

GENDER DIFFERENCES IN PARENTING STRESS AND
PSYCHOLOGICAL WELL-BEING BETWEEN
MOTHERS AND FATHERS OF CHILDREN WITH DISABILITIES

BY

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A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements for the Degree of

MASTER OF SOCIAL WORK

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ABSTRACT

This thesis was conducted under the aegis of the Family Strengths in Childhood Disability Project (FSCD), a longitudinal study examining the service experiences of parents of young children with developmental disabilities in Manitoba (Trute, Hiebert-Murphy, Wright, & Levine, 2004). For the purposes of this study a sub-sample was drawn from the FSCD dataset and included all two-parent families interviewed at Time 1 of the longitudinal study. The sample consisted of mothers ($M = 35$ years, $SD = 7$ years) and fathers ($M = 38$ years, $SD = 8$ years) of children with disabilities. Children with disabilities had an average age of four years ($SD = 3$ years), with a gender distribution of 58% male and 42% female. The purpose of this thesis was to examine gender differences in parenting stress and psychological well-being between mothers and fathers of children with disabilities. Another purpose was to assess how child, family, and parent characteristics related to the parenting stress and well-being of mothers and fathers of children with disabilities. This study found that mothers of children with disabilities reported significantly higher levels of overall parenting stress and lower levels of self-esteem than did fathers. There were no significant gender differences in positive or negative affect. Parents' stress and well-being scores were correlated. Maternal parenting stress was related to the age of children with disabilities, type of disability, and perceived satisfaction with family and friendship support. Paternal parenting stress was related to the age of children with disabilities, children's gender and type of disability. Mothers' well-being was related to children's gender and type of disability. Fathers' well-being was related to disability severity, type of disability and informal and friendship support. This research suggests the importance for practice of including both mothers and fathers of children with disabilities in professional family assessments and interventions.

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INTRODUCTION

An estimated 708,000 Canadian children possess disabilities of varying types and severity, representing diverse cultures, all socioeconomic strata and geographic regions (Canadian Institute of Child Health, 2000). Children with disabilities have rejoined their family systems after a lengthy history of existence within institutions, distant from family and communities. Despite the abundant positive implications of this transition, Canadian society continues to expel children with disabilities and their families from full and active participation through exclusionary policies and disregard for the unique needs of this population (Hanvey, 2002). Inclusive societies seek to provide meaningful interaction, value diversity of human experience and aspire to appreciate the distinct experiences of children with disabilities and their families (Hanvey, 2002). This literature review explores various implications of childhood disability for family systems with an emphasis on parental stress. Research suggests that mothers and fathers have different experiences in parenting their child with disabilities (Beckman, 1991; Rousey, Best, & Blancher, 1992). In order to gain an in-depth analysis of parenting stress in families of children with disabilities, gender differences in predictors of parental stress between mothers and fathers are investigated.

IMPLICATIONS OF CHILDHOOD DISABILITY FOR THE FAMILY SYSTEM

Decades of extensive empirical evidence claim that the addition of a child with disabilities to a family results in various ramifications for family systems. Existing research clusters around the themes of implications for parental roles, marital satisfaction, parental mental health, family isolation, and parenting stress.

PARENTAL ROLES

The addition of children to the family system results in adjustment of roles and responsibilities. For families of children with disabilities, the transformation in parental role function is frequently more pronounced (Schilling, Schinke, & Kirkham, 1985). In fact, Kazak and Marvin (1984) argue that family systems need to restructure roles in order to cope and adapt successfully to childhood disability. Research indicates that families of children with disabilities tend to follow traditional gender roles, with mothers completing more child care tasks and fathers engaged in employment outside the home (Schilling et al., 1985). "For many couples, the presence of a young, disabled child in the home will polarize parental roles in which the mother is drawn to providing special care for her child while the father is drawn to the role of sole financial provider for the family" (Trute, 1995, p.1227).

MARITAL SATISFACTION

"The importance of the parental unit has been well established in the family literature as the executive center (Minuchin, 1974) and pivotal dyad (Satir, 1964) of the family system" (Trute & Hauch, 1988, p.191). Marital satisfaction is imperative in families affected by childhood disability, as relationship cohesiveness is vital to positive coping and adapting to a child with disabilities (Trute & Hauch, 1988). Empirical evidence yields inconsistent results in terms of implications for marital satisfaction among couples parenting a child with disabilities. Some research advocates that child disability has been linked with decreased marital satisfaction for both parents (Bristol, Gallagher, & Schopler, 1988; Rousey et al., 1992; Willoughby & Glidden, 1995). Bristol

et al. (1988) determined that parents of children with disabilities, particularly fathers, reported increased marital difficulties compared to parents of children without disabilities. Gath (1978) found a higher level of marital separation and divorce in families of children with Down syndrome. Parents of young children with disabilities have demonstrated diminished consensus and engaged in heightened disagreements (Trute, 1990). Crnic, Friedrich, and Greenberg (1983) concluded that marital satisfaction decreases over time in families affected by childhood disability and is influenced by severity of disability, age and gender of the child with disabilities and the quality of the marital relationship prior to the child's birth. However, other research portrays a lack of difference between families with and without children with disabilities in terms of marital satisfaction (Kazak & Marvin, 1984; Kazak, Reber, & Carter, 1988; Waisbren, 1980). For example, both mothers of children with spina bifida (Kazak & Marvin, 1984) and fathers of children with Down syndrome (Hornby, 1995) reported high marital satisfaction.

PARENTAL MENTAL HEALTH

Empirical research on the mental health status of parents impacted by childhood disability also generates inconsistent results. Some older studies indicate that mothers and fathers of children with disabilities are prone to anxiety and depression (Cummings, 1976; Cummings, Bayley, & Rie, 1966). Cummings (1976) argued that fathers of children with disabilities suffered from depression and lowered levels of self-esteem in comparison to a control group, while Kazak and Marvin (1984) determined that mothers' elevated parenting stress led to maternal depression. Trute (1995) demonstrated that mothers of young children with disabilities who reported reduced marital satisfaction and

lacked respite support were most at risk for depression. However, other research was unable to determine a significant difference between parents of children with and without disabilities in terms of mental health status (Bristol et al., 1988). Trute and Hauch (1988) demonstrated an absence of depression and impaired self-esteem among mothers of children with disabilities in resilient families, while (Hornby, 1995) concluded that fathers of children with Down syndrome did not experience elevated levels of depression.

FAMILY ISOLATION

Families affected by childhood disability have disclosed reduced access to social support networks and increased social isolation (Friedrich & Friedrich, 1981; Kazak & Marvin, 1984; M^cAndrew, 1976). "Having a child who places special, and sometimes extraordinary, demands upon the family may result in less time and energy for contacts with informal support networks" (Kazak, 1987, p.138). In particular, Kazak and Wilcox (1984) determined that families of children with spina bifida possessed limited friendship networks. Contradictory evidence indicates that families of children with disabilities do possess adequate social support (Dyson & Fewell, 1986). Both Dyson (1997) and Kazak (1987) found that families of children with disabilities experience similar levels of perceived social support compared to families unaffected by child disability.

PARENTING STRESS

Stress has been defined as a stimulus, a response and a transaction between an individual and his / her environment (Matheny, Aycock, Pugh, Curlette, & Silva Cannella, 1986). "Stimulus models view stress as a psychosocial demand leading to personal strain" (Matheny et al., 1986, p. 501). Response models portray stress "in terms

of the individual's response to external demands, as indicated by specific physiological changes" (Goldberg, Marcovitch, MacGregor, & Lojkasek, 1986, p. 611). Transactional models conceptualize stress as a perceived stressful interaction between the person and his / her environment (Lazarus, 1966; Matheny et al., 1986). Goldberg et al. (1986) conceptualize stress in terms of "the balance between persons' resources and the demands they confront...when demands exceed the individual's capacity to meet them, physical and psychological symptoms of distress emerge" (Goldberg et al., 1986, p. 611). Krauss (1993) distinguishes between child-related and parenting stress. "Child-related stress refers to behavioral and temperamental qualities of a child (e.g., distractability, mood, demandingness) that make it difficult for parents to fulfill their parenting roles" (Krauss, 1993, p. 395). Meanwhile, parenting stress is defined as "parents' functioning (e.g., depression, sense of competence, relations with spouse) that may compromise their ability to parent effectively or may signal dysfunction of the parent-child system" (Krauss, 1993, pp. 395-396).

Various models have sought to decipher variables that account for differences among families in their response to stressful life circumstances and adaptation processes (Frey et al., 1989). Family stress theories aim to discern "why some families are better able to negotiate their way through transitions and tragedies...while other families...give up or are easily exhausted" (M^cCubbin & M^cCubbin, 1991, p. 3). Hill's (1958) ABCX family crisis model represents the original theory delineating the variability among family reactions to multiple stressors (Minnes, 1988). Hill (1958) proposed that the stressor's characteristics (A); family resources (B); and the family's definition of the

stressor (C); interact and contribute to either the prevention or precipitation of the family crisis (X). McCubbin and Patterson (1983) have further clarified each element of the ABCX model. The stressor has been defined as a life event or alteration, which can potentially produce adjustment and transformation in the family system. "This change may be in various areas of family life such as its boundaries, goals, patterns of interaction, roles, or values" (McCubbin & Patterson, 1983, p. 8). Family resources include "the family's ability to prevent an event of change in the family social system from creating a crisis or disruptiveness in the system" (McCubbin & Patterson, 1983, p. 8). Examples of resources include family integration (common interests and mutual affection), the ability of the system to meet family members' needs, and the capacity to overcome obstacles (McCubbin & Patterson, 1983). The family's definition of the stressor encompasses their subjective interpretation. "This subjective meaning reflects the family's values and their previous experience in dealing with change and meeting crises" (McCubbin & Patterson, 1983, p. 9). Finally, family crisis is defined as "the family's inability to restore stability...In other words, stress may never reach crisis proportions if the family is able to use existing resources and define the situation so as to resist systemic change and maintain family stability" (McCubbin & Patterson, 1983, p. 10). The ABCX model delineates that families will access support resources when the child's difficulties challenge the family's coping ability (Floyd & Gallagher, 1997). Hill's (1958) ABCX model has been criticized for assuming the individual variables "operate in a relatively mechanistic, linear, and cause-and-effect manner" (Burr & Klein, 1994, p. 31).

M^cCubbin and Patterson (1983) utilized the foundation of Hill's (1958) ABCX family crisis model and incorporated various revisions in order to produce the Double ABCX model of adjustment and adaptation. M^cCubbin and Patterson (1983) argue families rarely contend with a single stressor. The aA factor denotes a pile-up of stressors experienced by the family system, which could potentially include the initial stressor; life cycle transitions; strains resulting from previous unresolved hardships; stressful coping mechanisms; or family system boundary ambiguity. Family resources transform to the bB factor in the Double ABCX model and include both existing and expanded resources (M^cCubbin & Patterson, 1983). Existing resources "are already part of the family's repertoire and serve to minimize the impact of the initial stressor and reduce the probability that the family will enter into crisis" (M^cCubbin & Patterson, 1983, p. 15). Meanwhile, expanded resources are "new resources...strengthened or developed in response to the additional demands emerging out of the crisis situations or as a result of pile-up" (M^cCubbin & Patterson, 1983, p. 15). The family's definition of stressors is represented by the cC factor in the Double ABCX model. The cC factor includes the family's understanding of the crisis-precipitating stressor; pile-up stressors; existing and expanded resources; as well as an estimation of how the system can maintain balance. Hill's (1958) conceptualization of the resultant crisis within the family system is replaced by family adaptation, or the xX factor, in the Double ABCX model. Family adaptation is actualized through relationships between individual family members, the family system and the overall community (M^cCubbin & Patterson, 1983). Adaptation is achieved when the demands of one of these entities "are met by the capabilities of another so as to

achieve a balance simultaneously at two primary levels of interaction” (M^cCubbin & Patterson, 1983, p. 18).

Research by Abidin (1992) forms the conceptual foundation for this study. Abidin (1986) originally asserted that elevated parenting stress resulted in dysfunctional parenting. However, subsequent research refutes the existence of a linear relationship between the variables (Abidin, 1992). Instead, parenting stress is influenced by multiple environmental, behavioral, sociological and personality factors including employment, marital relationship, life events as well as parent and child characteristics (Abidin, 1992). Stressors are appraised in terms of the potential beneficial or harmful impact on the parental role. “Parenting stress is, thus, the result of a series of appraisals made by each parent in the context of his or her level of commitment to the parenting role” (Abidin, 1992, p. 410). Thus, parenting stress research acknowledges that child outcomes and parent-child interactions are a function of the complex interplay between parents, children and environment. Abidin’s (1992) model is similar to the cognitively focused transactional model of stress proposed by Lazarus and Folkman (1984). According to Lazarus and Folkman (1984), stress results from a transaction between an individual and the environment that is perceived to be stressful and threatening to well-being. Stress originates from a perceived imbalance between environmental demands and individual resource capacity. Differences among individual stress responses result from unique appraisals of demands and resources as well as each individual’s way of relating to general life events (Hobfoll, 1989).

Family systems display a plethora of reactions to the birth of a child with disabilities. Some families respond with a severe stress reaction and struggle to adjust, while others accommodate readily and view the addition of a child with disabilities as a positive event leading to personal growth (Trute, 1995). "Providing care at home for a developmentally disabled child can evoke a range of emotional responses in parents and across family systems" (Trute, 1995, p. 1225). Stainton and Besser (1998) outline various favorable implications of parenting a child with disabilities including: "increased sense of purpose and priorities; expanded personal and social networks and community involvement; increased spirituality; source of family unity and closeness; and increased tolerance and understanding" (Stainton & Besser, 1998, p. 57). Despite beneficial ramifications, many families inevitably experience elevated stress as a result of caring for their child with disabilities (Crnic et al., 1983; Gallagher, Cross & Scharfman, 1981; Kazak, 1987; Kazak & Marvin, 1984; Waisbren, 1980).

Extensive empirical evidence supports the notion that childhood disability results in amplified stress on the family system (Crnic et al., 1983; Gallagher et al., 1981; Kazak, 1987; Kazak & Marvin, 1984; Waisbren, 1980). Specifically, Crnic et al. (1983) determined that families of children with disabilities are more prone to emotional and financial stress. Research indicates that families of children with disabilities experience higher stress levels than family systems that are unaffected by childhood disability (Beckman, 1991; Beckman & Pokorni, 1988; Bristol et al., 1988; Friedrich & Friedrich, 1981; Goldberg et al., 1986). For example, Kazak and Marvin (1984) determined that families of children with spina bifida reported more stress than families of children

devoid of disability. Beckman (1991) concluded that families of pre-school children exhibiting a wide range of disabilities reported elevated stress compared to a control group matched with respect to demographic characteristics.

In particular, the parental subsystem in families of children with disabilities is at risk of experiencing elevated stress (Beckman, 1991; Dyson, 1996; Dyson & Fewell, 1986; Friedrich & Friedrich, 1981; Kazak & Marvin, 1984; Noh, Dumas, Wolf, & Fisman, 1989; Waisbren, 1980). Parental stress is a complex, dynamic and recurrent process that frequently undergoes transformations over time and ebbs and flows throughout the family life cycle (Baxter, Cummins, & Yiolitis, 2000; Dyson & Fewell, 1986; Wikler, 1986). Wikler, Wasow, and Hatfield (1981) assert that parents of children with disabilities experience continuous periods of stress and adaptation over time. Parenting stress frequently erupts throughout the family life cycle as the child with disabilities faces new challenges or is unable to make normal developmental gains (Wikler, 1986). "Studies of parental adaptation provide reasonably firm evidence that parents of children with disabilities, in general, are more likely than other parents to suffer from stress, anxiety and depression" (Sloper & Turner, 1993, p. 167). For example, Dyson (1996) reported parents of children with learning disabilities experienced elevated parenting stress. Dyson and Fewell (1986) observed an elevation in parental stress among parents of pre-school children with disabilities compared to a control group. Erickson and Upshur (1989) found mothers of children with disabilities were exposed to more child care burdens and stress than mothers of children without disabilities. Fathers of children with disabilities have also been determined to experience heightened parental stress

compared to fathers of children without disabilities (Cummings, 1976; Tavormina, Boll, Dunn, Luscomb, & Taylor, 1981).

PREDICTORS OF PARENTING STRESS

Abundant explanations account for the stress experienced within the parental subsystem in families of children with disabilities. M^cCubbin, Cauble and Patterson (1982) identified categories wherein parents affected by childhood disability experience stress including financial difficulties, strained emotional family systems, decrease in leisure time, impact on employment outside the home, social isolation, time burdens due to medical needs, contact with professional systems, and grieving. Dyson (1997) summarized parental stressors of school-age children with disabilities as discrepancies between the child's physical and developmental capability, securing educational placements, hardships in finding respite care providers, and lack of information in raising adolescent children with disabilities. Parents frequently face severe financial strain due to additional costs related to the disability "for tutors, special diets, special clothing, transportation, babysitting, medications, supplies and equipment, and home adaptations" (Hanvey, 2002, p. 9). Children may also require specialized therapy, toys, and teaching (Schinke, Blythe, Schilling, & Barth, 1981). Ample evidence supports the notion that elevated stress experienced by parents of children with disabilities results from intense child care, medical, and educational demands that strain family resources (Hanson & Hanline, 1990; Kazak, 1987; Kazak & Marvin, 1984; Smith, Oliver, & Innocenti, 2001). These demands continue throughout childhood and adulthood "and require continuous

adaptation by the parents to both ongoing stressors and frequent crises” (Floyd & Gallagher, 1997, p. 359).

Past decades have produced extensive investigation into and contradictory results regarding the characteristics of children with disabilities that result in elevated parental stress (Beckman, 1983). High parenting stress levels have been detected across numerous types of child disabilities (Beckman, 1991). However, families of autistic and conduct disordered children reported higher stress than families of children with Down syndrome, thus suggesting certain types of disabilities are more stressful for families (Holroyd & McArthur, 1976; Noh et al., 1989). “Down’s Syndrome can mean early confirmation of the disability, clarity regarding its etiology, and easier access to services” (Trute, 1995, pp. 1237-1238).

Acceleration in parental stress has also been linked with severity of child disability (Dyson & Fewell, 1986; Frey, Greenberg, & Fewell, 1989; Meyer, 1985; Smith et al., 2001). Distinct child care demands presented by children with severe disabilities lead to significant parenting stress and disruption in family relationships (Beckman, 1991; Floyd & Gallagher, 1997; Rousey et al., 1992). Some children require increased aid with washing, dressing, feeding and toilet training (Kazak & Marvin, 1984). In particular, heightened parental stress has been linked with lack of communication ability (Frey et al., 1989); feeding difficulties (Sloper & Turner, 1993); multiple disabilities; night-time disturbance; lack of responsiveness and repetitive behaviors (Cameron, Dobson, & Day, 1991). Smith et al. (2001) found children’s lack of social skills presented more stress for parents than deficiencies in motor, communication or cognitive abilities.

However, Krauss (1993) and Bristol (1987b) were unable to establish a relationship between parental stress and disability severity. Trute (1990) also argues that the severity of disability in pre-school age children with disabilities is a poor predictor of parental adaptation.

Meanwhile, Floyd and Gallagher (1997) found that the presence of repetitive child behavior problems was more significant in predicting parenting stress than type or severity of disability. Children with disabilities have been found to display additional behavioral difficulties when compared to children without disabilities (Dykens, 2000; Gortmaker, Walker, Weitzman & Sobol, 1990; Kazak & Marvin, 1984; Rousey et al., 1992). Gortmaker et al. (1990) also demonstrated that family adaptation and coping declined as the child's conduct issues increased in severity. However, Trute (1990) refutes the existence of a significant relationship between child temperament and family adaptation for families of pre-school age children with disabilities.

In the past, male children with disabilities were found to cause elevation in parental stress (Farber, 1972; Frey et al., 1989; Tallman, 1965). However, more recent research has refuted any relationship between the gender of the child with disabilities and family adjustment (Krauss, 1993; Trute, 1990).

Empirical evidence asserts that parents of older children with disabilities report higher parenting stress (Bristol, 1979; Bristol & Schopler, 1984; Farber, 1975; Gallagher, Beckman, & Cross, 1983). Orr, Cameron, Dobson, and Day (1993) found elevated stress in parents of children in the middle childhood age range ($M = 9.4$ years). Orr et al. (1993) reason that children with disabilities have higher infant mortality rates or children may

live in alternative care arrangements by adolescence. Middle childhood is also stressful due to involvement with the education system. Krauss (1993) and Beckman (1991) were unable to establish any correlation between child age and parental stress.

Analyses of the family characteristics that are associated with elevated parental stress have also been initiated (Beckman, 1983). Parenting stress has been related to growth in family size (Trute, 1990) and birth order of the child with disabilities, with subsequent children producing increased stress (Reddon, McDonald, & Kysela, 1992). Palfrey, Walker, Butler, and Singer (1989) concluded that parents with higher educational levels report elevated parenting stress. Palfrey et al. (1989) reason that families with less education may experience stress from a variety of sources (such as poverty and unemployment) and be unable to pinpoint any major source of stress. Dyson (1991) corroborated this finding by determining that parental stress among middle socioeconomic status parents was correlated with caring for children with disabilities.

Despite evidence that childhood disability results in elevated stress for family systems and parental subsystems, families of children with disabilities vary greatly in terms of the nature and extent of stress experienced (Dyson, 1997). In particular, two parent families are less likely to experience stress in parenting a child with disabilities due to the care-giving relief available from an additional parent (Beckman, 1983). Erickson and Upshur (1989) warn "that families of children with disabilities should not be considered a homogeneous group in terms of perceived stresses and articulated needs" (p. 251). Many families are able to adapt and cope effectively with parenting their child with disabilities without significant impairment (Bristol, 1987b; Carr, 1984; Gallagher et

al., 1981; Krauss, 1993; Reddon et al., 1992). Beckman (1991) asserts that stress does not consistently result in distress or family dysfunction and, in fact, most parents possess normal psychological functioning (Tavormina et al., 1981). "Family practitioners should not assume that the presence of a young, disabled child will inevitably mean family distress" (Trute, 1990, p. 296). According to Abidin (1986), parents of children with disabilities frequently score higher on the Child Domain than the Parent Domain of the Parenting Stress Index (Abidin, 1983), a finding which suggests that, despite care-taking hardships and elevated stress, many parents continue to perform their parenting roles well. Floyd and Gallagher (1997) propose that families are disrupted by the birth of a child with disabilities, however, relationship quality and family well-being frequently remain intact. Furthermore, stress and family disruption are significantly reduced when families adapt to the child care demands of the child with disabilities (Floyd & Gallagher, 1997). Stress frequently results from a "combination of factors, such as the presence of multiple stresses, the life-cycle stage of the family, the family's interpretation of their situation and the integration of the family prior to the birth of the child" (Byrne & Cunningham, 1985, p. 852).

IMPLICATIONS OF STRESS

Research conducted into the concept of stress is vital due to the myriad of detrimental implications for human functioning. For example, chronic life stress frequently results in "a lowering of one's energy levels, ineffective cognitive processes, performance failures, ruptures in interpersonal relationships, flattened affect, a weakened immune system, and degenerative diseases of various kinds" (Matheny et al., 1986,

p. 500). Other impacts of stress include “increased irritability, narrowed perception, concentration and attention deficits, anxiety...restlessness, speech dysfluencies, sleep disturbances, avoidance behaviors and tremors” (Matheny et al., 1986, p. 507).

Empirical studies analyzing parenting stress are explicitly imperative for multiple reasons. Early identification and intervention in stressful parent-child interactions possess the capability of diminishing children’s present and future behavioral and emotional disturbances. In particular, the first three years of a child’s life are critical to the development of the parent-child bond and the child’s development (Abidin, 1995). The presence of elevated parenting stress influences the well-being of both parents and children and has been connected to a variety of additional detrimental outcomes (Deater-Deckard & Scarr, 1996). Parenting stress has been linked to poverty (Webster-Stratton, 1990); insecure parent-child attachment and bonding (Teti, Nakagawa, Das, & Wirth, 1991); decreased parenting satisfaction (Koeske & Koeske, 1990); child abuse and neglect (Rodriguez & Green, 1997); decreased marital satisfaction (Lavee, Sharlin, & Katz, 1996); as well as harsher authoritarian parenting behavior (Emery & Tuer, 1993). Thus, research into parental stress provides practitioners with knowledge of risk factors and enables them to assist families in circumventing the adverse implications of chronic life and parenting stress.

CRITIQUE OF EMPIRICAL EVIDENCE

Despite the empirical evidence demonstrating family systems of children with disabilities are prone to heightened stress, research on the specific parent and child characteristics that predict parenting stress remains inconclusive (Innocenti, Huh, &

Boyce, 1992). Bryne and Cunningham (1985) explain empirical discrepancies by highlighting underlying assumptions of prior research. The vast majority of early child disability research was based on the pejorative premise that family systems would inevitably experience elevated distress and dysfunction (Bryne & Cunningham, 1985). However, contemporary empiricism assumes that stress does not consistently result in psychopathology. Family stress is a consequence of unmet service needs and all families experience stress and possess internal resources and coping mechanisms to mediate stressful circumstances (Byrne & Cunningham, 1985).

Dyson (1991) asserts that methodological weaknesses have led to conflicting results in the child disability stress research. "The inconsistencies in the literature appear to be due to methodological inadequacies, inappropriate control groups, small and poorly defined samples, and the use of inadequate and inappropriate measures" (Tunali & Power, 1993, p. 948). Byrne and Cunningham (1985) contend that historical research neglected important variables, such as the age of the child with disabilities, type of disability and socioeconomic status. The following methodological inadequacies in the childhood disability research have been illustrated: lack of control groups and objective measuring tools (Dyson, 1991; Erickson & Upshur, 1989; Kazak, 1987); unequal comparison groups; minimal sample sizes; utilization of a wide range of child ages, family socioeconomic statuses and types of disabilities (Dyson, 1991; Erickson & Upshur, 1989); and collection of only maternal self reports (Kazak, 1987).

STRESS AND GENDER DIFFERENCES

In order to decipher gender differences in parental subsystems of families affected by childhood disability, it remains paramount to acquire comprehension of the discrepancies between men and women in the general population. Wethington, M^oLeod and Kessler (1987) argue men and women experience similar levels of stress, however contend the care-giving roles frequently occupied by women are inherently stressful. A vast array of research alleges that “women suffer from more psychological distress than do men because the stressors in women’s roles are more intense and persistent” (Wethington et al., 1987, p. 144). Fowers (1991) found married men demonstrated less mental health concerns than married women. In fact, the largest discrepancy in mental health exists between married men employed outside the home and married women employed inside the home, with men faring far better than women. Women who care for children, particularly young children, are at greater risk of distress and psychological problems than men or women without children (Fowers, 1991). Hooymans and Gonyea (1995) assert women remain the primary caretakers of others, which can result in stress and strain. Women also continue to be over-represented in occupations that meet the needs of others in distress, such as nursing, social work and teaching. Thus, prompting Belle (1987) to note “many women, ‘already gave at the office’ when they come home to provide support to members of their informal social networks” (p. 265). Recent family research concludes that fathers’ participation in child care escalates with an increase in mothers’ employment hours (Bonney, Kelley, & Levant, 1999) and proportion of family income (Ishii-Kuntz & Coltrane, 1992). Increased paternal participation in child care has

resulted in marital satisfaction for both parents (Deutsch, Lozy, & Saxon, 1993). Men also increase their contribution with home maintenance as women's wages escalate (Potuchek, 1992).

Men and women who fulfill multiple roles, such as working inside and outside the home, are more vulnerable to depression and anxiety (Rosenfield, 1989). Brannon (1996) asserts that women are more prone to stress than men and that women's source of stress is frequently related to the occupation of multiple parental and employment roles. Employment outside the home has been shown to have positive effects on psychological functioning for both men and women. However, women are more prone to experience stress from the role overload of work and family responsibilities (Brannon, 1996). Brannon (1996) contends that the degree of strain from each role is imperative in determining the extent of overall stress experienced. According to Aneshensel and Pearlin (1987), participation in certain roles has the potential to mitigate stressors of other roles; "having a positive experience in one role can offset the stressful effects associated with having a negative experience in another role" (Barnett & Baruch, 1987, p. 136). The source of stress from combining family and outside employment originates from the problematic integration of roles and depends on the demands and commitment to each role (Aneshensel & Pearlin, 1987). Thus, mothers employed in the workforce who feel stress in each role are at high risk for depression (Brannon, 1996). Rosenfield (1992) argues that men are also subject to stress resulting from role overload. Barnett, Marshall, and Pleck (1992) found that both work and family roles are equally significant in determining men's stress and well-being. Rosenfield (1992) demonstrated that men who

were employed outside the home and increased their contribution to family care and domestic duties suffered from elevated mental health difficulties. Also men and women who were employed outside the home and had equal distribution of family tasks displayed similar levels of depression and anxiety. Despite these findings, Rosenfield (1992) concedes that the burden of caring for the family and home falls disproportionately to women. Thus, women who fulfil multiple roles both inside and outside the home are more at risk than men to experience stress and depression. Both men and women experience role strain when their partners do not support them (Greenberger & O'Neil, 1993).

In addition to stress resulting from fulfilling care-giving tasks and role overload, women are at much greater risk than men of experiencing sexual, physical and emotional abuse as well as poverty, prompting elevation in stress and mental health issues (Brannon, 1996). Pearlin and Schooler (1978) concluded that women possessed lower self-esteem than men. According to Wethington et al. (1987), women are frequently more affected by acute stressors, despite similar numbers of stressful life events experienced by men and women. However, contradictory research indicates that women adjust and cope better than men with certain stresses, including financial difficulties, loss of a spouse and divorce (Kessler, 1982; Stroebe & Stroebe, 1983).

REVIEW OF GENDER DIFFERENCES IN PARENTING STRESS RESULTING FROM CARING FOR A CHILD WITH DISABILITIES

Gender variations in parental stress resulting from caring for a child with disabilities remain inconclusive (Nagy & Ungerer, 1990). Certain research studies are unable to conclude any significant difference in parenting stress between mothers and

fathers (Dyson, 1997; Krauss, 1993; Nagy & Ungerer, 1990). Others state that mothers experience elevated parenting stress compared to fathers (Beckman, 1991; Bristol et al., 1988; Kazak, 1987). Still other researchers argue that fathers are more prone to parenting stress than mothers (Cummings, 1976; Gayton, Friedman, Tovormina, & Tucker, 1977). Inconsistent findings frequently result from utilizing a limited number of fathers in the sample and relegating fathers to indirect participants (Nagy & Ungerer, 1990). Discrepant literature prompted Krauss (1993) to recommend that "further research is clearly needed to clarify the onset of and durability of significant differences between mothers and fathers in such a central issue as parenting stress" (p. 401).

Some research has ascertained that mothers and fathers of children with disabilities experience equivalent levels of parenting stress (Hagborg, 1989). Noh et al. (1989) found that mothers and fathers of children with Down syndrome, autism and conduct disorder experienced similar levels of parenting stress and more stress than the control group. Krauss (1993) detected mothers and fathers of pre-school children with disabilities experienced consistent levels of parenting stress. Scott, Sexton, Thompson, and Wood (1989) were also unable to determine a gender difference in stress experienced by mothers and fathers of pre-school children with cerebral palsy, developmental delay and Down syndrome. Nagy and Ungerer (1990) discerned that mothers and fathers of children with cystic fibrosis did not differ significantly in terms of parenting stress. Rousey et al. (1992) found coinciding parenting stress in mothers and fathers of children with severe disabilities. Dyson (1997) concluded that mothers and fathers of school-age children with disabilities experienced analogous levels of parenting stress and more stress

than parents of children without disabilities. However, the study was hampered by a small sample size consisting of participants from only middle socioeconomic status. Knafl and Zoeller (2000) studied the impact of school-age children's chronic illness on family life and determined that mothers and fathers related congruent experiences. However, a minority of mothers in the sample articulated more parenting stress than fathers.

Various researchers claim that mothers are more prone to experience parenting stress than fathers in families where a child suffers from a disability or chronic illness (Bailey Jr., Blasco & Simeonsson, 1992; Beckman, 1991; Bristol et al., 1988; Goldberg et al., 1986; Kazak & Marvin, 1984; Milgram & Atzil, 1988; Tavormina et al., 1981; Timko, Stovel & Moos, 1992). In addition to elevated stress, mothers of children with disabilities also exhibit heightened depression and perceive the disability as creating more dilemmas for the family than fathers (Bristol et al., 1988; Kazak & Marvin, 1984; Tavormina et al., 1981). Mothers of children with disabilities have "been shown to experience more constrictions on their personal freedom and development, to have poorer health, to feel more sensitive about the degree to which the child fits into the community, and to be more attuned to marital harmony" (Kazak & Marvin, 1984, p. 68). Brand and Coetzer (1994) studied the impact of a child's hearing impairment on parental functioning and found that mothers were more stressed, expressed less satisfaction with family life and had less leisure time than fathers. Dashiff (1993) found that mothers of adolescent females with diabetes expressed more stress and guilt over the illness than fathers. Kazak and Marvin (1984) determined that mothers of children with spina bifida

experienced more stress than fathers. Fathers did report elevated stress scores, however, the study lacked a statistically significant difference in stress between fathers of children with disabilities and the control group (Kazak & Marvin, 1984). Similarly, Kazak (1987) discovered that mothers of children with disabilities experienced higher parenting stress levels than a control group, while a significant difference between fathers' stress and control participants was lacking. Reddon et al. (1992) found both mothers and fathers were impacted by parenting stress, however, mothers reported more overall stress than fathers. Sloper and Turner (1993) also delineated that both parents of children with disabilities were at higher risk for substantial parenting stress, but concede that mothers are more prone to stress than fathers. Studies of disabled school-age children report that fathers experience lower levels of parental stress than mothers and increased life satisfaction (Kazak & Marvin, 1984; Milgram & Atzil, 1988; Tavormina et al., 1981). However, Dyson (1997) asserts that these studies were plagued by methodological weaknesses. Milgram and Atzil (1988) as well as Tavormina et al. (1981) lacked comparison groups comprised of parents of children without disabilities. Thus, results "cannot be assessed in terms of whether they represent typical families or adaptational patterns unique to families with a child who has disabilities" (Dyson, 1997, p. 268). Beckman (1991) compared mothers and fathers of children with and without disabilities and delineated that mothers of children with disabilities experience more stress than fathers in the Parent domain of the Parenting Stress Index (Abidin, 1983), while both parents experienced elevated stress in the Child domain. "Thus, mothers and fathers

clearly had different perceptions of the effect of their child on their lives” (Beckman, 1991, p. 592).

Research arguing that fathers are more prone to stress than mothers (Cummings, 1976) continues to be reported in the child disability stress literature. Cummings (1976) advised that fathers of children with disabilities experienced increased parenting stress than mothers, however, mothers reported decreased self-esteem and less interpersonal satisfaction. According to Beckman (1991), not all parents in Cummings’s (1976) sample were part of a couple.

GENDER DIFFERENCES WITHIN VARIABLES THAT PREDICT PARENTING STRESS

Literature focusing on gender differences between mothers and fathers of children with disabilities in terms of variables that predict parenting stress converges around child characteristics, parental employment, parental mental health, and social support networks.

CHILD CHARACTERISTICS

Gender differences exist within the parenting stress research in terms of the impact of child disability severity, temperament and behavior issues, child gender as well as parental attachment to the child. Maternal parenting stress has been linked to a variety of child characteristics, including burdensome care-taking demands (Beckman, 1983) and severity of child disability (Minnes, 1988; Sloper, Knussen, Turner, & Cunningham, 1991; Sloper & Turner, 1993). This is due to mothers’ commitment to the primary care-taking role for their children (Sloper et al., 1991; Sloper & Turner, 1993). Floyd and Gallagher (1997) assert that mothers perform more child care responsibilities than fathers

and therefore, experience elevated stress from time and care-taking demands. Beckman (1991) argues that mothers perform more extensive care-taking than fathers. Mothers contribute additional time caring for children with disabilities “on average, they spend 50 to 60 hours per week on personal care, advocacy, coordination of services and transportation...all of this is in addition to time they put into general domestic responsibilities and paid work” (Hanvey, 2002, p. 13). Rousey et al. (1992) determined that mothers perform the majority of child care tasks, however, acknowledge that children with severe disabilities may require both parents to perform extensive child care duties. Fathers have been found to participate equally with mothers in care-taking responsibilities of children with severe disabilities (Simmerman et al., 2001; van der Giessen, 1991). Both parents have expressed exorbitant parenting stress resulting from the limited communication ability of their child with disabilities, however, discrepancy remains as to which parent experiences more stress. While Frey et al. (1989) claim fathers reported greater stress, Sloper and Turner (1993) assert that mothers are more affected by their child’s lack of communication. Reddon et al. (1992) determined that fathers were more adversely impacted by their child’s intellectual delay than mothers. Despite research that disability severity impacts paternal stress, Sloper and Turner (1993) as well as Sloper et al. (1991) were unable to determine any connection. “The fathers, who did not take the main caretaking role,...appeared to be reacting to different stressors...their own unemployment...financial problems and strain from life events in the past year” (Sloper et al., 1991, p. 671). Hornby (1995) utilized a sample composed of fathers of children with Down syndrome to disprove any correlation between paternal

stress and severity of disability. In fact, Hornby (1995) demonstrated that paternal adaptation to their child with disabilities hinged on marital satisfaction and contentment with social support rather than any child characteristic.

Maternal parenting stress has been linked to behavior problems (Sloper et al., 1991) and repetitive behaviors (Beckman, 1983) in children with disabilities. However, a causal relationship between any one child characteristic and maternal parenting stress remains non-existent (Beckman, 1983). Employment outside the home has been proven to moderate the negative impact of child behavior problems on maternal parenting stress (Sloper et al., 1991). Fathers also perceive elevated stress resulting from the difficult behaviors of their child with disabilities (Floyd & Gallagher, 1997). In fact, some research has demonstrated that fathers of children with disabilities associated greater stress with arduous child behavior than mothers (Goldberg et al., 1986; Krauss, 1993). However, Sloper et al. (1991) were unable to establish a correlation between paternal stress and child behavior, reasoning that fathers were less distressed by temperament as they conducted less care-giving responsibilities.

Research on the effects of the gender of the child with disabilities on parental stress has also yielded inconsistencies. Some research demonstrates that fathers are more affected than mothers by the gender of their child with disabilities (Frey et al., 1989; Schilling et al., 1985; Tavormina et al., 1981). In particular, fathers are more apt than mothers to endure hardship with the acceptance of a disabled son (Frey et al., 1989). Frey et al. (1989) reason that fathers mourn the opportunity to engage in recreational activities with their children. Seligman and Darling (1989) propose "fathers are more anxious than

are mothers about future occupational achievement and long term social status facing their disabled children. This may be of heightened concern to fathers when their disabled youngster is a male" (Trute, 1995, p. 1237). Trute (1995) also determined that fathers of less severely disabled sons displayed heightened depression and suggests that fathers "can accept this circumstance more fully when their son is seriously incapacitated but find it more difficult to accept when disabilities are marginal" (Trute, 1995, p. 1237). Despite evidence that fathers struggle with adjustment to male children with disabilities, neither Hornby (1995) nor Krauss (1993) were able to confirm a correlation between paternal stress and child gender. In contrast, Sloper and Turner (1993) demonstrated that fathers adapted better to male children with disabilities than mothers. Sloper et al. (1991) claim that paternal stress resulting from a son with disabilities is moderated by the absence of additional financial stressors and satisfaction with the marital relationship.

Research indicates that fathers struggle more than mothers with acceptance and formation of emotional attachments to their children with disabilities (Beckman, 1991; Krauss, 1993). In particular, Krauss (1993) determined that fathers had increased difficulty with attachment to their children with Down syndrome who had motor impairment or developmental delay. Thus, research suggests that "fathers may be at greater risk than mothers in the development of strong affective ties to their young children who have disabilities" (Krauss, 1993, p. 394). Despite this evidence, Sloper and Turner (1993) were incapable of corroborating that mothers' acceptance of children with disabilities was greater than fathers.

PARENTAL EMPLOYMENT

Both parents of children with disabilities face challenges to labor force participation and career advancement (Hanvey, 2002). Barriers to employment include unaffordable and exclusionary child care; lengthy child medical appointments; day appointments with service providers; unsupportive and inflexible supervisors and workloads; as well as the “additional physical and emotional demands of caring for a child with disabilities” (Hanvey, 2002, p. 10). Parents of children with disabilities frequently work reduced hours; reject promotions and overtime; and ultimately vacate the paid labor force as a result of additional child care demands, with mothers in two parent families abandoning the labor force more often than fathers (Irwin & Lero, 1997). Reddon et al. (1992) conclude that mothers experienced less capability to engage in employment outside the home due to care-giving responsibilities of the child with disabilities. Paternal employment, particularly career mobility and promotion, may also be adversely affected by childhood disability (Hauenstein, 1990). Employment outside the home may serve to alleviate maternal parenting stress and left mothers better equipped to cope with their children with disabilities, whereas both maternal and paternal unemployment escalated mothers’ stress (Sloper et al., 1991; Sloper & Turner, 1993). Despite evidence that maternal stress diminishes with outside employment, mothers attribute more stress to child characteristics, while fathers cite unemployment and financial hardships as generating greater stress (Hornby, 1995; Sloper et al., 1991).

PARENTAL MENTAL HEALTH

Parenting stress is affected by the mental health status of mothers and fathers of children with disabilities (Abidin, 1995). Extensive empirical evidence demonstrates that mothers of children with disabilities report more depression and less self-esteem than fathers (Beckman, 1991; Bristol et al., 1988; Goldberg et al., 1986; Timko et al., 1992; Trute, 1995). Mothers of young children with disabilities engage in more self-blame for the disability (Frey et al., 1989) and experience greater role restriction (Hauenstein, 1990). Holroyd (1974) found mothers reported a lack of opportunities for personal development, decreased positive mood and compromised health compared to fathers. Maternal depression can result in punitive and aggressive parenting tactics leading to child emotional dysfunction while also affecting marital relationship quality (Hauenstein, 1990). Mothers of children with cystic fibrosis who were highly emotionally and concretely supported in child care-taking by their spouse demonstrated less mental health complications (Nagy & Ungerer, 1990). Fathers' mental health has also been affected by childhood disability and hinges on their own and their partners' perceptions of stress associated with raising a child with disabilities (Dyson, 1997; Nagy & Ungerer, 1990). Despite extensive research that mothers of children with disabilities are more prone to mental health issues, Longo and Bond (1984) determined that fathers were at higher risk for psychological problems. Meanwhile, Krauss (1993) was unable to determine any significant difference between mothers and fathers in terms of depression or self-confidence. Krauss's (1993) research findings may result from the use of younger

children with disabilities as Bristol and Schopler (1984) determined that parental depression is higher in parents of older children with disabilities.

SOCIAL SUPPORT NETWORKS

Social support is embodied within the attachments among human beings and assists in adaptation to crises, life transitions and chronic stress through the provision of material and financial resources, emotional concern, problem-solving guidance as well as information sharing (Goldberg et al., 1986; Kazak & Marvin, 1984). "Social contacts can provide support in a variety of ways. They may provide useful information, practical help with daily tasks, emotional bolstering, or companionship" (Nagy & Ungerer, 1990, p. 148). Accessibility of social support services is related to successful parental adaptation to children with disabilities and depleted parenting stress (Bailey & Smith, 2000; Floyd & Gallagher, 1997; M^cCubbin & Patterson, 1983). Beckman (1991) also asserts that social networks, particularly informal support, mediate parental stress. Dunst, Trivette and Cross (1986) assert "parental satisfaction with support and the number of sources of support have been shown to be positively related to family integrity, parental perceptions of child functioning, parent-child play opportunities, and child behavior and outcome" (Hanson & Hanline, 1990, p. 235). Wilcox (1981) determined successful adaptation to children with disabilities results from an extensive social support network. However, others have demonstrated that families' satisfaction with the quality of support is paramount in diluting stress, rather than network size (Dunst et al., 1986; Hornby, 1995; Kazak & Marvin, 1984; Webster-Stratton, 1990). Family systems affected by childhood disability frequently possess dense constricted social networks comprised of

family members, which further elevate stress for the parental subsystem (Kazak, 1987; Kazak & Marvin, 1984). Social network density refers to “the extent to which members of the social network know and interact with one another, independently of the focal person” (Kazak, 1987, p. 139).

Women are more likely than men to initiate, receive and be satisfied with multiple emotionally intimate contacts throughout their life cycle thereby broadening their social support network (Brannon, 1996), whereas men frequently seek support solely from their female partners (Belle, 1987). Research conducted on the parental subsystem of families affected by childhood disability have confirmed these gender differences and ascertained that mothers have access to and utilize wider social support networks than fathers (Goldberg et al., 1986; Hauenstein, 1990; Waisbren, 1980). Mothers are more apt to seek support when under duress, while fathers are less likely and are therefore at greater risk of social isolation and lack of external support from friends, relatives or coworkers (Reddon et al., 1992). Mothers of children with disabilities receive greater support from friendships, maternal grandparents and professionals, while fathers were more supported by their place of employment and female partners (Goldberg et al., 1986; Nagy & Ungerer, 1990; Reddon et al., 1992; Schilling et al., 1985). Frey et al. (1989) found that mothers placed more importance on the quantity of child care-taking assistance contributed by the social network than fathers. Perceived criticism of parenting style from the support network had a more profound impact on fathers and resulted in increased paternal stress (Frey et al., 1989). Frey et al. (1989) reason women are less affected by perceived criticism as they perform greater child care tasks and have more access to

supportive networks than fathers. Despite evidence that mothers access broader social networks than fathers, divergent research concludes a lack of significant difference in perceived social support between mothers and fathers across a range of child ages and disabilities (Beckman, 1991; Dyson, 1997; Nagy & Ungerer, 1990). Krauss (1993) found mothers and fathers of pre-school children with Down syndrome, motor impairment and developmental delay reported similar levels of social support and satisfaction with support received. Krauss (1993) also argues there is an overemphasis on maternal support networks and lack of research “on paternal supports and on their role in buffering fathers from deleterious outcomes” (Krauss, 1993, p. 395).

CONCLUSION

The preceding research review of gender differences in parenting stress between mothers and fathers affected by childhood disability yields contradictory evidence (Nagy & Ungerer, 1990). Despite documentation that the parental subsystem suffers equal stress resulting from childhood disability, (Dyson, 1997; Krauss, 1993; Nagy & Ungerer, 1990), contrary research argues that mothers are more prone to parenting stress than fathers (Beckman, 1991; Bristol et al., 1988; Kazak, 1987).

Gender differences in the predictors of parenting stress resulting from caring for a child with disabilities also remain inconclusive. Ample evidence asserts that the characteristics of the child with disabilities impact significantly on maternal parenting stress, however, contradictory evidence exists regarding the link between child characteristics and paternal parenting stress. According to Hornby (1995) and Sloper et al. (1991), financial hardship, strain from extraneous life events, discontentment with

social support and marital tensions are greater predictors of paternal parenting stress than any child characteristic.

Maternal parenting stress has been linked to severity of child disability (Beckman, 1983; Minnes, 1988; Sloper et al., 1991; Sloper & Turner, 1993). This is due to mothers performing greater care-taking responsibilities for their children with disabilities than fathers (Bristol et al., 1988; Fewell, 1986; Gallagher et al., 1981; Kazak & Marvin, 1984). While some research argues that only maternal parenting stress is predicted by child disability severity, others have determined that fathers displayed more stress than mothers regarding their child's lack of communication and intellectual delay (Frey et al., 1989; Reddon et al., 1992). Despite evidence that disability severity is a predictor of paternal parenting stress, other research did not determine a connection (Hornby, 1995; Sloper et al., 1991; Sloper & Turner, 1993).

Maternal parenting stress has also been linked to child temperament and behavior problems in children with disabilities (Beckman, 1983; Sloper et al., 1991). While some research has demonstrated that fathers of children with disabilities associated greater stress with child behavior and temperament than mothers (Goldberg et al., 1986; Krauss, 1993), others were unable to establish a significant correlation (Sloper et al., 1991).

Some research demonstrates that fathers are more affected than mothers by the birth of a male child with disabilities (Frey et al., 1989; Schilling et al., 1985; Tavormina et al., 1981), particularly a less severely disabled son (Trute, 1995). Despite evidence that child gender is a predictor of paternal parenting stress, other research was unable to confirm a correlation between the two variables (Hornby, 1995; Kruass, 1993). Sloper et

al. (1991) claim that paternal stress resulting from a son with disabilities is moderated by the absence of additional financial stresses and satisfaction with the marital relationship.

Evidence asserts that parental stress is related to older children with disabilities (Bristol, 1979; Bristol & Schopler, 1984; Farber, 1975; Gallagher et al., 1983). Orr et al., (1993) found elevated stress in parents of children with disabilities in the middle childhood age range. Trute (1995) demonstrated that mothers' depression levels were inversely related to the age of pre-school children with disabilities. This finding is explained as "the easing of 'novelty shock' in mothers as they become used to caring for their children with disabilities" (Trute, 1995, p. 1238).

Employment outside the home has alleviated maternal parenting stress (Sloper et al., 1991; Sloper & Turner, 1993). Despite evidence that maternal stress diminishes with outside employment, mothers attribute more stress to child characteristics, while fathers cite unemployment and financial hardships as generating greater parenting stress (Hornby, 1995; Sloper et al., 1991). Higher educational levels have been linked to elevated parenting stress for parents of children with disabilities as less educated families may experience stress from a variety of sources, such as poverty (Palfrey et al., 1989).

Parenting stress is impacted by parental mental health (Abidin, 1995). Evidence demonstrates that mothers of children with disabilities report more depression, decreased positive mood and less self-esteem than fathers (Beckman, 1991; Bristol et al., 1988; Goldberg et al., 1986; Timko et al., 1992; Trute, 1995). Despite research that mothers of children with disabilities are more prone to mental health issues, Krauss (1993) was

unable to determine a significant difference in depression or self-confidence between mothers and fathers of younger children with disabilities.

Various researchers argue that families' satisfaction with the quality of social support decreases parenting stress, rather than network size (Dunst et al., 1986; Hornby, 1995; Kazak & Marvin, 1984; Webster-Stratton, 1990). Mothers are more apt to seek and be satisfied with support when under duress, while fathers are at greater risk of social isolation (Goldberg et al., 1986; Reddon et al., 1992). Despite evidence that mothers access broader social networks than fathers, divergent research concludes that mothers and fathers report similar levels of social support and satisfaction with support received (Beckman, 1991; Dyson, 1997; Krauss, 1993; Nagy & Ungerer, 1990). Mothers of children with disabilities receive greater support from friendships, maternal grandparents and professionals, while fathers were more supported by their place of employment and female partners (Goldberg et al., 1986; Nagy & Ungerer, 1990; Reddon et al., 1992; Schilling et al., 1985).

Beckman (1991) concludes that significant differences exist between mothers and fathers of children with disabilities "with respect to the areas of their lives that are affected and with the types of support that may facilitate coping" (p. 594). Thus, further investigation into gender differences in parenting stress between mothers and fathers of children with disabilities is unquestionably required in order to clarify inconsistencies and aspire to appreciate the unique experiences of children with disabilities and their families, thereby promoting an inclusive Canadian society.

PRESENT STUDY

Contradictory evidence exists within the child disability stress literature due to limited paternal participation in studies and a lack of research comparing and contrasting the parenting stress of mothers and fathers (Byrne & Cunningham, 1985; Deater-Deckard & Scarr, 1996; Hauenstein, 1990; Nagy & Ungerer, 1990). Deater-Deckard and Scarr (1996) claim that parenting stress research has remained focused on mothers and excluded fathers. "The tendency to focus on mothers as subjects in such studies combined with the tendency to ignore individual differences in family members' perceptions has led to a potentially one-sided view of the issues associated with stress and coping" (Beckman, 1991, p. 586). Studies of parental stress resulting from child disability must incorporate fathers' participation "and further research is needed on mother-father differences, on the particular factors which impinge upon stress and satisfaction with life for fathers" (Sloper et. al, 1991, p. 673).

The present study utilized data collected from two-parent families to examine gender differences in parenting stress and psychological well-being between mothers and fathers of children with disabilities. Psychological well-being is defined in terms of self-esteem and affect. Another purpose of the study was to examine the relationship between parenting stress and psychological well-being in mothers and fathers of children with disabilities. A final purpose of the study was to assess how child, family, and parent characteristics related to the parenting stress and psychological well-being of mothers and fathers of children with disabilities. A variety of variables were examined to determine if they were related to maternal and paternal parenting stress and psychological well-being,

including child characteristics of age, gender, type of disability and disability severity; family size; family income; parental age; parental education; and perceived satisfaction with social support networks.

This research focused on the following research questions:

RESEARCH QUESTION 1: Do mothers of children with disabilities report more parenting stress as measured by the Parenting Stress Index/Short Form (Abidin, 1995) Total Stress scale than fathers?

RESEARCH QUESTION 2: Do mothers of children with disabilities report more parenting stress across each subscale of the Parenting Stress Index/Short Form (Abidin, 1995), including Parental Distress, Parent-Child Dysfunctional Interaction and Difficult Child, than fathers?

RESEARCH QUESTION 3: Do mothers and fathers of children with disabilities differ in terms of psychological well-being, defined as self-esteem and affect?

RESEARCH QUESTION 4: What is the relationship between parenting stress and psychological well-being in mothers and fathers of children with disabilities?

RESEARCH QUESTION 5: Are child characteristics including age, gender, type and severity of disability related to parenting stress and psychological well-being in mothers and fathers of children with disabilities?

RESEARCH QUESTION 6: Are family system characteristics of family size and income related to parenting stress and psychological well-being in mothers and fathers of children with disabilities?

RESEARCH QUESTION 7: Are parent characteristics of age, education and perceived satisfaction with social support related to parenting stress and psychological well-being in mothers and fathers of children with disabilities?

METHOD

SUBJECTS AND PROCEDURES

This research was conducted under the aegis of the Family Strengths in Childhood Disability Project (FSCD). The FSCD Project is a longitudinal study examining the family and service experiences of parents of young children with developmental disabilities in the Province of Manitoba, Canada. A full description of the sampling procedures and participant characteristics is available elsewhere (Trute, Hiebert-Murphy, Wright, & Levine 2004).

For the purposes of this study a sub-sample was drawn from the larger FSCD dataset (Trute et al., 2004). This subsample included all two-parent families interviewed at Time 1 of the longitudinal study (October, 2000 to July, 2001). Data collection occurred six months following the diagnosis of childhood disability and the family's formal case opening to the service system.

MEASURES

Parenting Stress Index / Short Form (PSI/SF). The PSI/SF (Abidin, 1995) was developed as a direct derivative of the full-length Parenting Stress Index (PSI) (Abidin, 1983) to satisfy the need for a valid measure of parent-child stress, which can be administered in under ten minutes (Abidin, 1995). Thus, the PSI/SF (Abidin, 1995) provides a condensed version of the original PSI (Abidin, 1983). Castaldi (1990) repeatedly factor-analyzed the full-length PSI (Abidin, 1983) and produced a three-factor solution with a total score and three subscale scores. The resultant PSI/SF (Abidin, 1995) consists of a 36-item measure rated on a five point Likert scale. The measure contains

three 12-item subscales, including Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC). Abidin (1995) asserts that “ the full-length PSI examines the parent-child dyad more closely than the Short Form”, however “the three factors proposed by Castaldi appear to capture the primary components of the parent-child system...” (Abidin, 1995, p. 53).

The PSI/SF (Abidin, 1995) provides a valuable measure to assess parent and child characteristics as well as stress in the parent-child system (Orr et al., 1993). The PSI/SF (Abidin, 1995) has been utilized to assess parenting stress in families of children with various disabilities including delayed mental development (Cameron & Orr, 1989); delayed communication skills (Frey et al., 1989); cerebral palsy; autism; multiple disabilities; genetic disorders (Beckman, 1991); developmental delays; hearing, visual and motor impairment (Lowitzer, 1988); and Down syndrome (Hanson & Hanline, 1990).

The Total Stress score indicates the overall level of parenting stress experienced. The score does not measure stress resulting from other life events or roles outside the parenting role (Abidin, 1995). The Parental Distress (PD) subscale denotes the distress parents experience within their parenting role. The subscale measures stresses such as impaired parenting competence; life role restrictions; conflict with the child's other parent; isolation and depression (Abidin, 1995). The Parent-Child Dysfunctional Interaction (P-CDI) subscale measures parental perceptions of the emotional quality of the parent-child relationship. High scores suggest the child does not fulfill parental expectations and a lack of bonding (Abidin, 1995). The Difficult Child (DC) subscale indicates parental perceptions of children's behavioral characteristics. The subscale

measures child temperament including defiant, non-compliant and demanding behaviors (Abidin, 1995).

The PSI/SF (Abidin, 1995) collects basic demographic information and requires ten minutes to complete. Each of the three 12-item subscales is summed to yield a separate score. Total Stress scores are then calculated by summing the three separate subscale scores. Raw scores are matched with the corresponding percentiles on the PSI/SF (Abidin, 1995) test sheet, thereby creating a respondent profile. Scores between the 15th and 80th percentile are considered within the normal range, while scores at or above the 85th percentile represent high scores. Total Stress scores above the 90th percentile indicate a clinically significant stress level and respondents should be referred for professional assistance (Abidin, 1995). The PSI/SF (Abidin, 1995) has a protocol validity indicator labeled the Defensive Responding scale, which ascertains if the respondent minimizes parent-child stress. Scores of ten or below on the Defensive Responding scale indicate either a minimization of stress, non-investment in the parenting role or the respondent is an extremely competent parent (Abidin, 1995).

The PSI/SF (Abidin, 1995) possesses good psychometric properties (Abidin, 1995; Deater-Deckard & Scarr, 1996). Test-retest reliability of the PSI/SF (Abidin, 1995) was assessed on a normative sample of 270 mothers of one-year old children attending a Virginia pediatric practice over a six-month retest interval. Test-retest reliability resulted in coefficients of .85 for PD, .68 for P-CDI, .78 for DC and .84 for Total Stress. Internal consistency reliability was based on a normative sample of 800 mothers of one-year old children attending a Virginia pediatric practice. The following Cronbach's Alpha

coefficients were determined: .87 for PD, .80 for P-CDI, .85 for DC and .91 for Total Stress (Abidin, 1995). A further normative sample of 103 Head Start parents was used to discern the following Cronbach's Alpha coefficients: .79 for DC, .80 for P-CDI, .78 for DC and .90 for Total Stress (Roggman, Moe, Hart, & Forthun, 1994).

The validity of the PSI/SF (Abidin, 1995) has not yet been empirically established. However, Abidin (1995) asserts that as the PSI/SF (Abidin, 1995) is a direct derivative and correlates highly with the PSI (Abidin, 1983), it possesses the same validity as the full-length measure. Abidin (1995) cites multiple studies that establish the construct and predictive validity of the full-length PSI (Abidin, 1983). Discriminate validity of the PSI (Abidin, 1983) has also been established through numerous studies examining the relationship between child functioning and stress with families of children with various mental, physical and emotional disabilities (Innocenti et al., 1992).

Disability Index. The Disability Index (Trute, 1990, 1995) is a 4-item Likert type measure created to assess the degree of mental and physical incapacitation in children. The scale measures parental perceptions of their child's level of disability in terms of intellectual or cognitive impairment, physical disabilities, need for continuous medical attention and need for physical assistance with everyday functions throughout the child's life.

Internal consistency reliability for a sample of 88 families of children with multiple disabilities, physical disabilities and Down syndrome yielded an alpha of .77 (Trute, 1990). Internal consistency reliability for a further sample of 73 families of

children with multiple disabilities including developmental delay, hearing or visual impairments and Down syndrome produced an alpha of .74 (Trute, 1995).

Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was originally designed as a 10-item Guttman scale, measuring the subjective evaluation of feelings of self-satisfaction or dissatisfaction (Silber & Tippett, 1965). The instrument was developed in order to satisfy the need for a unidimensional, easy to administer measure of self-esteem that can be completed in three minutes or less (Rosenberg, 1965). The scale alternates positive and negative statements in order to reduce the risk of respondent set. High scores indicate lower self-esteem, while low scores suggest higher levels of self-esteem (Rosenberg, 1965). The scale possesses adequate reproductibility (Guttman, 1950) of .92 and scalability (Menzel, 1953) of .72, thus ensuring a unidimensional continuum from high to low self-esteem (Rosenberg, 1965).

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) possesses adequate psychometric properties (Robinson, Shaver, & Wrightsman, 1991). Test-retest reliability with 28 adolescents over a two-week interval was .85 (Silber & Tippett, 1965). Fleming and Courtney (1984) reported a test-retest reliability of .82 for 259 subjects with a one-week interval and an internal consistency alpha of .88. Rosenberg (1965) argues the scale possesses good face validity. Silber and Tippett (1965) demonstrate that the scale is highly correlated with other measures of self-esteem, including two modified versions of the Role Repertory Test (Kelly, 1955) and the Self-Image Questionnaire (Heath, 1968), thus proving the scale has good convergent validity, a form of construct validity

(Campbell & Fiske, 1959). Rosenberg (1965) also demonstrates convergent validity by establishing a correlation between the scale's measurement of self-esteem and a measure of depression in a sample of 50 volunteers. Silber and Tippett (1965) establish the scale's adequate discriminant validity (Campbell & Fiske, 1959), as it does not correlate significantly with measures of self-image stability. According to Tippett and Silber (1965), "the Rosenberg scale has been found to be closely consistent with other frequently used measures of self-esteem, more independent of irrelevant variables, and more independent of long-term self-concept stability" (Trute, 1995, p. 1229).

Family Support Scale. The Family Support Scale (Dunst, Jenkins, & Trivette, 1984) is an 18-item self-report scale that assesses how helpful different sources of support have been for families raising a young child.

The Family Support Scale (Dunst et al., 1984) has established good psychometric properties (Dunst et al., 1984; Dyson, 1997) with high test-retest reliability of .91 and internal consistency reliability with an alpha of .77 (Dunst et al., 1984). Dunst, Trivette and Hamby (1994) also established psychometric properties from a sample of 224 parents participating in an early intervention program. Internal consistency reliability yielded an alpha of .79 and a split-half reliability of .77 (Dunst et al., 1994). Test-retest reliability for 25 subjects with a one-month interval was .91 and .50 for 60 subjects over a one to two year interval. Dunst et al. (1994) also demonstrated construct, content, convergent and discriminant validity through factor analysis.

Socio-Demographic Form. The Socio-Demographic form (Trute et al., 2004) was utilized to gather social demographic information from subjects. Information on parental

marital status; employment and occupation; ethnicity; educational level and parental age was collected for mothers and fathers. Family information was also gathered including, family form (single parent; remarried; first married; extended family; foster family; living as married; and blended family), family size and income.

Daily Feelings Scale. The Daily Feelings Scale (Trute et al., 2004) is an 11-item self-report scale that assesses parent's positive and negative affect. The scale asks parents to identify which positive or negative feelings they have felt when thinking about their daily life and rate each feeling on a five point Likert scale. The current study used a discrepancy score for all analyses involving parental affect. The discrepancy score was derived by subtracting the total positive affect score from the total negative affect score. Therefore, higher discrepancy scores indicate a higher level of negative affect. The Daily Feelings Scale yielded alphas of .70 for males' positive affect scores, .75 for males' negative affect scores and .82 for females' positive and negative affect scores (B. Trute, personal communication, February 21, 2004).

RESULTS

SAMPLE (N = 69)

SOCIAL-DEMOGRAPHIC ATTRIBUTES OF CHILDREN

The cohort of children included in the current study had an average age of four years ($M = 44$ months, $SD = 31$ months) with a range of 5 months to 144 months. The gender distribution in children was 58% male and 42% female. Families had an average of three children, 22% were only children, 39% were from families with two children and 39% were from families with three or more children.

The cohort of children in the current study had the following diagnoses: 5.8% asperger's syndrome; 27.5% autism; 8.7% cognitive impairment; 8.7% cerebral palsy; 58% developmental delay; 10.1% Down syndrome; 5.8% emotional disturbance; 10.1% epilepsy; 4.3% hearing loss; 13% no confirmation of diagnosis; 21.7% pervasive developmental delay; 14.5% physical disability; 4.3% unknown disability; and 11.6% vision loss. Many disability categories had a limited number of children, therefore only disabilities that represented twenty per cent or higher of the sample were selected for analysis. However, an exception was made for the category of Down syndrome due to the conceptual importance of the disability for the present study. Results need to be interpreted with caution, as there were a limited number of children diagnosed with Down syndrome in the current sample. The four categories of disabilities in the current study are identified in Table 1.

Table 1

Type of Disability

| Category of Disability | Percent of Sample |
|-------------------------------|-------------------|
| Autism | 27.5% |
| Down syndrome | 10.1% |
| Developmental Delay | 58 % |
| Pervasive Developmental Delay | 21.7 % |

SOCIAL-DEMOGRAPHIC ATTRIBUTES OF PARENTS

The children included in this study were from two-parent family homes consisting of a mother and father as the parental unit. Family forms included 74% in their first marriage, 12% remarried, 6% living common law, 6% blended families and 1% foster families.

The average age of mothers in the study was 35 years ($SD = 7$ years) with a range of 19 to 65 years. Five per cent of mothers had completed some high school education, 33% had completed high school and 62% had education or training beyond a high school diploma. Thirty-seven per cent of mothers worked outside the home full-time, 37% identified as full-time homemakers, 16% worked outside the home part-time, 2% were retired and 9% identified as other employment (i.e., self-employment, seasonal employment, leave of absence, student and parental leave).

The average age of fathers in the study was 38 years ($SD = 8$ years) with a range of 18 to 67 years. Twelve per cent of fathers had completed some high school education, 25% had completed high school and 63% had education or training beyond a high school diploma. Eighty-seven per cent of fathers worked outside the home full-time,

2% identified as full-time homemakers, 2% worked outside the home part-time, 2% were retired, 3% were unable to work due to disabilities and 6% identified as other employment.

Seven per cent of families had a total annual income of less than \$ 20,000; 54% had incomes between \$ 20,000 and \$ 49,999; 27% had incomes between \$ 50,000 and \$ 74,999; and 13% had incomes of \$ 75,000 and over. Thirty-three per cent of mothers and 32% of fathers identified their ethnicity. Most parents, who did identify their ethnicity, identified as Canadians of European descent with 4% identifying as Aboriginal Canadians and 4% identifying as visible minorities.

Scores on the Total Stress scale and each subscale above the 90th percentile indicate a clinically significant stress level in normative samples (Abidin, 1995). Raw scores of 91 on the Total Stress scale, 36 on the PD subscale, 36 on the DC subscale and 27 on the P-CDI subscale correspond with the 90th percentile (Abidin, 1995). Results of this study showed that mothers' ($M = 87.36$, $SD = 21.31$) and fathers' ($M = 80.10$, $SD = 19.76$) scores on the Total Stress scale were between the 75th and close to the 90th percentile ranks and were both close to the clinical cut-off score (Abidin, 1995). Results on the PD subscale for mothers ($M = 28.00$, $SD = 8.68$) and fathers ($M = 25.10$, $SD = 7.33$) were between the 50th and 65th percentile ranks and were the most removed from the clinical cut-off score of all the PSI/SF scales. Mothers' DC subscale scores ($M = 34.27$, $SD = 10.96$) and fathers' scores ($M = 31.24$, $SD = 8.82$) were between the 80th and close to the 90th percentile ranks and were both close to the clinical cut-off score. Mothers' P-CDI subscale scores ($M = 25.62$, $SD = 7.50$) and fathers' scores ($M = 23.72$,

$SD = 6.51$) were between the 70th and 85th percentile ranks and were both close to the clinical cut-off score. However, parents of children with disabilities may score higher on the PSI/SF compared to parents of children without disabilities. Thus, practitioners need to keep in mind the unique stresses faced by parents of children with disabilities when interpreting scores (Abidin, 1995).

GENDER DIFFERENCES IN PARENTING STRESS AND PSYCHOLOGICAL WELL-BEING

All statistical procedures were completed with SPSS for the Macintosh (v. 4.0.3: SPSS, 1990) and used a .05 significance level. A paired t -test was utilized to determine if there was a difference between maternal and paternal overall parenting stress, as measured by the Total Stress scale of the Parenting Stress Index/Short Form (PSI/SF). Mothers ($M = 87.36$, $SD = 21.31$) reported a significantly higher degree of overall stress than fathers ($M = 80.10$, $SD = 19.76$) in parenting their child with disabilities ($t = 2.82$, $df = 57$, $p < .01$). Mothers' and fathers' parenting stress scores were moderately correlated ($r = .55$, $n = 58$, $p < .001$).

Paired t -tests were also used to examine relationships between parent gender and each subscale of the PSI/SF. The Parental Distress (PD) subscale was used to determine any gender differences in terms of distress experienced within the parenting role. Mothers ($M = 28.00$, $SD = 8.68$) scored significantly higher ($t = 2.65$, $df = 60$, $p < .01$) on the PD subscale than fathers ($M = 25.10$, $SD = 7.33$). There was also a significant moderate correlation ($r = .44$, $n = 61$, $p < .001$) between mothers' and fathers' PD scores.

Scores on the Difficult Child (DC) subscale also revealed a significant difference ($t = 2.90$, $df = 61$, $p < .01$) between mothers' scores ($M = 34.27$, $SD = 10.96$) and fathers' scores ($M = 31.24$, $SD = 8.82$). Thus, mothers reported significantly higher levels of stress in terms of their child's behavioral characteristics. Maternal and paternal scores on the DC subscale also showed a significant moderate correlation ($r = .67$, $n = 62$, $p < .001$).

The Parent-Child Dysfunctional Interaction (P-CDI) subscale did not reveal a significant difference ($t = 1.80$, $df = 59$, $p < .08$) between mothers' scores ($M = 25.62$, $SD = 7.50$) and fathers' scores ($M = 23.72$, $SD = 6.51$). Thus, mothers and fathers reported similar stress levels in terms of the quality of their relationship with their child. A significant low correlation ($r = .32$, $n = 60$, $p < .01$) between maternal and paternal scores was found.

Paired t -tests were utilized to determine if mothers and fathers differed significantly in terms of psychological well-being, defined as self-esteem and affect. Mothers' scores on the Rosenberg Self-Esteem Scale (RSE) and the Daily Feelings Scale (DFS) were compared to fathers' scores. Mothers' scores on the RSE ($M = 18.09$, $SD = 4.42$) did differ significantly ($t = 2.35$, $df = 64$, $p < .02$) from fathers' scores ($M = 16.59$, $SD = 4.03$). Thus, mothers reported significantly lower levels of self-esteem than fathers. A significant low correlation ($r = .25$, $n = 65$, $p < .04$) was found between maternal and paternal self-esteem. Mothers' scores on the DFS ($M = -.17$, $SD = 5.86$) did not differ significantly ($t = 1.76$, $df = 59$, $p < .08$) from fathers' scores ($M = -1.53$, $SD = 5.04$). Parental DFS scores showed a significant low correlation ($r = .40$, $n = 60$,

$p < .001$).

RELATIONSHIPS BETWEEN PARENTAL STRESS AND PSYCHOLOGICAL WELL-BEING

Pearson r tests were utilized to determine significant correlations between parenting stress from the Total Stress scale of the PSI/SF, self-esteem determined by the RSE and affect from the DFS for both mothers and fathers (see Table 2).

Results for mothers suggested significant correlations between all three variables. There was a significant low correlation ($r = .39, n = 66, p < .001$) between mothers' parenting stress and self-esteem scores. A significant moderate correlation ($r = .55, n = 64, p < .001$) was found between mothers' parenting stress and DFS scores. There was also a significant moderate correlation ($r = .49, n = 66, p < .001$) between mothers' self-esteem and DFS scores.

Findings for fathers also suggested significant correlations between parenting stress, self-esteem and affect. Fathers' parenting stress and self-esteem scores were moderately correlated ($r = .46, n = 59, p < .001$). A significant moderate correlation ($r = .57, n = 58, p < .001$) was found between paternal parenting stress and DFS scores. There was also a significant moderate correlation ($r = .45, n = 62, p < .001$) between fathers' self-esteem and DFS scores.

RELATIONSHIPS WITH CHILD, FAMILY AND PARENTAL CHARACTERISTICS

Pearson r tests were utilized to determine the relationship between child characteristics (i.e. age, gender, severity and type of disability) and parental stress and psychological well-being for both mothers and fathers (see Tables 3 and 4).

Table 2

Intercorrelations Between Parenting Stress and Well-Being for Mothers and Fathers

| Measure | Mothers | | | Fathers | | |
|----------|---------|--------|--------|---------|--------|--------|
| | PSI | RSE | DFS | PSI | RSE | DFS |
| PSI | - | .39*** | .55*** | - | .46*** | .57*** |
| <i>n</i> | | 66 | 64 | | 59 | 58 |
| RSE | | - | .49*** | | - | .45*** |
| <i>n</i> | | | 66 | | | 62 |
| DFS | | | - | | | - |
| <i>n</i> | | | | | | |

Note. PSI = Parenting Stress Index (Total stress); RSE = Rosenberg Self-Esteem Scale;

DFS = Daily Feelings Scale.

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

Table 3
 Pearson Correlations Between Parental Stress and Well-Being and
 Child Characteristics and Support for Mothers

| Child Characteristics And Support | | PSI | RSE | DFS |
|--------------------------------------|----------|---------|--------|--------|
| Child Age | <i>r</i> | .30** | .09 | .19 |
| | <i>n</i> | 66 | 68 | 66 |
| Child Sex | <i>r</i> | .02 | .32** | .16 |
| | <i>n</i> | 66 | 68 | 66 |
| Disability Severity | <i>r</i> | .02 | .04 | .14 |
| | <i>n</i> | 53 | 55 | 53 |
| DS | <i>r</i> | -.51*** | -.33** | -.31** |
| | <i>n</i> | 66 | 68 | 66 |
| PDD | <i>r</i> | .26* | -.05 | .13 |
| | <i>n</i> | 66 | 68 | 66 |
| Family Support | <i>r</i> | -.39** | -.24 | -.25* |
| | <i>n</i> | 64 | 66 | 64 |
| Friend Support | <i>r</i> | -.33** | .02 | -.14 |
| | <i>n</i> | 64 | 66 | 65 |
| Informal Support | <i>r</i> | .05 | -.07 | -.09 |
| | <i>n</i> | 66 | 68 | 66 |
| Formal Support | <i>r</i> | -.19 | -.02 | -.16 |
| | <i>n</i> | 60 | 62 | 61 |

Note. PSI = Parenting Stress Index (Total stress); RSE = Rosenberg Self-Esteem Scale;
 DFS = Daily Feelings Scale; DS = Down syndrome; PDD = Pervasive developmental
 delay.

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

Table 4
 Pearson Correlations Between Parental Stress and Well-Being and
 Child Characteristics and Support for Fathers

| Child Characteristics And Support | | PSI | RSE | DFS |
|--------------------------------------|----------|---------|------|-------|
| Child Age | <i>r</i> | .38** | .17 | -.05 |
| | <i>n</i> | 59 | 65 | 62 |
| Child Sex | <i>r</i> | .26* | .07 | .22 |
| | <i>n</i> | 59 | 65 | 62 |
| Disability Severity | <i>r</i> | .12 | .03 | .40** |
| | <i>n</i> | 44 | 48 | 46 |
| DS | <i>r</i> | -.53*** | -.14 | -.28* |
| | <i>n</i> | 59 | 65 | 62 |
| PDD | <i>r</i> | .37** | -.09 | .14 |
| | <i>n</i> | 59 | 65 | 62 |
| Family Support | <i>r</i> | -.21 | -.01 | -.03 |
| | <i>n</i> | 57 | 63 | 60 |
| Friend Support | <i>r</i> | -.03 | .03 | .36** |
| | <i>n</i> | 59 | 63 | 60 |
| Informal Support | <i>r</i> | .23 | .05 | .29* |
| | <i>n</i> | 58 | 63 | 60 |
| Formal Support | <i>r</i> | -.05 | .06 | -.05 |
| | <i>n</i> | 58 | 63 | 60 |

Note. PSI = Parenting Stress Index (Total stress); RSE = Rosenberg Self-Esteem Scale;
 DFS = Daily Feelings Scale; DS = Down syndrome; PDD = Pervasive developmental
 delay.

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

There was a significant low correlation ($r = .30, n = 66, p < .01$) between mother's parenting stress and the child's age. Child age was not significantly related to mother's self-esteem or DFS scores. There was also a significant low correlation ($r = .38, n = 59, p < .003$) between paternal parenting stress and child age and a lack of correlation between fathers' self-esteem or DFS scores. The correlations between child age and parenting stress suggests there may be a relationship between age of diagnosis or service entry and level of parenting stress. That is, children with disabilities who entered the service system at an older age tend to have parents who report higher parenting stress. A significant difference in the strength of the relationship between mother's and father's parenting stress and child age ($t = 0.69, df = 56, p - ns$) was not found.

Maternal self-esteem was significantly correlated ($r = .32, n = 68, p < .008$) with child gender. Neither maternal parenting stress or DFS scores significantly correlated with child gender. There was a significant low correlation ($r = .26, n = 59, p < .05$) between paternal parenting stress and child gender. Neither paternal self-esteem or DFS scores significantly correlated with child gender.

There were no significant correlations found between maternal parenting stress or psychological well-being and the severity of child disability. Severity of child disability did not correlate significantly with paternal parenting stress or self-esteem. There was a significant moderate correlation ($r = .40, n = 46, p < .006$) between fathers' DFS scores and severity of child disability.

Two out of four types of child disabilities showed correlations with the dependent variables. Down syndrome was related to all parental dependent variables, except father's self-esteem. There was a significant moderate negative correlation ($r = -.51, n = 66, p < .001$) between a diagnosis of Down syndrome and maternal parenting stress, a significant low negative correlation ($r = -.33, n = 68, p < .007$) with maternal self-esteem and a significant low negative correlation ($r = -.31, n = 66, p < .012$) with maternal DFS scores. A diagnosis of Down syndrome showed a significant moderate negative correlation ($r = -.53, n = 59, p < .001$) with paternal parenting stress and a significant low negative correlation ($r = -.28, n = 62, p < .026$) with paternal DFS scores. There were no significant differences found in the strength of the relationships between mother's and father's parenting stress and Down syndrome ($t = 0.20, df = 56, p - ns$) or between mother's and father's affect and Down syndrome ($t = 0.23, df = 59, p - ns$). These results need to be interpreted with caution due to the limited number of children diagnosed with Down syndrome in the current sample.

There was a significant low correlation ($r = .26, n = 66, p < .035$) between a diagnosis of pervasive developmental delay and mothers' parenting stress scores and a significant low correlation ($r = .37, n = 59, p < .004$) with fathers' parenting stress scores.

Pearson r tests were utilized to determine any significant correlation between family size (defined as the number of children in the family), parenting stress and psychological well-being for both mothers and fathers. Family size was not found to be significantly related to either maternal or paternal parenting stress or psychological well-being.

Pearson r tests also revealed that the family's income level was not significantly correlated with either maternal or paternal parenting stress or psychological well-being.

Pearson r tests were utilized to determine how parental age, level of education and perceived satisfaction with social support related to parenting stress and psychological well-being for both mothers and fathers. Neither parental age nor level of education was significantly related to maternal or paternal parenting stress or psychological well-being.

The Family Support Scale (FSS) was used to measure parents' satisfaction with family support (i.e., parents, spouse or partner's parents, relatives, spouse or partner's relatives, spouse or partner and own children); friendship support (i.e., friends, spouse or partner's friends, other parents and co-workers); informal support (i.e., parent groups, social groups or clubs and church members or minister); and formal support (i.e., family physician, school or daycare and professional agencies). There was a significant low negative correlation ($r = -.39, n = 64, p < .002$) between mothers' satisfaction with family support and parenting stress. Mothers' family support also showed a significant low negative correlation ($r = -.25, n = 64, p < .043$) with maternal DFS scores. Maternal satisfaction with friendship support showed a significant low negative correlation ($r = -.33, n = 64, p < .008$) with mothers' parenting stress. Thus, perceived satisfaction with family and friendship support was related to decreased parenting stress and increased positive affect for mothers. There were significant low correlations found between fathers' DFS scores and satisfaction with friendship support ($r = .36, n = 60, p < .005$) as well as satisfaction with informal support ($r = .29, n = 60, p < .025$).

DISCUSSION

This study explored gender differences in parenting stress and psychological well-being between mothers and fathers of children with disabilities. The study also examined how child, family, and parent characteristics related to the parenting stress and psychological well-being of mothers and fathers of children with disabilities.

When examining gender differences in parenting stress, this study found that mothers of children with disabilities reported significantly higher levels of overall parenting stress than did fathers. Mothers also reported significantly higher parenting stress on the Parental Distress (PD) and Difficult Child (DC) subscales of the PSI/SF. The PD subscale measures impaired parenting competence, life role restrictions, conflict with the child's other parent, isolation and depression. The DC subscale measures child temperament including non-compliant and demanding behaviors (Abidin, 1995). Thus, mothers in this study reported more stress than did fathers in terms of their parenting role and children's behavioral characteristics.

There were no significant gender differences between mothers and fathers in terms of the Parent-Child Dysfunctional Interaction (P-CDI) subscale. The P-CDI subscale measures parental perceptions of the emotional quality of the parent-child relationship (Abidin, 1995). Thus, mothers and fathers in the current study did not differ significantly in their perceptions of the emotional quality of the parent-child relationship.

Maternal and paternal scores on overall parenting stress and across each subscale of the PSI/SF were correlated. Mothers' and fathers' scores on the Total Stress scale, the PD subscale and the DC subscale were moderately correlated, while parents' scores on

the P-CDI subscale produced a weaker relationship. Despite mothers' significantly higher stress levels across three of the four PSI/SF scales, maternal and paternal parenting stress scores increased in parallel with each other. Thus, even though mothers reported higher parenting stress overall, mothers and fathers within parental subsystems reported related levels of parenting stress.

When typical system dynamics within families of children with disabilities are examined, it is not surprising to find that mothers report more parenting stress across three of the four PSI/SF scales. Children with disabilities typically require more care-taking than children without disabilities. Mothers in families of young children with disabilities have been found to perform more child care tasks than fathers and therefore, may experience elevated stress from child care-taking demands (Beckman 1991; Floyd & Gallagher, 1997; Trute, 1995).

This study confirmed and opposed previous research conducted with parents of children with disabilities. The finding that mothers reported significantly higher overall parenting stress compared to fathers confirmed previous research (i.e., Bailey Jr. et al., 1992; Beckman, 1991; Bristol et al., 1988; Goldberg et al., 1986; Kazak & Marvin, 1984; Milgram & Atzil, 1988; Tavormina et al., 1981; Timko et al., 1992). These researchers examined gender differences in parenting stress between parents of children with disabilities using a variety of child, family and parental characteristics.

The current study conflicts with research that was unable to determine a significant difference in overall parenting stress between mothers and fathers of children with disabilities (i.e., Dyson, 1997; Krauss, 1993; Nagy & Ungerer, 1990). Dyson (1997)

may have found different results from the current study as the research focused on school-age children ($M = 9.3$ years, $SD = 1.8$ years) and used the Questionnaire on Resources and Stress-Short Form (Friedrich, Greenberg, & Crnic, 1983) to measure parental stress. Krauss's (1993) results may differ from the current study as a result of using younger children with disabilities ($M = 10$ months, $SD = 4$ months). Previous research has demonstrated that parents of older children with disabilities report higher parenting stress (Bristol, 1979; Bristol & Schopler, 1984; Farber, 1975; Gallagher et al., 1983). Nagy and Ungerer (1990) may have found different results from the current study as the research limited disability type to children diagnosed with cystic fibrosis and measured stress through a semi-structured interview constructed from a review of the literature on chronically ill children.

The current study also conflicts with Cummings's (1976) study that found fathers were more prone to parenting stress than mothers, however, not all parents in Cummings's (1976) sample were part of a couple (Beckman, 1991).

The finding that mothers scored significantly higher than fathers on the PD subscale of the PSI/SF confirms research conducted by Beckman (1991). Beckman (1991) compared mothers and fathers of children with and without disabilities and found mothers of children with disabilities reported more stress than fathers in terms of their parenting role. Results of the current study fail to corroborate those of Krauss (1993), who did not find a significant gender difference between parents of children with disabilities regarding their parenting role. However, the current study's results may differ

due to the use of a broader age range of children with disabilities than was used by Krauss (1993).

The finding that mothers reported significantly higher parenting stress on the DC subscale of the PSI/SF confirms Sloper et al.'s (1991) study, which found that mothers experienced more stress than fathers regarding their child's temperament and demanding behaviors. However, Beckman (1991) found both parents experienced similar stress in terms of their child's difficult behaviors. The current study also conflicts with findings by Krauss (1993) that fathers associate greater stress with arduous child behavior than mothers. One may speculate that conflicting results were generated from differences in the ages of children with disabilities within the samples.

The lack of a significant gender difference on the P-CDI subscale of the PSI/SF conflicts with previous research. Beckman (1991) and Krauss (1993) found that fathers associated higher levels of stress than did mothers with the emotional quality of the parent-child relationship and the formation of attachment to their children with disabilities. In particular, Krauss's (1993) findings suggested that fathers had increased difficulty with attachment to their children with Down syndrome who had motor impairment or developmental delay. One may speculate that different findings were a result of using younger children with disabilities in Krauss's (1993) sample and a smaller number of children with disabilities ($n = 27$) in Beckman's (1991) sample.

The finding that both mothers and fathers of children with disabilities report high levels of parenting stress confirms previous research (i.e., Beckman, 1991; Crnic et al., 1983; Dyson, 1996; Dyson & Fewell, 1986; Friedrich & Friedrich, 1981; Gallagher et al.,

1981; Kazak, 1987; Kazak & Marvin, 1984; Noh et al., 1989; Waisbren, 1980). Other studies have determined that parenting stress is higher for mothers and fathers of children with disabilities compared to parents of children without disabilities (i.e., Beckman, 1991; Beckman & Pokorni, 1988; Bristol et al., 1988; Friedrich & Friedrich, 1981; Goldberg et al., 1986). The current study's finding regarding high levels of parenting stress may result from the timing of data collection, as parents were interviewed six months following the diagnosis of their child's disability and the family's case opening to the service system. Parents may still have been in the process of adjustment regarding the diagnosis of their child and may not yet have been aware of or connected to any formal support services.

Despite the overall proximity of parental scores to the clinical cut-off scores found in this study, there were differences between subscales. Abidin (1983) has reported that parents of children with disabilities frequently score higher on the Child Domain than the Parent Domain of the PSI (Abidin, 1983), which suggests that parents continue to perform their parenting roles well despite care-taking hardships. Beckman (1991) argues that heightened parenting stress does not consistently result in family dysfunction and many parents of children with disabilities have normal psychological functioning. Results of this study confirm this finding as parental scores on the DC subscale most closely approximate the clinical cut-off score, while scores on the PD subscale were the furthest removed from the clinical cut-off score.

When examining gender differences in psychological well-being, this study found that mothers of children with disabilities reported significantly lower levels of

self-esteem than did fathers no significant gender differences in affect. Mothers' and fathers' scores on both the Rosenberg Self-Esteem Scale (RSE) and the Daily Feelings Scale (DFS) were correlated with each other. Parental scores on the DFS produced a stronger relationship than scores on the RSE, which were weakly correlated. Thus, despite mothers' significantly lower levels of self-esteem overall, mothers and fathers within parental subsystems reported related levels of self-esteem. Mothers and fathers within parental subsystems also reported affect scores that were related to each other.

As mothers within this sample reported significantly higher levels of overall parenting stress than did fathers, it may make sense that mothers also reported lower levels of self-esteem compared to fathers. One potential explanation for mothers' depleted self-esteem is that women may suffer a reduction in coping abilities from caring for their child with disabilities. Children with disabilities frequently create elevated caretaking demands and mothers assume more child care responsibilities than fathers (Beckman 1991; Floyd & Gallagher, 1997; Trute, 1995). This explanation is also supported by the finding that mothers of children with cystic fibrosis who were supported in performing child care tasks by their spouse demonstrated less mental health complications (Nagy & Ungerer, 1990). Mothers of young children with disabilities have been found to engage in more self-blame for their child's disability (Frey et al., 1989) and experience greater role restriction (Hauenstein, 1990), which may also contribute to decreased self-esteem. The finding that mothers' and fathers' self-esteem and DFS scores were correlated is consistent with previous research, which suggests that fathers' mental

health may be related to their own as well as their partners' perceptions of stress associated with raising a child with disabilities (Dyson, 1997; Nagy & Ungerer, 1990).

The finding that mothers of young children with disabilities reported less self-esteem than did fathers confirms previous research (Beckman, 1991; Bristol et al., 1988; Goldberg et al., 1986; Timko et al., 1992; Trute, 1995). Despite extensive research that mothers of children with disabilities report less self-esteem than do fathers, Krauss (1993) was unable to determine any significant gender difference in self-esteem. However, Krauss's (1993) conflicting research findings may result from using younger children in the sample as Bristol and Schopler (1984) found parental stress and mental health issues related to older children with disabilities. The finding that mothers and fathers do not differ significantly in terms of their affect conflicts with research by Holroyd (1974), who found that mothers reported decreased positive affect compared to fathers.

When examining relationships between variables, this study determined that parenting stress, self-esteem and affect were related for mothers and fathers. Overall parenting stress, self-esteem and affect produced significant moderate correlations for mothers and fathers. The strongest relationships were between parenting stress and affect for mothers and fathers. The weakest relationship was between mothers' parenting stress and self-esteem scores. This finding may make sense, as one would anticipate that higher levels of parenting stress relate to lower self-esteem and increased negative affect. The relationships between the three variables are also consistent with observations in clinical

practice, where clients who suffer elevation in parental stress often demonstrate less self-esteem and increased negative affect.

This study produced a number of interesting results when examining the relationships between characteristics of children with disabilities and mothers' and fathers' parenting stress and psychological well-being. The age of the child with disabilities was significantly related to maternal and paternal parenting stress, but not related to parental psychological well-being. Thus, there may be a relationship between age of diagnosis or service entry and level of parenting stress. That is, children with disabilities who entered the service system at an older age tend to have parents who report higher parenting stress. One may speculate that parents experience more stress as their children with disabilities come into contact with outside systems, such as medical, legal and educational systems. The cohort of children included in this study ranged in age from five months to twelve-years old, with an average age of four years ($SD = 3$ years). Despite the average child age falling within the pre-school range, this study included a wide variety of children's ages.

Previous research has suggested that parents of older children with disabilities report more parenting stress (i.e., Bristol, 1979; Bristol & Schopler, 1984; Farber, 1975; Gallagher et al., 1983). Bristol and Schopler (1984) reported that children's age is related to parental stress over the age of nine years. Orr et al. (1993) also found elevated stress in parents of children with disabilities in middle childhood ($M = 9.4$ years). Orr et al. (1993) reason that middle childhood is stressful due to involvement with the education system. Krauss (1993) and Beckman (1991) were unable to establish any correlation between

child age and parental stress. However, both studies drew conclusions from samples of young children with disabilities with an average age of four years (Beckman, 1991) and ten months (Krauss, 1993).

The gender of children with disabilities was weakly correlated with maternal self-esteem and paternal parenting stress. Child gender was not related to mothers' affect or parenting stress, or fathers' psychological well-being. The relationships that do exist are weak and, therefore, should be interpreted with caution. Higher maternal self-esteem and lower paternal parenting stress were associated with parenting a male child with disabilities. Thus, mothers of female children with disabilities reported lower self-esteem and fathers of female children with disabilities reported higher parenting stress.

This finding conflicts with previous research that greater parental stress, particularly paternal stress, may be associated with parenting a male child with disabilities (Farber, 1972; Frey et al., 1989; Seligman & Darling, 1989; Tallman, 1965). Reasons suggested for this finding are that fathers mourn the opportunity to engage in recreational activities and are more anxious about the future occupational achievement and social status of their sons with disabilities. This study also conflicts with research unable to confirm a correlation between paternal stress and child gender (Hornby, 1995; Krauss, 1993). The results of the current study should be interpreted with caution as the variables yielded weak relationships and conflict with previous research. Further studies would need to confirm the current findings that female children with disabilities are related to decreased maternal self-esteem and increased paternal stress prior to conclusions being made.

Severity of child disability was not significantly related to either maternal or paternal parenting stress or psychological well-being, with the exception of a moderate relationship with fathers' affect. Thus, children with more severe disabilities were related to increased negative affect for fathers.

The findings of the current study confirm previous research that has been unable to establish a relationship between parental stress and disability severity (i.e., Bristol, 1987b; Hornby, 1995; Krauss, 1993). Trute (1990) also argues that the severity of disability in pre-school age children with disabilities does not predict parental adaptation. However, the current study conflicts with previous research that found a relationship between severity of child disability and parenting stress (i.e., Beckman, 1991; Dyson & Fewell, 1986; Floyd & Gallagher, 1997; Frey et al., 1989; Meyer, 1985; Minnes, 1988; Rousey et al., 1992; Sloper, et al., 1991; Sloper & Turner, 1993; Smith et al., 2001). The finding that child disability severity related to increased paternal negative affect produced an interesting result. It appears father's well-being, but not their parenting stress, may be adversely affected by child disability severity. Further research would need to confirm this finding prior to conclusions being made.

When relationships between type of child disability and parental stress and psychological well-being were examined, two out of four types of disabilities produced significant results. Maternal and paternal parenting stress scores were weakly related to pervasive developmental delay. This finding may be explained by the difficulties associated with caring for a child with pervasive developmental delay. In particular,

delays in social and communication skills, difficulties in relating to people and reading social cues, and difficulties with changes in routines (Towbin, 1997).

Down syndrome produced negative correlations with all variables of maternal and paternal parenting stress and psychological well-being, except paternal self-esteem. Both maternal and paternal parenting stress scores were moderately correlated with Down syndrome, while mothers' and fathers' affect scores were weakly related to Down syndrome. Mother's self-esteem was also weakly related to Down syndrome. Thus, Down syndrome was related to decreased parenting stress and more positive affect for mothers and fathers. Down syndrome was also related to higher levels of maternal self-esteem. However, these results need to be interpreted with caution due to the limited number of children diagnosed with Down syndrome in the current sample.

It has been suggested by researchers (Goldberg et al., 1986; Trute, 1995) that families of children with Down syndrome may experience less stress due to early confirmation of the disability as well as increased service provision and support, which may help to explain the current study's findings. Down syndrome is a well-recognized and researched type of disability and therefore, more resources have been allocated for families affected by Down syndrome (Goldberg et al., 1986). The finding that mothers of children with Down syndrome reported higher self-esteem is also consistent with research that parents of children with Down syndrome receive additional informal and formal support and resources (Goldberg et al., 1986).

The findings of this study confirm previous research that parents of children with Down syndrome report less stress (Goldberg et al., 1986; Holroyd & McArthur, 1976;

Noh et al., 1989). The relationship between mothers' higher levels of self-esteem and Down syndrome conflicts with research by Goldberg et al. (1986), who found that parents of children with Down syndrome reported less self-esteem than did parents of children with neurological problems. Goldberg et al. (1986) explain their findings by speculating that parents may feel responsible for a known genetic defect and thus, have lowered self-esteem.

The current study did not reveal any significant relationships between parental stress or psychological well-being and family characteristics of size or income level. The lack of relationship with family size conflicts with research by Trute (1990) who determined that larger families of children with disabilities are associated with higher parenting stress for parental subsystems. Trute's (1990) study drew from a sample of children with an average age of five years ($SD = 2$ years) with diagnoses of multiple disabilities, physical disabilities and Down syndrome. Forty-one per cent of children were from families with three or more children. The current study's sample of children had an average age of four years ($SD = 3$ years) and thirty-nine per cent of children were from families with three or more children. As these sample characteristics are similar, one may speculate that other factors are responsible for the lack of relationship between larger family units and parental stress and well-being. For example, social support may have blunted the effects of larger family size in the current study. The current study's findings were collected six months following the time of diagnosis and entry into the service system (Trute et al., 2004), which may also have impacted parental responses. Perhaps the effects of family size are felt more profoundly after the family adjusts to the

child's disability diagnosis and becomes more integrated within professional systems. Further research is needed to make conclusions regarding impact of family size on parental stress and well-being in families of children with disabilities.

The finding that family income does not appear to be related to parental stress or well-being supports research by Trute (1990), who determined a lack of relationship between income level and family functioning. However, the presence of a child with disabilities may have consequences for parents' financial situation (Trute, 1990). Fifty-four per cent of families in the present study had incomes between \$ 20,000 and \$ 49,999 and 27% had incomes between \$ 50,000 and \$ 74,999. It appears families within this study possessed sufficient funds even though 37% of mothers identified as full-time homemakers and did not earn an income.

Parental characteristics of age and level of education were not found to be significantly related to parental stress or well-being for mothers or fathers. A review of the literature was unable to find research in terms of relationships between parental age, stress and well-being. The lack of relationship with parental level of education conflicts with research by Palfrey et al. (1989), which found that parents with higher education reported elevated parenting stress. Palfrey et al. (1989) explained that less educated parents might experience stress from a variety of sources (such as poverty and unemployment) and be unable to pinpoint any major source of stress. Thus, further research is needed regarding how parental age and education level relates to parental stress and well-being.

Parental satisfaction with social support produced a number of significant correlations with mothers' and fathers' parenting stress and well-being. Maternal satisfaction with family and friendship support was negatively related to maternal parenting stress. Mother's satisfaction with family support was also negatively related to affect. Thus, mothers who were more satisfied with family support reported less parenting stress and more positive affect. Mothers who were more satisfied with friendship support also reported less parenting stress. Paternal satisfaction with friendship and informal support was weakly related to affect. Thus, paternal satisfaction with friendship and informal support was related to increased negative affect in fathers of children with disabilities.

The finding that satisfaction with family and friendship support was related to decreased maternal parenting stress confirms previous research (i.e., Beckman, 1991; Beckman & Pokorni, 1988; Bristol, 1979; Bristol et al., 1988; Dunst et al., 1988; Frey et al., 1989). Friend and family support may serve to decrease maternal parenting stress by providing aid with child care-giving tasks and emotional support (Beckman, 1991). As satisfaction with family support related to decreased parenting stress, it may make sense that it was also related to increased positive affect for mothers. Trute (1995) also suggests a negative relationship between perceived family support and maternal depression.

The finding that informal and friendship support was weakly related to increased negative affect in fathers of children with disabilities presents an interesting finding. However, this result should be interpreted with caution as the variables produced a weak relationship and conflict with previous research (Beckman, 1991; Frey et al., 1989).

Further studies would need to confirm the current study's findings prior to conclusions being made. Perhaps satisfaction with friendship and informal support is not associated with positive affect for fathers because fathers may be more affected by other intervening variables, such as financial or employment concerns. This explanation is supported by Krauss (1993), who found that satisfaction with social support was associated with lower levels of parenting stress for mothers more than for fathers.

Perceived satisfaction with formal support (i.e., family physician, school or daycare centers, early intervention programs and professional agencies) did not appear to be related to parental stress or well-being in the current study. This result confirms research by Beckman (1991) who also found a lack of relationship between formal support and parental stress. Beckman (1991) suggested that family and friendship support served to decrease parental stress by providing aid with care-giving tasks and suggested that formal support systems do the same in order to decrease parental stress. The current study's finding regarding formal support may result from the timing of data collection, as parents were interviewed six months following the diagnosis of their child's disability and the family's entry into the professional service system. Parents may not yet have had an opportunity to become familiar with the range of professional health and social services that were available to them.

PRACTICE IMPLICATIONS

This study provides numerous practice implications for professionals working with families of children with disabilities. In terms of gender differences in parenting stress, mothers reported significantly higher levels of overall stress. Mothers also

reported significantly higher levels of stress in terms of their parenting role and children's behavioral characteristics. Despite these findings, maternal and paternal parenting stress scores were related across all scales of the PSI/SF. Mothers who experienced higher levels of parenting stress had male partners who also reported elevated parenting stress. This finding should serve to remind practitioners of the importance of assessing parenting stress in mothers and fathers of children with disabilities rather than limiting assessments and interventions to mothers.

The lack of significant difference between mothers' and fathers' scores on the P-CDI subscale of the PSI/SF suggests that parents reported similar stress with respect to the emotional quality of the parent-child relationship. This is an important finding as other research has found that fathers associate higher levels of stress with the quality of the parent-child relationship and the formation of attachments to their children with disabilities (Beckman, 1991; Krauss, 1993). Thus, practitioners should not assume fathers will struggle with attachment to their children with disabilities more than mothers and should assess child attachment for both parents.

Another important finding was that both mothers' and fathers' overall parenting stress as well as stress within each subscale of the PSI/SF revealed high mean scores that were close to the clinical cut-off scores. This finding should serve to remind practitioners of the importance of assessing parenting stress in mothers and fathers of children with disabilities. This result also speaks to the need for interventions and additional resources in order to reduce parenting stress in families of children with disabilities.

In terms of gender differences in psychological well-being, mothers reported significantly lower levels of self-esteem than did fathers but no significant difference in affect. Despite mothers' overall lower self-esteem, maternal and paternal well-being scores were related. Thus, mothers who reported less self-esteem and more negative affect had male partners with lower self-esteem and increased negative affect.

Practitioners should therefore assess maternal and paternal psychological well-being within parental subsystems of children with disabilities and should not limit assessments and interventions to mothers.

The finding that parenting stress and psychological well-being were related for mothers and fathers should also serve to ensure practitioners assess both variables in parents of children with disabilities. Practitioners should be aware that parents who have elevated parenting stress might also suffer less self-esteem and more negative affect, which is detrimental to the health of parents and children. Practitioners should ensure interventions target a reduction in parenting stress as well as an increase in parental psychological well-being.

Maternal parenting stress was related to the age of children with disabilities, type of disability and perceived satisfaction with family and friendship support. Paternal parenting stress was related to the age of children with disabilities, children's gender and type of disability. Mothers' psychological well-being was related to children's gender and type of disability. Fathers' well-being was related to severity of disability, type of disability and informal and friendship support.

Children with disabilities who entered the service system at an older age tended to have parents who reported higher parenting stress. This finding suggests that practitioners should provide additional supports and intervention programs for parents of older children with disabilities who have recently entered the service system. This also speaks to the need for coordination of professional social service provision with educational facilities.

A diagnosis of Down syndrome was related to decreased maternal and paternal parenting stress, higher maternal self-esteem and more positive parental affect. A diagnosis of pervasive developmental delay related to increased maternal and paternal parenting stress. Families of children with Down syndrome have access to increased service provision and support (Goldberg et al., 1986; Trute, 1995), which may help to account for the findings of the current study. The results of the current study should therefore encourage practitioners to maintain the present level of support offered to parents of children with Down syndrome, and increase the support provided to families of children with pervasive developmental delay. Perhaps parents would benefit from parent support groups and education on pervasive developmental delay.

Perceived satisfaction with family and friendship support was associated with lower maternal parenting stress. Past research indicates that the provision of aid with child care-giving tasks by family and friends related to lower maternal stress (Beckman, 1991). Practitioners should ensure they assess parental isolation and consider focusing more resources on the provision of assistance with child care-taking and respite as a way to decrease maternal parenting stress.

RECOMMENDATIONS FOR FUTURE RESEARCH

A strength of the current study is that data collection occurred six months following the diagnosis of childhood disability and the family's formal case opening to the service system (Trute et al., 2004). The current research presents unique findings as past studies in the childhood disability literature have not collected data from parents six months following their child's diagnosis. Future studies should continue to collect data at this unique time in parents' lives.

A review of the literature revealed a lack of studies that evaluated the impact of child disability on both parental stress and psychological well-being and thus, the current study presents distinctive findings. It is recommended that future researchers continue to examine how child disability affects both parental stress and psychological well-being.

This study produced a number of interesting findings regarding how child, family and parental characteristics relate to parental stress and well-being. In particular, the findings that decreased maternal self-esteem and increased paternal stress related to female children with disabilities conflicts with previous studies. It is recommended that future research examine the relationships between child gender and parental stress and well-being more closely.

The current study limited analyses to four types of childhood disabilities due to low numbers of children within disability categories. Future research should examine a broader range of childhood disability types in order to ascertain a more in-depth understanding of the relationships between disability type and parental stress and well-being.

The relationship between paternal negative affect and informal and friendship support should be explored further. Research is needed in order to determine if intervening variables may have been responsible for this finding. Previous studies have also identified the need for increased research on paternal support networks and how they relate to parenting stress and well-being (Beckman, 1991; Krauss, 1993).

This study revealed a lack of relationships between parenting stress and well-being and parental and family variables. Thus, the way in which parental age and level of education, as well as family income and family size relate to parental stress and well-being should be explored in future research.

LIMITATIONS

While the current study indicated a variety of interesting results, practice implications and recommendations for future research, it also had limitations. A limitation of the current study involves demographic characteristics of the sample. Most families were Canadians of European descent and only 4% of parents identified as Aboriginal Canadians or visible minorities. This severely limits the conclusions one can make regarding the impact of childhood disability on Canadian parents of non-European descent. Thus, the study lacked cultural diversity and was unrepresentative of a variety of families affected by childhood disability within the general population.

Lack of control groups in childhood disability research has been illustrated as a methodological inadequacy (Dyson, 1991; Erickson & Upshur, 1989; Kazak, 1987). This study did not utilize a control group and therefore, cannot draw conclusions about differences between families of children with and without disabilities. The current study

also examined multiple relationships between variables and therefore, has increased the likelihood of Type I error. The current study was set up as an exploratory analysis of gender differences in parenting stress and psychological well-being between mothers and fathers of children with disabilities and therefore, results need to be interpreted with caution.

CONCLUSION

This research has demonstrated the importance of gender differences in parenting stress and psychological well-being between mothers and fathers of children with disabilities. While mothers of children with disabilities reported increased parenting stress and lower self-esteem than did fathers, it is imperative to recall that fathers are also adversely affected by childhood disability. Professionals attempting to help families of children with disabilities have often overlooked fathers. This research demonstrates the importance of including both parents of children with disabilities in research studies as well as professional family assessments and interventions, as fathers are also at risk of experiencing elevated parenting stress and diminished psychological well-being.

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