than did C children ( $p \leq .05$ ), as measured by the "Attitude toward Father" index. Second, DP children reported that they felt more protective of both their mothers ( $p \leq .05$ ) and their fathers ( $p \leq .001$ ) than did C children. Third, although DP and C children did not differ significantly in the degree to which they felt self-conscious about their fathers in public, a significant group by subject sex interaction emerged,  $F(1, 75) = 3.94$ ,  $p \leq .05$ . Male DP children reported feeling more self-conscious of their fathers in public than did male C

children, whereas female DP subjects felt less self-conscious of their fathers than did female C subjects. Lastly, parental disability status interacted with subject sex on the degree to which children tended to blame their fathers for being depressed or upset about something,  $F(1, 76) = 6.43, p \leq .05$ . Mean scores showed that male DP children tended to blame their fathers when they were upset about something more often than did male C children, but female DP children tended to blame their fathers less often than did female C children. Table 9 provides mean scores and F-ratios on the parent-child relations variables on which DP and C children differed significantly.

Personal Attitudes. Analyses of variance yielded significant differences between DP and C children on three personal attitudes. DP children reported that couching tragedy in a humorous way was less characteristic of them than did C children ( $p \leq .005$ ). Second, DP children felt that they tended to judge negatively people who complain about their physical problems more than did C children ( $p \leq .01$ ). Finally, feeling sorry for people who are physically disabled was less characteristic of DP children than C children ( $p \leq .005$ ). Mean self-ratings and F-ratios on these items are presented in Table 9.

## Summary

Appendix L summarizes the measures on which significant differences emerged between DP and C children. Mean scores and significance levels are provided. As shown, DP and C children differed on 23 variables from the following tests: MMPI, 16PF, Bem Sex Role Inventory, Body-Cathexis scale, Rokeach Value Survey, PCR II, and Buck-Hohmann questionnaire.

### Control Procedures

Three scales in the present study assessed the influence of social desirability and self-deception on subjects' self-reports: the Lie validity scale on the MMPI,<sup>1</sup> the Bem Social Desirability scale, and the Friend scale. First, inspection of Table 3 shows that both DP and C children scored just under the normative mean on the Lie scale, and the groups did not differ significantly. Thus, it does not appear that subjects were denying negative attributes of themselves to make themselves look more favorable. The Social Desirability scale from the Bem Sex Role Inventory provides additional information (see Appendix H for items). DP and C children showed mean self-ratings on the twenty items of 5.17 and 5.20, respectively. Both DP and C mean scores fell within .5 standard deviation of Bem's Stanford University normative

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1. The Lie validity scale on the MMPI is designed to measure deliberate efforts to evade answering questions frankly and honestly. The item content of the Lie scale refers to a denial of negative attributes which are characteristically true of most people, specifically "denial of aggression, bad thoughts, weakness of character or resolve, poor self-control, prejudices, and even minor dishonesties" (Dahlstrom et al., 1972, p. 109).

mean (1974). Moreover, DP children did not differ significantly from C children on the Social Desirability scale,  $F(1, 79) = .09$ , ns.

It seems reasonable to assume that responding in a socially desirable manner on one scale would generalize across other self-report measures. If so, evidence from the Lie scale and Bem Social Desirability scale suggests that subjects were not distorting their self-reports to a significant extent. More importantly, since DP and C children did not differ on either measure, a social desirability response set would be expected to operate equally for both groups. Thus, while scores may be slightly inflated in a socially desirable direction, one can assume that no systematic bias is present to differentially affect comparisons between DP and C children.

Third, the Friend scale was developed to assess the validity of subjects' self-reports specifically on the Buck-Hohmann questionnaire. The Friend scale bears on the influence of both social desirability and the more recently identified problem of self-deception.<sup>1</sup> Friends, dating partners, and relatives of DP children ( $n = 33$ ) and C children ( $n = 23$ ) rated subjects on items similar to those on which the subjects rated themselves on the Buck-Hohmann questionnaire. Information about the accuracy of subjects' self-reports can be gleaned from two sets of analyses: (a) 2 x 2 analyses of variance (Group x Subject Sex) and chi

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1. Sackeim and Gur (1979) have found that some individuals make errors of which they are unaware and which are under motivational control on self-report measures of psychopathology. Their data indicate that the more likely individuals are to engage in self-deception, the less likely they are to report psychopathology. Self-deception is differentiated from deliberate "other-deception."

square analyses on Friend scale items to determine the correspondence with the pattern of results found on the Buck-Hohmann questionnaire, and (b) correlations between Buck-Hohmann and Friend scale items. At the outset, however, it seems pertinent to note that discrepancies between how subjects described themselves and how friends described them could be due to at least two factors (or a combination): (a) subjects' self-reports were biased by social desirability and/or self-deception, while friend's ratings were not, (b) both subjects and friends were answering accurately, but their reports differed because of varying amounts and kinds of information available to make responses.

Of 16 Friend scale variables analyzed, three significant differences emerged between DP and C children. According to their friends, DP and C children differed in the amount of time they spent doing things with the subject's family versus the friend's family,  $\chi^2 (2) = 9.44, p \leq .01$ . DP subjects and their friends tended to spend either more time with the DP subject's family (48.5 percent) than with the friend's family (6 percent), or they spent an equal amount of time with each family (45.5 percent). In contrast, C children and their friends spent either more time with the friend's family (26.1 percent) than with the C family (13 percent), or they spent an equal amount of time with each family (60.9 percent). The same item on the Buck-Hohmann questionnaire, where subjects described how much time they spent with their own versus their friend's and date's family, failed to reach significance (see Appendix N, Items 54 and 72). Second, friends

described DP subjects as being more proud of their fathers than they did C children,  $F(1, 51) = 5.86, p \leq .05$ . This finding parallels the difference between DP and C children on the "Attitude toward Father" index from the Buck-Hohmann questionnaire. Finally, DP subjects were described by friends to couch tragedy in a humorous way ( $M = 3.03$ ) more than were C subjects ( $M = 2.22$ ),  $F(1, 49) = 6.59, p \leq .05$ , a finding which conflicts with the way DP and C children described themselves (see Table 9). However, when the mean scores on the two questionnaires are compared, the discrepancy between the subjects' self-reports and the friends' ratings of the subjects spans 1.34 scale points for C children and .27 scale points for DP children. Thus, the conflict on this item is due mainly to C children describing themselves differently than friends perceive them. On only one variable, participation in athletics, did DP and C children differ on the Buck-Hohmann questionnaire but not on the Friend scale.

In summary, the pattern of DP versus C group comparisons on the Buck-Hohmann and Friend scale indicate that: (a) 12 of 16 similar variables yielded no significant differences on either test, (b) significant differences emerged on both tests for two of 16 variables, on one of which the results conflict, and (c) significant differences emerged on one test but not the other in two cases. Thus, the results on the two questionnaires matched on 13 of 16 variables, which would not be expected by chance alone,  $\chi^2(1) = 6.25, p \leq .025$ .

The 12 Pearson product moment correlations which could be computed between similar variables on the Friend scale and Buck-Hohmann

questionnaire are presented in Table 10. On several variables, the particular item on the Buck-Hohmann questionnaire with which the Friend scale was correlated differed as a function of who completed the Friend scale--friend or dating partner. As can be seen, six correlations indicated a significant correspondence between subjects' ratings of themselves and friends' ratings of them. Two other correlations approached significance. Although the correlations are modest, this may be due in part to the limited range of scores on each variable (Brown, 1970). Both sets of comparisons on the Friend scale suggest that while self-deception (and social desirability) cannot be ruled out conclusively, self-deception does not seem to be a pervasive influence on the Buck-Hohmann questionnaire. However, the effect of self-deception on other tests, particularly on the measures of psychopathology, remains undetermined.

#### A Note on the Statistical Analyses

Except for the Rokeach Value Survey and several classificatory variables, parametric statistics were employed to analyze differences between DP and C children. Several factors were considered: (a) the belief that Type II errors were more to be avoided than Type I errors, given the exploratory nature of the study, (b) the desire to test as strongly as possible the relations between parental disability and measures of child adjustment, and (c) the ability to assess interactions between parental disability status and subject sex with parametric analyses. Particularly on the Buck-Hohmann questionnaire, where many variables are single items rated on a four or five point scale, the



Table 10. Correlations between Variables on the Friend Scale and the Buck-Hohmann Questionnaire

Measure	Friend Scale Item(s)	Buck-Hohmann <sup>a</sup> Item(s)	<u>r</u>	<u>p</u>
Athletics	2	45	.38	.005
Reaction to subject after meeting father	4	55 or 70	.00	<u>ns</u>
No. positive reactions to sub- ject after meeting father	5	56 or 71	.24	.05
Time with subject's versus friend's family	6	54 or 72	-.04	<u>ns</u>
Avoid introducing friend/date to father	7	58 or 74	.20	.07
Friend's reaction to father	8a+b+c+d+f	60+62+64 or 76+78+80	.38	.005
Persistence of Subject	9a	152	.19	.08
Sentimentality	9c	157+158	.59	.001
Couch tragedy in humorous way	9e	156	-.12	<u>ns</u>
Judge negatively others who give up easily	9j	160	.11	<u>ns</u>
Blame father when depressed <sup>b</sup>	9f	145	-.23	.05
Social Skill	9h	46-48	.44	.001

<sup>a</sup>Some items on the Buck-Hohmann questionnaire were answered about friends and dates separately. Friend scale items were correlated with the Buck-Hohmann items appropriate to the nature of the relationship of the person completing the Friend scale.

<sup>b</sup>On this item, high scores on the Friend scale correspond to low scores on the Buck-Hohmann questionnaire.

appropriateness of an F-test can be questioned. However, both mathematical and empirical studies have shown that violations of the assumptions underlying analysis of variance have little effect on inferences about means, especially as sample size increases (Meyers, 1972; Scheffé, 1959). Although the distortion of Type I error rates is a more serious problem with unequal ns, the ratio of group ns in the present study was only 1:1.25, far below the ratios where serious distortions in Type I errors occur (Meyers, 1972; Scheffé, 1959). Moreover, as sample size increases, distortions pose less of a problem (Meyers, 1972). Nevertheless, it should be considered in interpreting the results from the Buck-Hohmann questionnaire that significance levels may be slightly inflated.

To check the differences between using parametric versus the less powerful nonparametric statistics on single item variables from the Buck-Hohmann questionnaire, results from analysis of variance and chi square analysis were compared. As would be expected, no significant differences between DP and C children emerged with a chi square analysis which did not also reach significance with the F-test. Seven variables which significantly differentiated DP and C children with analysis of variance also were significant with chi square. Three variables (Quick response to mother's requests, Father expresses verbal affection, and Judge negatively people who complain) which produced significant differences between DP and C children with analysis of variance approached significance with chi square analysis ( $p \leq .08$ ). One variable (Father Discipline: Withdraws Privileges) was not

significant with a chi square analysis but was with analysis of variance. Thus, the more powerful analysis of variance did not yield appreciably different results than nonparametric statistics..

Perhaps a more serious problem is the large number of tests of significance performed in the present study. DP and C children were compared on 165 variables, 23 of which differentiated significantly the two groups. Brozek and Tiede (1952) provide a means to determine the probability of a chance occurrence of obtaining  $n$  significant results from a series of  $N$  statistical tests. The probability of obtaining 23 significant results by chance in a series of 165 variables tested for significance at  $p \leq .05$  is negligible (C.R. = 5.09,  $p \leq .0000003$ ). Nevertheless, it is most probable that some Type I errors have been made.

## DISCUSSION

The present study marks the first major attempt to investigate empirically the effects of physical disability in a parent on aspects of child adjustment. Speculative articles have described many deleterious effects of being raised by a disabled parent. These hypothesized relations between parental disability and child personality were tested by comparing adult children with spinal cord injured fathers and a matched comparison group of children with able-bodied parents.

The major hypothesis in the literature is that parental disability tends to be associated with psychological maladjustment in children (e.g., Anthony, 1970; Heslinga et al., 1974; Romano, 1976). Neurotic and behavior disorders, insecurity, and anxiety have been mentioned as consequences of disablement of a parent. This prediction is not supported by the present study. Mean scores on the MMPI and 16PF showed that adult children of spinal cord injured fathers were as well-adjusted as children of able-bodied fathers. Moreover, only one personality trait differentiated children with disabled fathers and able-bodied parents. Children with spinal cord injured fathers described themselves as more cautious in emotional expression, critical and objective in outlook, and aloof in manner than did children with nondisabled fathers (16PF, Factor A). In contrast to disability status, the father's behavior, as perceived by the child, seems to be a more important factor in affecting the long-term adjustment of their children. Although neither group of fathers were described by their

children on the PGR II as excessively loving or rejecting, casual or demanding, four variables on the MMPI and 16PF were associated with father behavior, while only one variable was associated with disability status of the father.

In sum, children of spinal cord injured fathers appear to be well-adjusted, adequately functioning adults, despite encountering any differences in home life as a function of their father's disability. The subjects themselves point to several factors which may account for their psychological well-being. On the Buck-Hohmann questionnaire, subjects answered several open-ended questions about the benefits and handicaps of being raised by a spinal cord injured father. Based on these data, albeit unsystematic and subjective in nature, adult children did not perceive that being raised by a disabled father created the degree of emotional hardship and stress asserted in the literature. Fifty-six percent of the children listed no ways in which they had been handicapped by having a spinal cord injured father (Question one). Of the handicaps listed, 70 percent dealt with the father's inability to engage in physical activities with the children (e.g., hiking, skiing, and baseball) and to accompany them to such places as "graduation ceremonies, movies, and other locations." Only two children thought that their fathers' disability imposed severe stress on them so that they felt emotionally insecure and "set apart" from others. In contrast, 97.8 percent of the children felt that they had benefitted in some way by having a spinal cord injured father. One frequent comment made by children was that their fathers stayed home

and spent more time with them than otherwise would have been possible. As a result, they felt that they had closer relationships with their fathers than did their friends. As one child wrote, "As I was growing up, I thought my daddy was normal and our home life was better. I felt sorry for kids whose parents were away at work."

Another factor which may play a role in the long-term adjustment of these children is that through modeling, their fathers have taught them values, attitudes, and coping styles which have led to a full and happy life. Children frequently mentioned that they felt (a) more "sensitive to" and "understanding of other people's needs and feelings" as well as their own; (b) more independent, responsible, and mature; and (c) better equipped to accept difficulties, "more patient in handling things," and able to "overcome obstacles of many natures." One woman captured the recurring theme among the subjects' comments about what they have learned from their fathers:

I feel I have learned a lot about myself, my family, and being prepared. I feel I am more capable of facing anything that may come up than my friends. I have benefitted greatly from watching and participating in the survival of a family where life depended on strength and courage. I have learned how to take care of myself and others. I know many secrets to the art of living as well as surviving in the face of many tragedies and disappointments. I have learned the tricks to success (not just survival) through my father and his series of trial and error. . . . I have learned to value and look for the things I have and to set my goals for the things I don't have. I have learned to work hard and not give up easily (yet realize when I'm beat). My friends are often different in these ways.

The feelings of competence and mastery expressed by these children bear a remarkable parallel to recent emphases on "experiences that strengthen the personality and contribute to the psychological growth

of an individual (Finkel, 1974, p. 265). Finkel (1974, 1975; Finkel and Jacobsen, 1977) has found that some individuals learn to convert traumatic experiences into growth enhancing ones. The conversion phenomenon is not one of denying traumatic experiences, but rather a process in which the individual discovers an ability "to cope, adapt, learn, grow, and become self-reliant and independent" (Finkel, 1974, p. 271). Children's comments on the open-ended questions suggest that whatever emotional distress is encountered by disablement of the father, it may result in greater coping ability, not a weakened ability to deal with life in a mature and healthy manner.

A second speculation found in the literature on parental disability is that through identification with a disabled father, children may fail to develop appropriate sex role orientations (Heslinga et al., 1974). Male children are of particular concern, because the father is "passive" and does not assume the traditional male role of family provider. This speculation is not confirmed by the present study. Neither male nor female children of spinal cord injured fathers differed significantly from children of able-bodied parents on the Bem Sex Role Inventory. Most children showed sex role orientations which were same-sex typed or androgynous. Only a few of the DP (9 percent) or C children (14 percent) were cross-sex typed. Thus, although 50 percent of the spinal cord injured fathers were unemployed, children's sex role orientation appears to be unaffected by parental disability.

A third concern raised by Olgas (1974) is that children may have poor body images as a result of identifying with a disabled

father. No evidence of body image distortion was found in children with spinal cord injured fathers. Both children of disabled fathers and able-bodied fathers obtained mean self-ratings on the Body-Cathexis scale indicating satisfaction with their bodies, and the two groups did not differ significantly in body image.

Although not discussed in the literature, another factor which could be affected by identification with a disabled father was examined --the nature of the adult children's values. While children of disabled and able-bodied fathers were found to share many similar terminal and instrumental values, a few values were seen as more important by children with spinal cord injured fathers. In comparison with children of nondisabled fathers, children with spinal cord injured fathers placed higher value on "a world at peace" and "national security." Since over half of the fathers were injured during military service and some during war time, it is not surprising that these values assume more importance to children with spinal cord injured fathers. Pilot interviewing of a son of a paraplegic father had revealed similar concerns. The son mentioned that he had always been impressed by the fact that his father and his father's friends (who had been injured during World War II), would choose to fight again for their country, even if it would result in disablement. Although he hoped world wars were at an end, he said that he feels more willing to fight for his country than do his friends.

The instrumental values of children with disabled fathers appear to be somewhat more conventional in nature than those of children



with nondisabled fathers. Children with spinal cord injured fathers valued "clean," "obedient," and "responsible" more than did comparison children. However, "responsible" was ranked high by both groups, and "clean" and "obedient" fell within the lower 25 percent of values ranked as important to achieve idealized end-states of existence. Being "logical" was the only idealized mode of conduct valued more by comparison children than children with disabled fathers.

Fourth, it has been speculated that children may learn sick role behavior from a disabled parent (Anthony, 1970). However, it does not appear that physical health patterns in children are adversely influenced by parental disability. No significant differences on nine measures of health emerged as a function of the disability status of the father. Not only did children with spinal cord injured fathers report taking as good care of their physical health through preventive measures, but also they did not report more illnesses, injuries, hospitalizations, or surgeries than did comparison children.

Perhaps the most frequently cited ill-effect on children of being raised by a disabled father is that he is unable to engage in physically oriented activities with his children (Heslinga et al., 1974; Thomason and Clifford, 1972). It is feared that the father's inability to model physical exercise may result in the failure of children, especially males, to develop interests in athletics and physical recreation. Results from the Buck-Hohmann questionnaire failed to confirm either prediction. First, despite limitations in physical mobility, disabled fathers tended to participate in as many

recreational activities with the family as do nondisabled fathers. A "Father Participation" score was derived from ratings on the degree to which fathers participated in the following activities with their children: playing sports and games; helping with school work; teaching the child how to fix and make things, and how to use tools; going to movies, museums, and other places; going on outings, picnics, and camping trips; and going on out of town trips. As reported by their children, spinal cord injured fathers were as active with their children as were able-bodied fathers. Moreover, when the degree to which fathers participated in sports and games with the children was analyzed separately, spinal cord injured fathers did not differ significantly from able-bodied fathers. Nevertheless, on the open-ended questions, 31 percent of the children felt that they had been handicapped because their fathers had not been able to "share in physical activities" with them. In fact, this concern of the children accounted for 70 percent of the handicaps listed. Thus, it seems that children of spinal cord injured fathers mistakenly attribute to their fathers a low degree of participation because of his limitations in physical mobility--a highly visible and plausible factor. But, while there may be differences in the degree to which disabled and nondisabled fathers are capable of engaging in physical activities, the fathers tend not to differ in the degree to which they actually do participate in recreational activities, as recalled by their children.

Similarly, the assumption that children with disabled fathers would be less physically active than children of able-bodied fathers

received no support. In fact, children with spinal cord injured fathers reported more interest and participation in athletics and physical recreations than did children with nondisabled fathers. It may be that children overcompensate for what they believe to be a handicap arising from living with a disabled father and develop a heightened interest in athletics. Also, parents may overemphasize and encourage athletics in their children because of their concerns about the effects of the father's disability. These factors seem consistent with what appears to be an unwarranted assumption by both parents (Thomason and Clifford, 1972) and children--not to mention rehabilitation workers--that disabled fathers are less active in recreational activities with their children than are nondisabled fathers.

A sixth concern raised in the literature is that the interpersonal relations of children with disabled fathers suffer as a result of the social stigma attached to them for having a handicapped parent and from having to assume responsibilities at the expense of leisure activities (Heslinga et al., 1974; Hilbourne, 1973). However, self-reports on the Buck-Hohmann questionnaire showed no deleterious effects on the interpersonal relations of children as a function of the disability status of the father. First, children with spinal cord injured fathers appeared to be as socially skilled as children with able-bodied parents. Second, both as children and adults, individuals raised by a spinal cord injured father reported having as many friends and being as close to them as did children of nondisabled fathers. Similarly,

results on the dating patterns of children revealed no differences as a function of parental disability status. Third, personality characteristics in friends and dates--such as attractiveness, intelligence, emotional sensitivity, sense of humor, and similar interests, goals, and morals--were equally valued by children of disabled and nondisabled fathers. Together these findings do not support the hypothesis that parental disability interferes with children's relationships with others. Moreover, from both the adult children's perspective and their friends' reports, there is no evidence that children feel ashamed of their disabled fathers, try to conceal the father's disability from friends, or receive negative feedback as a result of their father's disability. For example, children with spinal cord injured fathers neither avoided introducing friends or dates to their fathers nor avoided having their friends or dates spend time with their families, when compared with children of nondisabled fathers. In fact, on the Friend scale, friends and dates indicated that they tended to spend more time with the disabled parent family than with their own. Further, results from both the Buck-Hohmann questionnaire and Friend scale showed that friends and dates did not react differently to children with spinal cord injured fathers than to individuals with able-bodied fathers after meeting the father. Lastly, from subjects' and friends' reports, friends and dates liked and felt comfortable with the fathers, regardless of whether or not he was disabled.

Finally, the nature of the relationship between parent and child has been assumed to be adversely affected by parental disability.

A number of specific areas are the focus of concern: (a) Disability interferes with the physical care of children, which impairs normal bonding processes between parent and child (Heslinga et al., 1974); (b) Because of the disabled father's needs, family attention centers on him rather than on children, leaving the child without emotional supports (Anthony, 1970; Romano, 1976); (c) Discipline is left to the non-disabled spouse, and as a result, the child loses respect for the disabled father (Anthony, 1970; DiCaprio, 1971); (d) Children assume more responsibilities in the home with a disabled parent and feel "imposed on" (Heslinga et al., 1974; Hilbourne, 1973); and (e) Children with a disabled father, in general, feel deprived and resentful toward their fathers. These and other areas of parent-child relations were examined in this study.

On the PCR II, spinal cord injured fathers were perceived by their children to be warm, affectionate, helpful, and able to create an atmosphere where the child felt wanted, important, and respected. The disabled fathers did not differ from nondisabled fathers in these respects. However, as described by the children, spinal cord injured fathers expressed physical affection and verbal affection toward their children more often than did nondisabled fathers. These findings clearly do not support the view that parental disability impairs affectional relations between father and child.

In the same vein, the adult children of spinal cord injured fathers did not feel that their fathers received more attention from the mothers than did children with nondisabled fathers. In fact, mean

scores of both groups indicated that they seldom experienced withdrawal of attention by the mother. The degree to which mothers and fathers participated in a variety of leisure activities with their children, both alone with the child and together as a family unit, provided additional evidence that children's needs are not ignored because of the father's needs. Thus, it does not appear that children experience a loss of support and attention from either parent when the father is disabled.

Discipline practices of parents seem to be little affected by physical disability in a parent. When differences do emerge, they are in direct contrast to what has been speculated. Spinal cord injured fathers were perceived by their children as striking a balance between casual and demanding behavior, as measured by the PCR II, and they did not differ from comparison fathers or the normative population. Thus, the fathers, while imposing limits on their children's behavior, were not overly restrictive, punishing, or authoritarian. The Buck-Hohmann questionnaire provided additional information indicating that disabled fathers did not exclude themselves from discipline and child-rearing aspects of parenthood. For example, the disabled parent group and comparison group parents did not differ in terms of who disciplined the children and who made decisions about what the children could do. Children recalled that their mothers and fathers tended to discipline them to an equal extent, irrespective of the father's disability status. And, in both groups of families, the parents tended to make decisions together most often (60 percent), as opposed to making decisions

separately about what the child could do. Further, children with disabled and nondisabled fathers reported few differences in the degree to which their fathers used various discipline modes when they misbehaved. Spinal cord injured fathers were perceived to have used withdrawal of privileges more often than were able-bodied fathers, but the fathers did not differ in how often they used yelling, spanking, or reasoning with the child. Thus, the assertion that disabled fathers relegate discipline functions to mothers is not supported by data. In addition, the notion that the disabled father loses control over the child is not confirmed. Children with spinal cord injured fathers indicated that they responded more quickly and willingly to their fathers' requests than did children with able-bodied fathers.

It might be expected that disabled fathers and their wives would be more concerned about the possibility of physical injury to their children than would nondisabled parents. Data indicated that a father's disability status had no effect on (a) how protective or cautious the mothers and fathers were of their children, (b) how anxious the mothers or fathers were about the possibility of accidents happening to the children, or (c) the number of activities forbidden by mothers and fathers because of the possibility of an accident.

The fourth hypothesis tested in the area of parent-child relations was whether children assume more responsibility when the father is disabled and feel resentful about it. Whereas the two groups of children did not differ in how much they helped their mothers, children did help spinal cord injured fathers more than nondisabled fathers.

However, the children seldom resented helping their disabled fathers, and they did not differ from comparison children. Thus, while helping their fathers more, children with disabled fathers show no evidence of being "imposed on."

Finally, the nature of attitudes held by children toward their fathers was investigated. On the Buck-Hohmann questionnaire, an overall index of attitudes toward the father was derived by summing ratings on the following items: being proud of father, liking father, and wanting a different father during childhood, adolescence, and adulthood. In direct contrast to what has been speculated, children with spinal cord injured fathers held significantly more positive attitudes toward their fathers than did children with able-bodied fathers. The open-ended questions also revealed the children's high regard for their disabled fathers. One child of a quadriplegic father wrote, "I do not think I would have had the opportunity of knowing, understanding, and realizing my father's great strengths, including generosity, empathy, and unselfish love. I feel that the 'average lifestyle' of most American males does not encourage these important qualities." Another subject commented, "My life is far richer because I have an example I can look to. My father is an extraordinary man in my eyes. He accomplishes more than many physically normal people do." Consistent with these positive attitudes, children of spinal cord injured fathers did not appear to blame either their fathers or mothers when upset or depressed about something. Finally, children of spinal cord injured fathers felt more protective of both their mothers and fathers than did



children of able-bodied parents. However, mean scores indicated a moderate degree of protectiveness for their parents, which would be unlikely to cause undue anxiety.

### Conclusions

In view of the consistent opinion in the literature that parental disability poses a severe threat to child adjustment, the results of the present study are enlightening. In those areas of personality, behavior, and attitudes speculated to be adversely affected by disablement of a father, there is little evidence that handicaps result from being raised by a spinal cord injured father. In some cases, the relationships between parental disability and child behavior are opposite to what has been assumed. Based on prior research on parent-child relations and the present study, the behavior and attitudes of parents appear to be more important for child adjustment than does physical disability in a parent.

The present findings clearly are not consistent with prior research showing relationships between maladjustment in children and chronic illness in parents (e.g., Rutter, 1966; Wolff and Acton, 1968). Although the methodology differs across studies, the conflicting results point to several factors which may account for the good adjustment of children with spinal cord injured fathers. First, the home environment with a chronically ill parent and that with a physically disabled parent may be quite different. Once the initial medical problems of a new disability are resolved, and the individual learns to live with his disability in his own environment, the disabled person

can lead a healthy and active life (Trieschmann, 1978). In the present study, not only were most disabled fathers home, but they were active participants in family activities, such as decision-making, care and discipline of children, and recreation. In contrast, a chronically ill parent may be absent from the home due to repeated and/or prolonged hospitalizations and be a less active participant in family activities when home. The effects of chronic illness on children may reflect the general association found between adjustment problems in children and father absence and inadequate parenting (Biller, 1971; Hamilton, 1977). Some data in this study suggest that differences between the effects of parental illness and disability could be due to the father's involvement with the family. For example, two children had fathers who were institutionalized for long periods of time. Both indicated on open-ended questions that they felt handicapped because they "never knew what it was like to have a full time father" with whom to do things and "man-talk." One of these children, a 23 year-old female, showed significant elevations on the Paranoia, Schizophrenia, and Hypomania scales of the MMPI. Two other children commented that their fathers experienced considerable pain while they were growing up. Both felt that their fathers' pain fostered (a) a distant relationship with the father, because they did not want to bother him and "make the pain worse," and (b) difficulties showing physical affection toward others. One of these children manifested clinical signs of depression, somatic concerns, and immaturity on the MMPI and 16PF.

Second, the long-term pattern of adjustment of children raised by a spinal cord injured father does not parallel the emotional distress found in children shortly after the onset of disability (Castro de la Mata et al., 1960; 1970). The emotional instability and insecurity found in children upon disablement of the father may reflect the considerable emotional, social, and financial upheaval associated with a new injury (Trieschmann, 1978). As one subject in the present study commented, "The accident disrupted my whole family in every way, emotionally, occupationally, geographically, financially, etc. I feel it was an extreme psychological pressure." However, it may be that a family's adjustment to a father's disablement is similar to the process characteristic of an individual's own adjustment to disability (Dunn, 1975; Hohmann, 1975; Trieschmann, 1978). As the family adapts to the abrupt changes brought on by the father's disability, and the home life returns to functional and satisfying ways of living, children's emotional distress subsides. Thus, when child adjustment is examined after many years of living with a disabled father, no ill effects are found.

The implications of the present study are several-fold. Adoption agencies and courts in child custody cases have relied on published statements of opinion describing the adverse effects of parental disability on children to deny parental responsibility to handicapped people (Hohmann, 1977). Clearly, the present study paints a different picture of the long-term adjustment of children raised by spinal cord injured fathers. While more research is needed, the present study

offers no empirical justification for denying physically handicapped people the opportunity to adopt and rear children.

There are also several implications which bear on rehabilitation issues. Disabled persons often raise the concern themselves about what effects their disability will have on their children. On the basis of this study, rehabilitation workers can offer the spinal cord injured person reassurance that the injury itself does not prevent successful parenting. Trieschmann (1978) raises another issue of concern for rehabilitation programs, "Disability can have great impact on the family, but we have little to no data which document the types of problems and intervention strategies that are most effective as remedial devices" (p. 5). Although children appear to suffer few handicaps in the long run from living with a spinal cord injured father, there are several potential problem areas for intervention. First, following a new injury, the family is under considerable stress. Providing counseling services for the family could help ease the emotional distress at this time. Moreover, particular attention should focus on the mother. Several children indicated that they had difficulty dealing not with the father's disability per se, but with an emotionally unstable mother whom they felt did not have the resources to cope with the situation. Second, it is important that the father be home with the family, rather than living in a hospital setting. Efforts to prevent prolonged institutionalization of the spinal cord injured become particularly important when children are in the home. The good result of being raised by a disabled father found in the

present study may be due to a lack of institutionalization of the fathers. The sample of fathers tended to show less evidence of institutionalization than the general population of spinal cord injured men. For instance, only two fathers lived in the hospital, and 50 percent were employed part or full time after injury, in contrast to the 13-48 percent employment rate generally reported (Trieschmann, 1978).

Whether spinal cord injured men who achieve psycho-social and vocational adjustment to disability are more likely to marry and have children, or the presence of a family adds to the success of rehabilitation efforts is unknown from available data. However, including family planning and/or counseling in rehabilitation programs may well enhance the success of rehabilitation efforts. Third, once home from the hospital, disabled fathers should be encouraged to be active participants in family activities, particularly in recreational and leisure pastimes. The most prevalent feeling of loss noted by children of spinal cord injured fathers was that they could not share in recreational activities with the father. While disability may pose limitations in some leisure activities, many are still possible. In addition, both parents and children can be reassured that despite the fathers' physical limitations, evidence shows that disabled fathers tend to participate in as many activities with their children as do nondisabled fathers. This knowledge may lessen their concerns that children are deprived of recreational aspects of family life characteristic of families with able-bodied fathers.

Limitations of the Study and Implications  
for Future Research

Several limitations of the study qualify the conclusions drawn and point to areas for future research. A major limitation is that the results are based on self-reports, many of which are retrospective. Two problems are the degree to which social desirability and self-deception influenced subjects' responses. Self-deception effects are of particular concern. Sackeim and Gur (1979) have found that the influence of self-deception on the validity of personality measures of psychopathology is greater than the influence of deliberate "other deception." Results from three control measures in the present study (Lie scale of the MMPI, Bem Social Desirability scale, and Friend scale) suggest that (a) the influence of social desirability on subjects' self-reports was not significant, (b) the effect of self-deception seemed to play little role on the Buck-Hohmann questionnaire, although it may have influenced subjects' scores on other scales, particularly the measures of psychopathology, and (c) the influence of social desirability and self-deception appeared to exert no systematic bias affecting comparisons between the two groups of adult children. Nevertheless, further research using less reactive, behavioral measures of children's responses to parental disability is requisite. In addition, the behavior and attitudes of parents toward children need to be assessed more directly, since children's reports suggest that psychological aspects of parenting are more important for child adjustment than is parental disability. Research should focus on obtaining behavioral measures of disabled and nondisabled parents' involvement in

family activities; loving versus rejecting behavior; and patterns of child care, decision-making, and discipline.

Second, a problem which could limit the internal validity of the study is a possible bias of the psychologists and social workers in selecting subjects. For example, they could have recruited disabled parent subjects whom they judged to be well-adjusted (or maladjusted). One finding which might support a selection bias is the higher employment rates after injury of the fathers in this study than those in the general spinal cord injured population. However, it may be that spinal cord injured persons with families differ from those who are unmarried and childless in social and vocational adjustment after injury. Although this question has not been assessed directly, some suggestive data are available. El Ghatit and Hanson (1975, 1976) found that married men were more likely to obtain employment after injury than men who were single or whose pre-injury marriages ended in divorce. Among men married before injury, 82.4 percent of males with intact marriages were employed at the time of the study, in contrast to 17.6 percent of divorced or separated males. Of males married after injury, 28.8 percent were employed, while 21.8 percent of those who remained single after injury were employed at the time of the study. Thus, the high employment rate found in the present study may be a function of the selection criteria (fathers not divorced before the child reached age 15, and fathers raised children who were two years-old or younger at the time of injury) rather than reflecting a selection bias of the psychologists and social workers. Also, before the study was begun,

the problems posed by a selection bias were discussed with recruiters, and it was emphasized verbally and in the written instructions to select subjects only on criteria listed in the method section. More importantly, the fact that recruiters had considerable difficulty locating the required number of subjects, who met the criterion variables for inclusion in the study, would have operated strongly against a selection bias. Nevertheless, a selection bias cannot be ruled out conclusively.

Relatedly, a third problem stems from a selection criterion used in the study. Only children whose parents had not been divorced during the child's first fifteen years were chosen, which clearly selects for stable families in both groups. Since the divorce rate among the spinal cord injured is not significantly different from the overall U. S. base rate, this criterion would not produce a systematic bias. However, it does limit the generalizability of the results to stable, intact families with a spinal cord injured father. Future studies with less restrictive criteria for subject selection would be helpful in extending the external validity of the present findings. In addition, investigations of the influence on children of parental disabilities other than spinal cord injury in fathers and of disabilities in mothers are needed.

Finally, the present study suggests other areas for research. The impact of parental disability on children has been studied at only two time periods, with conflicting results--soon after the onset of disability and after more than a decade of living with a disabled



parent. Research examining children's adjustment to parental disability through childhood, adolescence, and adulthood and at varying periods after the onset of disability needs to be undertaken. For example, some questions include: (a) Do children's reactions to disablement of a parent vary as a function of the age of the child when the parent is injured, (b) How do children's reactions to the parent's disability change as a function of time since the onset of parent disability, and (c) What patterns of adjustment characterize children with disabled parents during early, middle, and late childhood and adolescence? Another area for future study consists of clarifying the variables associated with parental disability that may influence children's adjustment. For example, the severity of the disability, number of medical complications arising from the disability, extent to which the parent is absent from the family for hospital care, and impact of financial hardships imposed by the disability need to be examined. As well, the home life of children obviously depends not only on the disabled parent but the other parent. As one child in the present study remarked, "I think some research should be done concerning the wives of spinal cord injured men!" Two other children commented that their mothers' reactions to the father's disability created problems for them. The influence of parental disability on children needs to be investigated in the context of the total home environment, not just in terms of the disabled parent alone.

In closing, this study demonstrates that disabled parents can successfully raise children. Nevertheless, many questions about the

impact of parental disability on children remain unanswered. It is hoped that this exploratory investigation will stimulate future research in this area and discourage further reliance on opinions which are likely to reflect "all of the prejudice and negative stereotypes of the disabled as found in the general population" (Trieschmann, 1978, p. 81).

## APPENDIX A

### INSTRUCTIONS TO THE PSYCHOLOGISTS AND SOCIAL WORKERS

We thank you very much for your invaluable aid in helping us conduct this study of the young adult children of spinal cord injured fathers. The study could not be done without your help.

As Dr. Hohmann has told you, we are interested in the effects, if any, of physical disability in a parent on the adjustment and development of their children. We have chosen to study the young adult children of spinal cord injured fathers. As we are sure you are aware, the present time offers a unique possibility to study such adult children, since prior to World War II, spinal cord injured persons did not live much more than a year. We are very excited at the prospect of examining the influence on children of spinal cord injury in fathers. To date, although much has been speculated about the influence of parental physical disability on children (mostly deleterious), little research has been done. We believe that the present investigation is important and necessary, given the practical implications for rehabilitation programs, family counseling and adoption issues, and its theoretical contribution to the psychology of parent-child relations.

In the paragraphs to follow, the procedure which Dr. Hohmann and I have developed is outlined. If you have any questions, please feel free to call Dr. Hohmann at the Tucson Veterans Hospital, 792-1450, Extension 388 (FTS No.: 765-6388), or myself at the Student Counseling Service, University of Arizona, 884-4458.

We would like you to select two male and two female children between the ages of 18 and 25 (or up to age 30, if necessary) who have been raised by a spinal cord injured father from two years of age or younger to adulthood. This group of children will be referred to as the DP group (disabled parent). In choosing these children, we would like you to select children whose parents have not been divorced or widowed during the child's first fifteen years. If you experience difficulty locating these DP children, your local PVA office, as well as "old timer" staff and patients, may offer you some leads.

Second, we would like you to give the assessment package with a blue cover sheet to male DP children and one with a yellow cover sheet to female DP children. The assessment packages are contained within the large envelopes, upon which the color code is indicated. Please remove the packet from the envelope. The top sheet is a consent form. Please have them read it, reminding them that participation is on a voluntary basis and that if they complete all questionnaires, they will receive \$20.00. When agreement to participate has been given, please have them sign the consent form, sign it yourself as witness to their agreement (Human Subjects Research Committee requirement), and tear off

and retain the consent form. We would like you to send us all signed consent forms when you have finished subject selection so that we can keep them on file. After the consent form procedure, the package of questionnaires should be put back into the envelope and given to the subject.

Third, for purposes of control procedures to be described in the next section, we would like you to ask the subject the following questions and record the information on Form A, the last page of these instructions: 1) What is your father's age, 2) What is your father's state of residence, 3) How many years of high school and/or how many years of college has your father completed (check which of the categories applies), and 4) To the best of your knowledge, what is your family's net income (total disposable income of mother and father after taxes are deducted)? After this information has been recorded, the subject may take the assessment package home to complete. Full instructions are contained in the package. Please urge them to complete it as soon as possible. Upon completion of the assessment package, the subject is instructed to mail the package in the envelope provided to us. When we receive the package, we will mail the person a check for \$20.00.

After this first part of the study, we would like you to select two male and two female children between the ages of 18 and 25 (or 30 if necessary) whose parents are not disabled, not known to be psychiatric patients, and have not been divorced during the child's first 15 years. This group will be referred to as the NDP group (nondisabled parent). We would also like their fathers to be veterans. In selecting these NDP children, we would greatly appreciate it if you could attempt to match each NDP child with a DP child on father's age, state of residence, education, and family net income. Since these subjects will serve as a comparison group for the DP children, it is important that we control for these factors as much as possible. Also, please take care to select NDP children only on the above variables. Selecting or excluding subjects on any other basis (such as perceived degree of adjustment, etc.) may bias the results of the study.

To match the NDP children on these variables, ask the prospective subject his/her father's age, state of residence, years of education, and family net income. The data collected from the DP children and recorded on Form A can then be used as a comparison to see if the prospective subject matches one of the DP children. Please attempt to choose children whose father's age is within  $\pm$  five years of a SCI father, state of residence is the same, education level is in the same category checked for a SCI father, and whose family net income falls within  $\pm$  20 percent of the SCI father. If the subject matches one of the SCI fathers, or is close, please record the data on Form A. As much as is feasible, we would like to have each NDP child matched with a DP child. Thus, at the end of subject selection, there should be four pairs (DP-NDP) of matched children.

Following selection of these NDP subjects, the same procedure as used with the DP children can be used: 1) Give the package with a green cover sheet to males and the package with a white cover sheet to

females, 2) Have them read and both of you sign the consent form, 3) Retain the consent form, 4) Give the remainder of the package in the envelope to the subject to complete at home.

Some suggested places where you might recruit NDP subjects are the following: 1) children of friends, 2) children of employees, 3) children of colleagues, 4) children of hospital volunteers, 5) children of your neighbors, and 6) children of fathers in Veterans groups, e.g., VFW. We would prefer that friends of children with a spinal cord injured father or persons who have had much personal contact with spinal cord injury not be sampled.

When all eight subjects have been selected, please mail us the consent forms and Form A at the following address:

George W. Hohmann, Ph.D.  
Psychology Service, 116B  
Veterans Administration Hospital  
Tucson, Arizona 85723

Again, we thank you very much for the time and effort you have given us. We will be sure to inform you of the results of the study when it is completed.

Sincerely,

Frances Marks Buck, M.A.  
George W. Hohmann, Ph.D.

Summary Outline of Procedure

1. Select adult children, aged 18-25 (or 30), who have been raised by a SCI father from age two or younger to adulthood and whose parents have not been divorced or widowed during the child's first 15 years.
2. Give males the packet with a blue cover sheet.  
Give females the packet with a yellow cover sheet.  
(The packets are contained within envelopes upon which the color code is indicated.)
3. Remove the consent form from the packet, have the subject read and both of you sign consent form, and retain the consent form. Place the remainder of the packet into the envelope.
4. Ask the subject these questions and record the information on Form A:
  - a. What is your father's age?
  - b. What is your father's state of residence?
  - c. How many years of high school and/or college has your father completed?
  - d. What is your family's (both mother and father) total net income --total disposable income after taxes?
5. Give the subject the appropriate color coded packet to take home and complete.
6. Select children, aged 18-25 (or 30), whose parents are not disabled, not known to be psychiatric patients, and who have not been divorced or widowed during the child's first 15 years. The father should be a veteran. Also, try to match each of these NDP children as closely as possible with one of the DP children based on the four categories of information on Form A. Record this information on Form A.  
  
Children should be matched as follows:
  - a. Father's age is within five years.
  - b. Father's state of residence is the same.
  - c. Father's education level is in the same category.
  - d. Family net income is within 20%.
7. Give NDP males the packet with a green cover sheet.  
Give NDP females the packet with a white cover sheet.  
(The packets are contained within envelopes upon which the color code is indicated.)

8. Remove the consent form from the packet, have the subject read and both of you sign consent form, and retain the consent form. Place the remainder of the packet into the envelope.
9. Give the subject the appropriate color coded packet to take home and complete.

It is very important that you use the above color codes for distributing packages. One of the questionnaires differs for the children of spinal cord injured fathers, and another questionnaire is specifically designed for males or females. So, please be sure that you give male DP children the packet with the blue cover sheet, the female DP children the packet with the yellow cover sheet, the male NDP children the packet with the green cover sheet, and the female NDP children the packet with the white cover sheet.

Also, it is important that the questionnaires in the packet be arranged in the order sent to you. If they become disrupted, please place them in the original order. (The number is in the top right hand corner of each questionnaire and answer sheet.) If the answer sheet is separate from the test, it should be placed inside the first page of the test.





## APPENDIX B

### INFORMED CONSENT FORM

#### The Influence of Parental Disability on Children: An Exploratory Investigation of the Adult Children of Spinal Cord Injured Fathers

The present study is an exploratory investigation of the influence, if any, that physical disability in a parent has on various aspects of personality and interest patterns on children. To do this, a variety of questionnaires have been selected and developed which measure personal characteristics, interests, values, health patterns, friendship and dating patterns, and relationships with parents. We are asking the adult children of spinal cord injured fathers and the adult children of nondisabled fathers to complete the packet of questionnaires which follows this letter. The information we collect from you will be averaged for each group of adult children, and the group averages will be compared. This procedure will enable us to determine if the children of spinal cord injured fathers differ from the children of nondisabled parents and in what respects.

The enclosed packet contains seven questionnaires which will take approximately five to eight hours of your time, depending on your own style and reading speed. To compensate for your time and effort involved in helping us with this study, we will pay you \$20.00 upon completion and return of this packet to us.

Participation in this study is on a voluntary basis only. You are free to withdraw from this study at any time without incurring any ill will. However, due to limited funds, we can give the \$20.00 gift only to those persons who complete all questionnaires and return them to us. At any time while you are completing the questionnaires, you are free to ask any questions by contacting the psychologist/social worker who gave you the questionnaires. Should you decide to participate, the information we collect from you will be kept strictly confidential, available only to the primary research investigators. Your name will appear only on this consent form, which we are required to keep on file, and on page one of the first questionnaire so that we have a name and address to mail you your check for \$20.00. After you have signed the consent form, it will be detached from this packet. When we receive your packet of questionnaires and have mailed you your check, your name and any other identifying information will be removed from the packet immediately, thus leaving your answers anonymous. All data will be coded by number rather than by name.

We believe that the results of this study may provide important information for physical rehabilitation programs, family counseling and adoption agencies, as well as increase our knowledge about the

psychology of parent-child relations. To date, very little research on the influence of parental disability on children exists. The only benefits we can offer to you for participation in this study are the \$20.00 gift, the knowledge that you are contributing to an important area of research, and the possibility that the questionnaires might lead you to think about various aspects of your life in ways that might be interesting and new. We do not believe that the questionnaires will cause you any discomfort, other than the time and effort involved. If you would like to know the results of this study, we will gladly provide you with a summary of the results when the study is completed.

Sincerely,

Frances Marks Buck, M.A.  
George W. Hohmann, Ph.D.  
Psychology Service  
Tucson Veterans Administration Hosp.  
Tucson, Arizona

Consent of Subject

I have read the above information and understand the nature, demands, and benefits of the study. I understand that I may ask questions at any time during the study and that I am free to withdraw from the project at any time without incurring ill will. I understand, however, that receipt of the \$20.00 gift is contingent on my completion of all questionnaires. I know that this consent form will be filed in an area designated by the Human Subjects Committee, with access restricted to the principal investigators or authorized representatives of the Psychology Department.

\_\_\_\_\_  
Subject's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness' Signature

\_\_\_\_\_  
Date

\_\_\_\_\_ I do not want to receive a summary of results of this study.

\_\_\_\_\_ I want to receive a summary of results of this study. My name and address are (Please print):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## APPENDIX C

### GENERAL INSTRUCTIONS TO THE SUBJECT

Seven questionnaires, some of which have separate answer sheets, are enclosed in this package. We would like you to read carefully the instructions preceding each questionnaire and then carefully complete it. Please answer all questions on all of the questionnaires and answer them to the best of your knowledge. Please be honest, remembering that your answers will be kept confidential and are anonymous. Please check to be sure that you are using the correct answer sheet--they have been clearly labelled for your convenience.

We would like you to work on the questionnaires in the order in which they are numbered. Unless the questionnaires have been disrupted, they are arranged in the correct sequence. It is important that you follow the order indicated for standardization and control reasons. At three points in the package, you will find the instructions to stop work and rest: after the B-H Questionnaire, the 16PF Questionnaire, and the BSRI scale. Since this package of questionnaires is rather extensive, please do rest at the points indicated so that you do not become fatigued. You are free to choose the length of your rest periods. However, we do ask that no more than 24-36 hours elapse before continuing on to the next section. There are three specified rest periods, thus dividing the package into four sections. You may choose to work on one section per day for four consecutive days or more than one section per day. Within the limits specified, choose whatever schedule is convenient for you. We would like to urge you to complete and return this package of questionnaires as soon as you can, preferably not more than one week after you received it.

We ask that you choose a quiet, comfortable room where you will not be distracted to work on the questionnaires. Please complete the questionnaires privately and do not discuss them with others.

Following the seventh questionnaire is a rating scale entitled: "Friend's Rating Scale." Please remove this scale from the packet. We would like you to choose a friend who knows you very well and ask him/her to fill out the brief scale. We would like the friend to return it directly to us in the envelope labelled "Friend's Rating Scale." Although you will receive the \$20.00 whether or not your friend returns the scale, and your friend will receive no remuneration, please encourage your friend to help us with this part of the study.

When you have finished the seven questionnaires in the packet and have given a friend the "Friend's Rating Scale," please put all materials in the large addressed envelope provided and mail them to us. No stamps are necessary. Upon our receipt of your completed questionnaires, we will mail you a check for \$20.00. Again, be sure that you

have answered all questions and that your name and return address are on page one of the first questionnaire.

We thank you very much for your time and cooperation.

Sincerely,

Frances Marks Buck, M.A.  
George W. Hohmann, Ph.D.  
Psychology Service  
Veterans Administration Hospital  
Tucson, Arizona

P.S. Please put your name only on page one of the first questionnaire. Although other questionnaires and/or answer sheets contain blanks for your name, you do not need to fill them out. Also, for the two questionnaires (two and three) which have separate answer sheets, please place your answer sheet back inside the front cover when you finish.

## APPENDIX D

### BUCK-HOHMANN QUESTIONNAIRE: ITEMS AND RATING SCALES

#### Section I. Information about the Subject

1. Age and Date of Birth
2. Sex
3. Height and Weight
4. Marital Status
5. State of Residence
6. Religious Affiliation
7. Number of organized religious activities engaged in per month (e.g., going to church, church groups, church meetings, etc.)
8. Education
  - a. High school (last grade completed)  
Grade Point Average (A=4, B=2, C=2, D=1)
  - b. College-University (last year completed)  
Grade Point Average (A=4, B=2, C=2, D=1)  
Major  
Degree
  - c. Vocational Training (years)  
In what
  - d. Graduate Training (years)  
Major  
Degree
  - e. Other Education (Please specify)
9. Occupation
10. Military Service  
No. years of duty
11. Are you the adopted or biological child of your parents?
12. Number of brothers  
Number of sisters
13. How many children do you have?

#### Section II. Information about Subject's Father

14. Age and Date of Birth
15. State of Residence
16. Religious Affiliation
17. Marital Status
18. Education (1 = 4+years of college, 2 = 1-3 years of college, 3 = 10-12 years of high school, 4 = 0-9 years of high school)
19. Occupation at Present  
Occupation before Injury

20. Is your father retired?  
 Year of retirement  
 Reason for retirement (Age, Disability, Other)
21. Disability Status
- a. Is your father quadriplegic or paraplegic?
  - b. What is your father's disability classification for his spinal cord injury? (Service-connected, non-service connected)
  - c. Year of father's injury
22. Previous marital history
- a. Has your father been divorced?  
 No. of times  
 Year(s) of divorce(s)
  - b. Has your father been widowed?  
 No. of times  
 Year(s) of occurrence(s)
  - c. Has your father been remarried?  
 No. of times  
 Year(s) of remarriage(s)
  - d. Is your father's present wife your mother?

### Section III. Information about Subject's Mother

23. Age and Date of Birth
24. State of Residence
25. Religious Affiliation
26. Marital Status
27. Education (1 = 4+ years of college, 2 = 1-3 years of college, 3 = 10-12 years of high school, 4 = 0-9 years of high school)
28. Occupation
29. If your mother worked outside the home, is she retired?  
 Year of retirement
30. Previous marital history
- a. Has your mother been divorced?  
 No. of times  
 Year(s) of divorce(s)
  - b. Has your mother been widowed?  
 No. of times  
 Year(s) of occurrence(s)
  - c. Has your mother been remarried?  
 No. of times  
 Year(s) of remarriage(s)
  - d. Is your mother's present husband your father?

### Section IV. Health Patterns

31. How many times during your lifetime have you been hospitalized for:
- accidental injuries
  - illness
  - psychiatric/psychological treatment

32. How many times during your lifetime has surgery been required as a result of:  
accidental injury  
illness
33. On the average, how many times per year are you ill with colds, influenza, etc.?
34. On the average, how many days per year are you ill with colds, influenza, etc.?
35. On the average, how many times per year do you visit a doctor for reasons other than routine physical examinations?
36. For the items below, please specify your answer in months; for example, once every six months= $1/6$ , once every 12 months= $1/12$ , once every 2 years= $1/24$ .
- How often do you visit a doctor for routine, complete physical examinations?
  - How often do you visit a doctor for eye examinations?
  - (Females only) How often do you visit a doctor for gynecological examinations?
  - How often do you visit a dentist for routine check-ups?
37. Please indicate the average number of times per month that you experience the following: (If you do not experience it or experience it less than once a month, feel free to use 0 or fractions; for example,  $1/2$ =once in 2 months,  $1/3$ =once in three months,  $1/4$ =once in four months, etc. using the formula  $1/\text{number of months}$ .)
- |   |   |
|---|---|
| Back pain                                 | Migraine                                |
| Constipation                              | Nausea                                  |
| Diarrhea                                  | Stomach and/or intestinal upset or pain |
| Dizziness                                 | Tingling in body part                   |
| Undue fatigue at the end of a day         | Vomiting                                |
| Headache                                  |   |
| Hyperventilation and/or trouble breathing |   |
38. Please check which of the following illnesses you have now or have had in the past:
- |                    |                           |
|--------------------|---------------------------|
| Acne               | Dermatitis                |
| Allergies          | Hypertension              |
| Asthma             | Ulcer (duodenal, stomach) |
| Colitis or ileitis |                           |
39. Have you seen a psychiatrist, psychologist, or counselor for personal concerns? For how long?
40. Do you smoke? (1 = Yes, 2 = No)
41. Do you maintain a high level of physical fitness? (1 = Rarely, 2 = Sometimes, 3 = Usually).
42. Do you eat a balanced diet each day? (1 = Rarely, 2 = Sometimes, 3 = Rarely)
43. Do you need to reduce body weight? (1 = Yes, 2 = No)
44. Do you need to increase body weight? (1 = Yes, 2 = No)



Section V. Athletic and Recreational Interests

45. For the following lists of athletic and recreational activities, please place an "X" in the column which best describes the degree of your interest and participation in that activity as it applies to you now and/or in the past.

Rating Scale for Question 45

- 1 = Not interested, rarely or never engage(d) in it for recreation  
 2 = Somewhat interested, sometimes engage(d) in it for recreation  
 3 = Interested, often engage(d) in it for recreation  
 4 = Interested, compete(d) in it (tournament and/or varsity team play)

Items

Baseball	Ballet
Basketball	Boating
Bowling	Canoeing/rafting
Boxing	Car racing
Cross country skiing	Dancing
Diving	Fishing
Downhill skiing	Hang-gliding
Figure skating	Hiking
Football	Horseback riding
Golf	Hunting
Gymnastics	Jogging
Handball/Racquetball	Motorcycling
Ice Hockey	Parachuting/skydiving
Rodeo	Rock/mountain climbing
Soccer	Skin-diving
Softball	Surfing
Swimming	Target/trap shooting
Tennis	Water skiing
Track and field	Other
Trampoline	Other
Volley ball	Other
Weight-lifting	Other
Wrestling	

Section VI. Interpersonal Relations

46. In general, I find it difficult to relate well to persons of the same sex. (5 point rating scale from 1 = very true of me to 5 = not at all true of me)
47. In general, I find it difficult to relate well to persons of the opposite sex. (5 point rating scale from 1 = very true of me to 5 = not at all true of me)
48. In general, I handle myself well at social gatherings. (5 point rating scale from 5 = very true of me to 1 = not at all true of me)

49. Please indicate how important to you the following personal characteristics are in persons of the same sex whom you choose as friends by placing an "X" in the appropriate column.

Rating Scale for Question 49

- |                          |                          |
|--------------------------|--------------------------|
| 1 = Not at all important | 4 = Moderately important |
| 2 = Not very important   | 5 = Very important       |
| 3 = Slightly important   |                          |

- a. Physical attractiveness--face
- b. Physical attractiveness--body
- c. Intelligence
- d. Emotional sensitivity
- e. Sense of humor
- f. "Outgoingness"
- g. Openness
- h. Self-confidence
- i. Recreational interests similar to yours
- j. Intellectual interests similar to yours
- k. Athletic interests similar to yours
- l. Social interests similar to yours
- m. Values/morals similar to yours
- n. Religious beliefs similar to yours
- o. Goals in life similar to yours
- p. Level of physical fitness

50. Please indicate how important to you the following personal characteristics are in persons of the opposite sex whom you choose as dating partners or mates.

(The same rating scale and items used for No. 49 are repeated)

51. When I was growing up, I tended to have:

- |                |                                 |
|----------------|---------------------------------|
| a. no friends  | b. I was "close" to no one      |
| 1 or 2 friends | I was "close" to 1 or 2 friends |
| 3 or 4 friends | I was "close" to 3 or 4 friends |
| many friends   | I was "close" to many friends   |

52. As an adult, I tend to have:

- |                |                                |
|----------------|--------------------------------|
| a. no friends  | b. I am "close" to no one      |
| 1 or 2 friends | I am "close" to 1 or 2 friends |
| 3 or 4 friends | I am "close" to 3 or 4 friends |
| many friends   | I am "close" to many friends   |

53. When I was growing up, I tended to play with my friends:

- mostly at their homes  
 mostly at my home  
 equally at their homes and my home

54. When I was growing up, my friends and I tended:

- to spend more time doing things with their families than with my family  
 to spend less time doing things with their families than with my family

to spend an equal amount of time with their families as with my family

55. When I was growing up, my friends tended to treat me differently after meeting:
- my mother
  - my father

(Rating scale: 1 = Usually, 2 = Sometimes, 3 = Seldom, 4 = Never)

56. Please check which of the adjectives below which best describe(s) your friends reactions to you after meeting each of your parents.
- my mother
  - my father

Adjectives:

envied you	pitied you
felt closer to you	sympathetic toward you
made fun of you	withdrew from you
more respect for you	other (specify)

Rating Scale for Items 57-64

1 = Usually	3 = Seldom
2 = Sometimes	4 = Never

(Reversed for items 59 and 60)

57. When I was growing up, I avoided introducing my friends to my mother.
58. When I was growing up, I avoided introducing my friends to my father.
59. When I was growing up, my friends tended to like my mother.
60. When I was growing up, my friends tended to like my father.
61. When I was growing up, my friends tended to be afraid of or feel uneasy with my mother.
62. When I was growing up, my friends tended to be afraid of or feel uneasy with my father.
63. When I was growing up, my friends made fun of my mother.
64. When I was growing up, my friends made fun of my father.
65. At what age did you begin dating?
66. As an adolescent, I tended to date:
- No one
  - One person at a time
  - Two or three persons at a time
  - Many persons at a time
67. As an adult (before meeting spouse), I tend(ed) to date:
- No one
  - One person at a time
  - Two or three persons at a time
  - Many persons at a time

68. As an adolescent, I dated:  
 Often  
 Sometimes  
 Seldom  
 Never
69. As an adult (before meeting spouse), I date(d):  
 Often  
 Sometimes  
 Seldom  
 Never

Items 70-80 correspond to items 54-64, with "When I was growing up" deleted and "dates" substituted for "friends."

70. Same as item No. 55  
 71. Same as item No. 56  
 72. Same as item No. 54  
 73. Same as item No. 57  
 74. Same as item No. 58  
 75. Same as item No. 59  
 76. Same as item No. 60  
 77. Same as item No. 61  
 78. Same as item No. 62  
 79. Same as item No. 63  
 80. Same as item No. 64

### Section VII. Parents

For each of the following questions, please put an "X" by the statement which best describes how you remember your mother and your father when you were growing up; that is, when you were between one and eighteen years old. Please answer each question separately for your mother and your father. Also, some questions refer to your family as a complete unit. "Family as a complete unit" includes your mother, your father, your brothers and sisters (if any), and yourself.

- 81a. My mother was employed:  
 81b. My father was employed:

(Alternatives: Full time, Part time, Not employed most of the time)

- 82a. My mother tended to be away from home:  
 82b. My father tended to be away from home:

(Alternatives: Most of the time, Some of the time, Little of the time)

- 83a. When my mother was home, she tended to spend much of her time:  
 83b. When my father was home, he tended to spend much of his time:

(Alternatives: Doing things with me and my family, by her/himself working, by her/himself pursuing her/his own interests)

84a. My mother tended to be:

84b. My father tended to be:

(Alternatives: 1 = Very protective of me, 2 = Somewhat protective of me, 3 = Not very protective of me, 4 = Not at all protective of me)

85a. My mother seemed to be \_\_\_\_\_ about the possibility of accidents and injuries happening to me.

85b. My father seemed to be \_\_\_\_\_ about the possibility of accidents and injuries happening to me.

(Alternatives: 1 = Very anxious, 2 = Somewhat anxious, 3 = Not very anxious, 4 = Not at all anxious)

86a. My mother did not want me to:

86b. My father did not want me to:

(Items: Dive off diving boards, off rocks, off docks, and/or boats; Ride a motorcycle; Jump on a trampoline; Ride in convertibles or jeeps; Climb rocks (or mountain climb); Play football; Climb trees; Snow ski; Water ski; Take part in gymnastics; Sky dive)

87. I was disciplined:

more often by my father than my mother

more often by my mother than my father

equally often by my father and my mother

88. Which of the following alternatives best describes how your parents made decisions:

My mother made most of the decisions about what I could do and not do.

My father made most of the decisions about what I could do and not do.

My mother and father made decisions about what I could do and not do about an equal amount of the time.

Rating Scale for Items 89-119

1 = Never                      3 = Sometimes

2 = Seldom                    4 = Usually

(Items 104 and 105 reversed)

89. My father played sports and games with me.

90. My mother played sports and games with me.

91. My father helped me with my school homework if I needed it.

92. My mother helped me with my school homework if I needed it.

93. My father taught me how to fix and make things, and to use tools.

94. My mother taught me how to fix and make things, and to use tools.

95. My father took me to movies, museums, and other places with him.

96. My mother took me to movies, museums, and other places with her.

97. My family as a complete unit went to movies, museums and other places together.

98. My father took me on outings, picnics, and camping trips.

99. My mother took me on outings, picnics, and camping trips.
100. My family as a complete unit went on outings, picnics, and camping trips together.
101. My father took me on out-of-town trips with him.
102. My mother took me on out-of-town trips with her.
103. My family as a complete unit went on out-of-town trips together.
104. My father seemed to be more cautious than my friends' fathers.
105. My mother seemed to be more cautious than my friends' mothers.
106. My father tended to yell at me when I did something wrong.
107. My mother tended to yell at me when I did something wrong.
108. My father tended to spank me when I did something wrong.
109. My mother tended to spank me when I did something wrong.
110. My father tended to reason with me when I did something wrong.
111. My mother tended to reason with me when I did something wrong.
112. My father tended to withdraw privileges from me when I did something wrong.
113. My mother tended to withdraw privileges from me when I did something wrong.
114. I tended to respond more quickly and willingly to my father's commands and requests than my friends seemed to respond to their fathers.
115. I tended to respond more quickly and willingly to my mother's commands and requests than my friends seemed to respond to their mothers.
116. My father expressed affection for me by touching me.
117. My mother expressed affection for me by touching me.
118. My father expressed affection for me verbally.
119. My mother expressed affection for me verbally.

#### Rating Scale for Items 120-137

- |                   |                |
|-------------------|----------------|
| 1 = Not at all    | 4 = Moderately |
| 2 = Not very much | 5 = Very much  |
| 3 = Slightly      |                |
- (Items 130-133 are reversed)

In the following questions, child refers to ages 0-12, adolescent to ages 13-18, and adult to ages 18 and older.

120. As a child, I was proud of my mother.
121. As a child, I was proud of my father.
122. As an adolescent, I was proud of my mother.
123. As an adolescent, I was proud of my father.
124. As an adult, I am proud of my mother.
125. As an adult, I am proud of my father.
126. As a child, I liked my mother.
127. As a child, I liked my father.
128. As an adult, I like my mother.
129. As an adult, I like my father.
130. As a child, I felt self-conscious about being seen in public with my mother.

131. As a child, I felt self-conscious about being seen in public with my father.
132. As an adolescent, I felt self-conscious about being seen in public with my mother.
133. As an adolescent, I felt self-conscious about being seen in public with my father.
134. As a child, I felt protective of my mother.
135. As a child, I felt protective of my father.
136. As an adolescent, I felt protective of my mother.
137. As an adolescent, I felt protective of my father.

Rating Scale for Items 138-151

1 = Often                                  3 = Seldom  
 2 = Sometimes                              4 = Never  
 (Items 138 and 139 are reversed)

138. When I was growing up, I remember helping my mother by running errands, doing odd jobs, and other things for her.
139. When I was growing up, I remember helping my father by running errands, doing odd jobs, and other things for him.
140. When I was growing up, I felt resentful about helping my mother.
141. When I was growing up, I felt resentful about helping my father.
142. When I was growing up, I felt that my father received more attention from my mother than I did.
143. When I was growing up, I felt that my mother received more attention from my father than I did.
144. When I was growing up and I became depressed or upset about something, I felt it was due to my mother's influence on me or her fault.
145. When I was growing up and I became depressed or upset about something, I felt it was due to my father's influence on me or his fault.
146. As a child, I wanted to have a different mother.
147. As a child, I wanted to have a different father.
148. As an adolescent, I wanted to have a different mother.
149. As an adolescent, I wanted to have a different father.
150. As an adult, I wish that I had had a different mother.
151. As an adult, I wish that I had had a different father.

Section VIII. Personal Attitudes

Rating Scale for Items 152-162

1 = Not at all characteristic of me      4 = Moderately characteristic of me  
 2 = Not very characteristic of me        me  
 3 = Slightly characteristic of me        5 = Very characteristic of me

For the following questions, please put an "X" in the column which best describes the degree to which the following personal attributes characterize you. The scale ranges from "very characteristic of you" to "not at all characteristic of you."

- 152. I tend to be persistent in most things that I do or try to do.
- 153. I tend to be a follower more often than a leader.
- 154. I tend to believe that I can overcome most any problem I encounter.
- 155. I tend to be patriotic (believe I have a duty to my country and to protect its way of life; I would fight in a war for our country).
- 156. I tend to couch tragedy in a humorous way or to see the funny side of unfortunate or unhappy events.
- 157. In comparison with most people I know, I tend to be sentimental.
- 158. While watching a sad movie or reading a sad book, I tend to cry.
- 159. I tend to "put up" with physical pain without talking to anyone about it.
- 160. I tend to judge negatively people who give up easily.
- 161. I tend to judge negatively people who complain about their physical problems.
- 162. I tend to feel sorry for people who are physically disabled.

Section IX. Open-Ended Questions for the Children of Spinal Cord Injured Fathers

- 1. Do you feel you have been handicapped in any way by virtue of having a father with a spinal cord injury? If so, in what ways.
- 2. Do you feel you have benefitted in any way by virtue of having a father with a spinal cord injury? If so, in what ways.
- 3. Have you noticed any particular ways in which you differ from other people you know as a result of having a spinal cord injured father? If so, in what ways. (For example, one child of a SCI father noticed that unlike his friends, he: 1) used a shovel only with his arms, rather than using his feet and arms to dig; 2) sawed boards by holding the board steady with his hand rather than using a knee and hand to hold the board steady. He learned to dig and saw in these ways by watching his paraplegic father.) Any examples like the above, or beliefs, attitudes, values, or personal characteristics can be included here.
- 4. Do you have any additional comments you would like to make about your experience of being the child of a spinal cord injured father?
- 5. Are there any areas not covered in the questionnaire which you think should be included in further research.



## APPENDIX E

### THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY: VALIDITY AND BASIC CLINICAL SCALES

#### Validity Indicators

1. The Cannot Say (?) Score
2. L (Lie) Scale
3. F (Frequency) Scale
4. K (Correction) Scale

#### Basic Clinical Scales

1. Hs (Hypochondriasis) Scale
2. D (Depression) Scale
3. Hy (Hysteria) Scale
4. Pd (Psychopathic Deviate) Scale
5. Mf (Masculinity-Femininity) Scale
6. Pa (Paranoia) Scale
7. Pt (Psychasthenia) Scale
8. Sc (Schizophrenia) Scale
9. Ma (Mania) Scale
10. Si (Social Introversion) Scale

## APPENDIX F

### THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE: FACTORS AND DESCRIPTION<sup>a</sup>

#### Factor

- A: SIZOTHYMLIA vs. AFFECTOTHYMLIA (reserved, detached, critical, aloof, stiff vs. warm, outgoing, easy going, participating)
- B: LOW INTELLIGENCE vs. HIGH INTELLIGENCE
- C: EMOTIONAL INSTABILITY OR EGO WEAKNESS vs. HIGHER EGO STRENGTH (affected by feelings, emotionally less stable, easily upset, changeable vs. emotionally stable, mature, faces reality, calm)
- D: PHLEGMATIC TEMPERAMENT vs. EXCITABILITY (undemonstrative, deliberate, inactive, stodgy vs. excitable, impatient, demanding overactive, unrestrained)
- E: SUBMISSIVENESS vs. DOMINANCE OR ASCENDANCE (obedient, mild, easily led, docile, accommodating vs. assertive, competitive, stubborn)
- F: DESURGENCY vs. SURGENCY (sober, taciturn, serious vs. enthusiastic, heedless, happy-go-lucky)
- G: LOW SUPEREGO STRENGTH OR LACK OF ACCEPTANCE OF GROUP MORAL STANDARDS vs. SUPEREGO STRENGTH OR CHARACTER (disregards rules, expedient vs. conscientious, persistent, moralistic, staid)
- H: THRECTIA vs. PARMIA (shy, timid, restrained, threat-sensitive vs. adventurous, thick-skinned, socially bold)
- I: HARRIA vs. PREMSIA (tough-minded, rejects illusions vs. tender-minded, sensitive, dependent)
- J: ZEPPIA vs. COASTHENIA (zestful, liking group action vs. circumspect, individualism, reflective)
- L: ALAXIA vs. PROTENSION (trusting, accepting conditions vs. suspecting, jealous)

---

<sup>a</sup>Low scores vs. high scores on all factors.

- M: PRAXERNIA vs. AUTIA (practical vs. imaginative, bohemian)
- N: NAIVETE vs. SHREWDNESS (forthright, unpretentious vs. astute, worldly)
- O: UNDISTURBED ADEQUACY vs. GUILT PRONENESS (self-assured, secure vs. apprehensive, self-reproaching)
- Q1: CONSERVATISM OF TEMPERAMENT vs. RADICALISM (Respecting established ideas, tolerant of traditional difficulties vs. experimenting, liberal, free thinking)
- Q2: GROUP DEPENDENCY vs. SELF-SUFFICIENCY (sociably group dependent, a joiner and sound follower vs. self-sufficient, resourceful, prefers own decisions)
- Q3: LOW SELF-SENTIMENT INTEGRATION vs. HIGH STRENGTH OF SELF-SENTIMENT (uncontrolled, lax, follows own urges, careless of social rules vs. controlled, exacting will power, socially precise, compulsive, following self-image)
- Q4: LOW ERGIC TENSION vs. HIGH ERGIC TENSION (relaxed, tranquil, unfrustrated vs. tense, frustrated, driven, fretful)

## APPENDIX G

### BODY-CATHEXIS SCALE: INSTRUCTIONS, RATING SCALE, AND ITEMS

#### Instructions

On the following pages are listed a number of things characteristic of yourself or related to you. You are asked to indicate which things you are satisfied with exactly as they are, which things you worry about and would like to change if it were possible, and which things you have no feelings about one way or the other.

Consider each item listed below and place an "X" by the statement which best represents your feelings.

#### Rating Scale

1. Have strong feelings and wish change could somehow be made.
2. Don't like, but can put up with.
3. Have no particular feelings one way or the other.
4. Am satisfied.
5. Consider myself fortunate.

#### Original 46 Items

hair	exercise	legs
facial complexion	ankles	teeth
appetite	neck	forehead
hands	shape of head	feet
distribution of hair	body build	sleep
over body	profile	voice
nose	height	health
fingers	age	sex activities
elimination	width of shoulders	knees
wrists	arms	posture
breathing	chest	face
waist	eyes	weight
energy level	digestion	sex (male or female)
back	hips	back view of head
ears	skin texture	trunk
chin	lips	

Additional Six Items

Breasts  
Buttocks

Size of sex organs  
Appearance of sex  
organs

General Muscle tone  
or development  
Overall body appear-  
ance

## APPENDIX H

### BEM SEX ROLE INVENTORY: INSTRUCTIONS, RATING SCALE, AND ITEMS

#### Instructions

On the following page, you will be shown a large number of personality characteristics. We would like you to use those characteristics in order to describe yourself. That is, we would like you to indicate, on a scale from 1 to 7, how true of you these characteristics are. Please do not leave any characteristic unmarked.

#### Rating Scale

1. Never or almost never true
2. Usually not true
3. Sometimes but infrequently true
4. Occasionally true
5. Often true
6. Usually true
7. Always or almost always true

#### Items

<u>Masculine Items</u>	<u>Feminine Items</u>	<u>Social Desirability Items</u>
Acts as a leader	Affectionate	Adaptable
Aggressive	Cheerful	Conceited
Ambitious	Childlike	Conscientious
Analytical	Compassionate	Conventional
Assertive	Does not use harsh language	Friendly
Athletic	Eager to soothe hurt feelings	Happy
Competitive	Feminine	Helpful
Defends own beliefs	Flatterable	Inefficient
Dominant	Gentle	Jealous
Forceful	Gullible	Likable
Has leadership abilities	Loves children	Moody
Independent	Loyal	Reliable
Individualistic	Sensitive to the needs of	Secretive
Makes decisions easily	others	Sincere
Masculine	Shy	Solemn
Self-reliant	Soft spoken	Tactful

<u>Masculine Items</u>	<u>Feminine Items</u>	<u>Social Desirability Items</u>
Self-sufficient	Sympathetic	Theatrical
Strong personality	Tender	Truthful
Willing to take a stand	Understanding	Unpredictable
Willing to take risks	Warm	Unsystematic
	Yielding	

## APPENDIX I

### ROKEACH VALUE SURVEY: INSTRUCTIONS AND ITEMS

#### Instructions

On the next page are 18 values listed in alphabetical order. Your task is to arrange them in order of their importance to YOU, as guiding principles in YOUR life. Each value is printed on a gummed label which can be easily peeled off and pasted in the boxes on the left hand side of the page.

Study the list carefully and pick out the one value which is the most important for you. Peel it off and paste it in Box 1 on the left.

Then pick out the value which is second most important for you. Peel it off and paste it in Box 2. Then do the same for each of the remaining values. The value which is least important goes in Box 18.

Work slowly and think carefully. If you change your mind, feel free to change your answers. The labels peel off easily and can be moved from place to place. The end result should truly show how you really feel.

#### Terminal Values

A comfortable life  
(a prosperous life)  
An exciting life  
(a stimulating, active life)  
A sense of accomplishment  
(lasting contribution)  
A world at peace  
(free of war and conflict)  
A world of beauty  
(beauty of nature and the arts)  
Equality (brotherhood, equal  
opportunity for all)  
Family security  
(taking care of loved ones)  
Freedom  
(independence, free choice)  
Happiness  
(contentedness)  
Inner harmony  
(freedom from inner conflict)

#### Instrumental Values

Ambitious  
(hard-working)  
Broadminded  
(open-minded)  
Capable  
(competent, effective)  
Cheerful  
(lighthearted, joyful)  
Clean  
(neat, tidy)  
Courageous  
(standing up for your beliefs)  
Forgiving  
(willing to pardon others)  
Helpful (working for the  
welfare of others)  
Honest  
(sincere, truthful)  
Imaginative  
(daring, creative)



Mature love (sexual and spiritual intimacy)	Independent (self-reliant, self-sufficient)
National security (protection from attack)	Intellectual (intelligent, reflective)
Pleasure (an enjoyable, leisurely life)	Logical (consistent, rational)
Salvation (saved, eternal life)	Loving (affectionate, tender)
Self-respect (self-esteem)	Obedient (dutiful, respectful)
Social recognition (respect, admiration)	Polite (courteous, well-mannered)
True friendship (close companionship)	Responsible (dependable, reliable)
Wisdom (a mature (understanding of life)	Self-controlled (restrained, self-disciplined)

## APPENDIX J

### PARENT-CHILD RELATIONS QUESTIONNAIRE II: DESCRIPTION OF THE FIVE PARENT BEHAVIOR SCALES<sup>a</sup>

#### Loving

Parents were warm, affectionate, and helpful; respected their child's point of view and encouraged him to express it; made him feel wanted and important; reasoned with him and explained harmful consequences when he did wrong things; helped their child to live comfortably with himself, and made it easy for him to confide in them.

#### Rejecting

Parents were too busy to answer questions; did not spend any more time with their child than they had to; did not take him into consideration in making plans; ridiculed and made fun of him; complained about him; paid no attention to him; and did not try to help their child learn things.

#### Casual

Parents set very few rules for their child; gave him as much freedom as he wanted; let him off easy when he did something wrong; let him stay up as late as he liked; did not object when he was late for meals; were easy with him; did not bother much about enforcing rules.

#### Demanding

Parents punished their child hard enough when he misbehaved to make sure that he would not do it again; made it clear that they were the bosses; demanded unquestioning respect; punished their child by being more strict about rules and regulations; expected prompt and unquestioning obedience.

#### Attention

Parents spoiled their child; relaxed rules and regulations as a reward; gave him candy or ice cream as a reward; gave their child

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<sup>a</sup>Siegelman and Roe, Manual for the Parent-Child Relations Questionnaire II, 1977, p. 6.

special attention as a reward; rewarded him by giving him money or increasing his allowance; gave him new things as a reward, such as toys.

## APPENDIX K

### FRIEND SCALE: INSTRUCTIONS, RATING SCALES, AND ITEMS

We are studying the influence, if any, that physical disability in a parent may have on children. To do this, we have asked young adult children of spinal cord injured fathers and young adult children of nondisabled parents to complete a packet of questionnaires. As part of this study, we are also asking that a close friend of these adult children complete this short rating questionnaire.

We would like you to read carefully each question and answer it to the best of your knowledge. Please answer each question honestly. Your answers will be kept strictly confidential and anonymous. Your answers will not be shown to your friend. Also, when we receive this rating scale from you, we will remove your friend's name and replace it with a code number which matches the rest of your friend's questionnaires.

When you finish this questionnaire, please put it in the envelope provided and mail it directly to us. We thank you for your cooperation.

If you would rather not participate in the study, it will in no way affect your friend's participation in the study. If you do wish to participate, we will assume that you are giving your consent to participate by filling out the rating scale and returning it to us.

Name of your friend

Your age

Your sex

Nature of your relationship (e.g., friend, relative, dating partner, etc.)

1. Please rate your friend's general health  
(5 point rating scale from 1 = not at all healthy to 5 = very healthy)
2. Please rate the degree to which your friend participated in athletic activities for recreation, competition, etc.  
(5 point rating scale from 1 = not at all active to 5 = very active)
3. Please indicate how often your friend tends to experience the following:

Rating Scale for Question 3

1 = often	3 = Rarely
2 = sometimes	4 = Never

- a. Allergies
- b. Asthma
- c. Back pain
- d. Undue fatigue at the end of a day
- e. Headache
- f. Migraine
- g. Stomach and/or intestinal upset
- h. Ulcer

4. To what extent did you treat your friend differently after meeting his/her:

- a. mother
- b. father

(Rating Scale: 1 = very much, 2 = somewhat, 3 = not very, 4 = not at all)

5. Please check which of the adjectives below best describe(s) your reactions to your friend after meeting each of his/her parents.

- a. mother
- b. father

Adjectives:

Envied your friend

Pitied your friend

Felt closer to your friend

Sympathetic toward your friend

Made fun of your friend

Withdrew from your friend

More respect for your friend

6. My friend and I tend to:

spend more time doing things with his/her family than with mine.

spend less time doing things with his/her family than with mine.

spend an equal amount of time doing things with his/her family as with mine.

7. Please indicate the degree to which your friend avoided introducing you to his/her father. (Rating scale from 1 = very much to 5 = not at all)

8. Please indicate the degree to which you felt the following about your friend's father.

Rating Scale for Question 8

1 = very much      4 = not very much

2 = moderately    5 = not at all

3 = slightly

(Items a and c are reversed)

- a. I like my friend's father.
- b. I tend to be afraid of or feel uneasy with my friend's father.
- c. I respect my friend's father.
- d. I make fun of my friend's father.
- e. I avoid being around my friend's father.

9. Please indicate the degree to which each of the following attributes characterize your friend.

Rating Scale for Question 9

1 = not at all characteristic                      4 = moderately characteristic  
2 = not very characteristic                      5 = very characteristic  
3 = slightly characteristic

- a. Tends to be persistent in most things that (s)he tries to do.
- b. Tends to be a follower more than a leader.
- c. Tends to be sentimental (cries at sad movies, books, goodbyes).
- d. Tends to put up with pain without complaining.
- e. Tends to couch tragedy in a humorous way; sees the funny side of unfortunate events.
- f. Tends to blame his/her father when (s)he gets upset or depressed about something.
- g. Tends to be proud of his/her father.
- h. Tends to handle himself well at social gatherings.
- i. Tends to be patriotic (believes (s)he has a duty to his/her country).
- j. Tends to judge negatively people who give up easily.
- k. Tends to wish that (s)he had a different father.

APPENDIX L

SUMMARY OF MEASURES ON WHICH DISABLED PARENT AND  
COMPARISON CHILDREN DIFFER SIGNIFICANTLY<sup>a</sup>

Measure	Disabled Parent	Comparison	p
16PF: Factor A	4.07	5.28	.005
PCR II: Mother Casual-Demand	45.32	49.56	.05
<u>Rokeach Value Survey</u>			
A World at Peace	8.25	11.50	.05
National Security	14.38	16.77	.005
Clean	11.86	16.10	.001
Logical	14.69	10.50	.001
Obedient	15.67	17.00	.05
Responsible	5.00	6.90	.05
<u>Buck-Hohmann Questionnaire</u>			
Athletics Total Score	72.49	66.67	.05
Mother Discipline: Spank	2.68	2.08	.005
Mother Discipline: Withdraw Privileges	2.82	2.42	.05
Father Discipline: Withdraw Privileges	2.87	2.39	.05
Quick Response to Mother's Requests	3.18	2.67	.01
Quick Response to Father's Requests	3.33	2.81	.01
Father: Expresses Physical Affection	3.11	2.44	.005
Father: Expresses Verbal Affection	3.13	2.64	.05
Attitude toward Father	33.29	30.94	.05
Protective of Father	7.27	5.25	.001
Protective of Mother	6.80	5.36	.05
Help Father	3.69	3.31	.01
Couch Tragedy in a Humorous Way	2.76	3.56	.005
Judge Negatively People who Complain	3.53	2.89	.01
Feel Sorry for Disabled People	2.69	3.56	.005

<sup>a</sup>Scores for Disabled Parent and Comparison children are means, except for the Rokeach Value Survey, which are medians.

APPENDIX M

MEAN SCORES AND F-RATIOS FOR MEASURES ON WHICH  
MALES AND FEMALES DIFFER SIGNIFICANTLY

Measure	Males	Females	F <sup>a</sup>
MMPI: Cannot Say	42.44	41.20	4.44 <sup>c</sup>
MMPI: Infrequency	59.13	53.14	5.48 <sup>c</sup>
MMPI: Depression	56.91	50.57	5.53 <sup>c</sup>
MMPI: Masculinity-Feminity	65.28	46.84	50.60 <sup>d</sup>
16PF: Factor A	3.94	5.04	8.63 <sup>d</sup>
PCR II: Mother Attention	26.03	23.50	6.74 <sup>c</sup>
<u>Buck-Hohmann Questionnaire</u> <sup>b</sup>			
Athletics Total Score	76.69	65.47	14.46 <sup>d</sup>
No. Dangerous Sports	7.34	4.76	10.35 <sup>d</sup>
No. Nondangerous Sports	14.31	11.43	7.55 <sup>c</sup>
Value Emotional Sensitivity in Friends and Dates	7.47	8.78	13.55 <sup>d</sup>
Value Sense of Humor in Friends and Dates	8.25	9.10	8.88 <sup>d</sup>
Value Similar Interests in Friends and Dates	6.50	7.13	3.88 <sup>c</sup>
Friends Reaction to Subject After Meeting Father	3.19	3.57	5.17 <sup>c</sup>
Dates Reaction to Subject After Meeting Father	3.38	3.67	5.13 <sup>c</sup>
Father Protective of Subject	2.31	1.78	10.21 <sup>d</sup>
Father Discipline: Spank	2.53	2.06	5.87 <sup>c</sup>
Father Discipline: Withdraw Privileges	3.00	2.43	6.25 <sup>c</sup>



Measure	Males	Females	<u>F</u> <sup>a</sup>
Self-conscious of Father	6.78	8.00	4.80 <sup>c</sup>
Help Mother	3.38	3.69	5.13 <sup>c</sup>
Personality Characteristic: Sentimentality	3.27	4.19	17.75 <sup>d</sup>

<sup>a</sup>For F-ratios, df range from 1 and 75 to 1 and 77.

<sup>b</sup>Higher scores on the Buck-Hohmann questionnaire indicate "more" except for Father Protective of Subject and Self-conscious of Father.

<sup>c</sup> $p \leq .05$

<sup>d</sup> $p \leq .005$

APPENDIX N

DEPENDENT MEASURES ON THE BUCK-HOHMANN QUESTIONNAIRE ON WHICH  
 DISABLED PARENT AND COMPARISON CHILDREN WERE COMPARED VIA  
 ANALYSIS OF VARIANCE (GROUP x SUBJECT SEX)  
 AND CHI SQUARE

Measure	Analysis <sup>a</sup>	p
<u>Section IV: Health Patterns</u>		
No. Hospitalizations (31a + b)	<u>F</u> (1, 76) = .24	<u>ns</u>
No. Surgeries (32)	<u>F</u> (1, 76) = .27	<u>ns</u>
Psychological Help (39)	<u>χ</u> <sup>2</sup> (1) = .05	<u>ns</u>
No. Psychological Hospitalizations (31c)	<u>F</u> (1, 76) = 1.28	<u>ns</u>
Illness Index (33)	<u>F</u> (1, 76) = .83	<u>ns</u>
No. Physician Visits (35)	<u>F</u> (1, 77) = 1.76	<u>ns</u>
Psychosomatic Index No. 37 (37)	<u>F</u> (1, 77) = 1.31	<u>ns</u>
Psychosomatic Index No. 38 (38)	<u>F</u> (1, 77) = 3.60	.06
Overall Health Care (40-44 total)	<u>F</u> (1, 77) = .13	<u>ns</u>
<u>Section V: Athletics</u>		
Athletics Total (45 total)	<u>F</u> (1, 77) = 4.46	.05
No. Dangerous Activities (45)	<u>F</u> (1, 77) = .57	<u>ns</u>
No. Nondangerous Activities (45)	<u>F</u> (1, 77) = 3.34	.07
<u>Section VI: Interpersonal Relations</u>		
Social Skill Index (46-48 total)	<u>F</u> (1, 77) = .24	<u>ns</u>
Value Physical Attractiveness (49a + b/2 + 50a + b/2)	<u>F</u> (1, 77) = .21	<u>ns</u>
Value Intelligence (49c + 50c)	<u>F</u> (1, 77) = 1.39	<u>ns</u>
Value Emotional Sensitivity (49d + 50d)	<u>F</u> (1, 77) = .90	<u>ns</u>
Value Sense of Humor (49e + 50e)	<u>F</u> (1, 77) = .27	<u>ns</u>
Value Similar Interests (49i + j + k + 1/4 + 50i + j + k + 1/4)	<u>F</u> (1, 77) = .09	<u>ns</u>
Value Similar Morals/Religion (49m + n/2 + 50m + n/2)	<u>F</u> (1, 77) = .03	<u>ns</u>

Measure	Analysis <sup>a</sup>	p
Value Similar Goals in Life (49o + 50o)	$F(1, 77) = .31$	<u>ns</u>
No. Friends Growing Up (51a)	$\chi^2(2) = .61$	<u>ns</u>
No. Friends as Adult (52a)	$\chi^2(3) = 1.42$	<u>ns</u>
Closeness to Friends Growing Up (51b)	$\chi^2(3) = 3.90$	<u>ns</u>
Closeness to Friends as Adult (52b)	$\chi^2(3) = 4.51$	<u>ns</u>
No. Dates as Adolescent (66)	$\chi^2(3) = 4.46$	<u>ns</u>
No. Dates as Adult (67)	$\chi^2(3) = .92$	<u>ns</u>
Frequency of Dating as Adolescent (68)	$\chi^2(3) = .96$	<u>ns</u>
Frequency of Dating as Adult (69)	$\chi^2(3) = 6.38$	.10
Time Spent with Friend's Family (54)	$\chi^2(2) = 5.15$	.08
Time Spent with Date's Family (72)	$\chi^2(2) = 3.48$	<u>ns</u>
Avoid Introducing Friend to Father (58)	$F(1, 77) = .05$	<u>ns</u>
Avoid Introducing Date to Father (74)	$F(1, 77) = .39$	<u>ns</u>
Friend's reaction to Subject (55)	$F(1, 75) = 3.01$	.09
Date's reaction to Subject (70)	$F(1, 75) = .15$	<u>ns</u>
Positive reaction of friend to Subject (56)	$\chi^2(1) = 2.03$	<u>ns</u>
Positive reaction of date to Subject (71)	$\chi^2(1) = .56$	<u>ns</u>
Negative reaction of friend to Subject (56)	$\chi^2(1) = 1.59$	<u>ns</u>
Negative reaction of date to Subject (71)	$\chi^2(1) = .03$	<u>ns</u>
Friend reaction to Father (60 + 62 + 64)	$F(1, 77) = .05$	<u>ns</u>
Date reaction to Father (76 + 78 + 80)	$F(1, 77) = .39$	<u>ns</u>
<u>Section VII: Parent-Child Relations</u>		
Mother Time Home (82a)	$\chi^2(2) = .27$	<u>ns</u>
Father Time Home (82b)	$\chi^2(2) = 3.54$	<u>ns</u>
Mother Time with Family (83a)	$\chi^2(1) = .05$	<u>ns</u>
Father Time with Family (83b)	$\chi^2(1) = 2.10$	<u>ns</u>
Mother Protective of Subject (84a)	$F(1, 73) = 2.20$	<u>ns</u>

Measure	Analysis <sup>a</sup>	p
Father Protective of Subject (84b)	$F(1, 73) = .04$	<u>ns</u>
Mother Cautious (105)	$F(1, 73) = 3.42$	.07
Father Cautious (104)	$F(1, 73) = .21$	<u>ns</u>
Mother anxious (85a)	$F(1, 73) = 1.90$	<u>ns</u>
Father anxious (85b)	$F(1, 73) = .93$	<u>ns</u>
No. Forbidden Activities by Mother (86a)	$F(1, 76) = 2.05$	<u>ns</u>
No. Forbidden Activities by Father (86b)	$F(1, 76) = 1.03$	<u>ns</u>
Discipline Pattern (87)	$\chi^2(2) = 1.32$	<u>ns</u>
Decisions Pattern (88)	$\chi^2(2) = .53$	<u>ns</u>
Father Participation (89 + 91 + 93 + 95 + 97 + 98 + 100 + 101 + 103)	$F(1, 76) = .01$	<u>ns</u>
Mother Participation (90 + 92 + 94 + 96 + 97 + 99 + 100 + 102 + 103)	$F(1, 76) = 1.65$	<u>ns</u>
Father plays sports and games (89)	$F(1, 76) = .86$	<u>ns</u>
Mother Discipline: Yell (107)	$F(1, 76) = .04$	<u>ns</u>
Father Discipline: Yell (106)	$F(1, 75) = .31$	<u>ns</u>
Mother Discipline: Spank (109)	$F(1, 76) = 8.58$	.005
Father Discipline: Spank (108)	$F(1, 75) = .38$	<u>ns</u>
Mother Discipline: Reason (111)	$F(1, 76) = 1.31$	<u>ns</u>
Father Discipline: Reason (110)	$F(1, 75) = .74$	<u>ns</u>
Mother Discipline: Withdraw Privileges (113)	$F(1, 76) = 4.14$	.05
Father Discipline: Withdraw Privileges (112)	$F(1, 75) = 5.23$	.05
Quick Response to Mother's Requests (115)	$F(1, 76) = 6.76$	.01
Quick Response to Father's Requests (114)	$F(1, 75) = 7.72$	.01
Mother: Expresses Physical Affection (117)	$F(1, 76) = 3.35$	.07
Father: Expresses Physical Affection (116)	$F(1, 76) = 9.47$	.005
Mother: Expresses Verbal Affection (119)	$F(1, 76) = 1.46$	<u>ns</u>
Father: Expresses Verbal Affection (118)	$F(1, 76) = 4.85$	.05

Measure	Analysis <sup>a</sup>	p
Attitude toward Mother (120 + 122 + 124 + 126 + 128 + 146 + 148 + 150)	$F(1, 75) = .34$	<u>ns</u>
Attitude toward Father (121 + 123 + 125 + 127 + 129 + 147 + 149 + 151)	$F(1, 75) = 3.93$	.05
Self-conscious about Mother (130 + 132)	$F(1, 75) = .26$	<u>ns</u>
Self-conscious about Father (131 + 133)	$F(1, 75) = 3.20$	.08
Protective of Mother (134 + 136)	$F(1, 75) = 5.96$	.05
Protective of Father (135 + 137)	$F(1, 76) = 12.50$	.001
Help Mother (138)	$F(1, 76) = .00$	<u>ns</u>
Help Father (139)	$F(1, 76) = 7.30$	.01
Resent Mother (140)	$F(1, 76) = .01$	<u>ns</u>
Resent Father (141)	$F(1, 76) = .00$	<u>ns</u>
Mother attention to Father (142)	$F(1, 76) = .16$	<u>ns</u>
Attribution to Mother (144)	$F(1, 76) = .88$	<u>ns</u>
Attribution to Father (145)	$F(1, 76) = .00$	<u>ns</u>
<u>Section VII: Personal Attitudes</u>		
Persistence (152)	$F(1, 76) = .51$	<u>ns</u>
Personal Power (154)	$F(1, 76) = 1.20$	<u>ns</u>
Couch Tragedy in Humorous Way (156)	$F(1, 77) = 8.90$	.005
Sentimentality (157 + 158/2)	$F(1, 77) = .62$	<u>ns</u>
Judge Negatively People who give up Easily (160)	$F(1, 77) = 3.17$	.08
Judge Negatively People who Complain (161)	$F(1, 77) = 6.85$	.01
Feel Sorry for Disabled People (162)	$F(1, 77) = 10.57$	.005

<sup>a</sup>F-Ratios and significance levels are those for comparisons between Disabled Parent and Comparison groups. Main effects for subject sex and interactions are not included in this appendix.

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