A comparison of stress, coping and resources in mothers of developmentally delayed males with mothers of nonhandicapped males and males with behavior problems.

Patricia M. Cheston

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A COMPARISON OF STRESS, COPING AND RESOURCES IN
MOTHERS OF DEVELOPMENTALLY DELAYED MALES WITH MOTHERS
OF NONHANICAPPED MALES AND MALES WITH BEHAVIOR PROBLEMS

by
Patricia M. Cheston

A Dissertation
Submitted to the Faculty of Graduate Studies and Research
through the Department of Psychology in
Fulfillment of the Requirements for the
Degree of Doctor of Philosophy at the
University of Windsor

Windsor, Ontario, Canada
1990
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Patricia M. Cheston
This dissertation is dedicated to my husband, Jim
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Abstract

This research focused on the parental stress and the coping of mothers with a son who is trainable mentally retarded and living in the home (n=18, Group DD). These mothers were compared to a normative group of mothers (n=12, Group NM) and a group of mothers with sons in treatment for behavior problems (n=10, Group BP). All of the mothers had a son between the ages of 6 and 12. The groups were compared on the factors comprising McCubbin and Patterson's (1981) Double ABCX Model of Family Adjustment and Adaptation (e.g. stressors, resources, perception of stressors, and adaptation). Subjects were required to fill out a packet of questionnaires which included a demographic questionnaire, The Family Inventory of Resources for Management, The Family Crisis Oriented Personal Evaluation Scales, The Social Support Inventory, and The Parenting Stress Index. Results showed that mothers in Group DD were both similar to and different from the comparison groups. Mothers in both Group DD and group BP generally found the characteristics of their children to be more stressful than mothers in Group NM. Mothers in Group DD also reported that they experienced fewer life stressors, and that their children required more assistance, than mothers in Group BP. Additionally, mothers in Group BP indicated
that their children generally had a higher level of affective disturbance and were less reinforcing than the children of mothers in Group DD. Overall, Group DD was not significantly different from the comparison groups on measures of family resources, social support, perception of stressors, and stress related to parental characteristics. In working with families of children who are mentally retarded, service providers may need to be sensitive to these factors and careful not to overgeneralize to this population from experiences of working with other types of children.
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Recent legislative and societal trends have had a significant impact on special-needs children, their families, and the professionals who provide services to them. These children are guaranteed an education by the Education of All Handicapped Children Act of 1975, in the United States, and by changes to the Education Act in 1980 in Ontario. Mentally retarded children are no longer routinely admitted to public residential institutions. Instead, it is expected that with available services these children will live with their families or, if necessary, in foster or adoptive homes.

Wikler (1981) acknowledged that in the past mentally retarded individuals have been isolated from community services, and that the professional community has generally not been involved in assisting with the ongoing stresses these families face (e.g. long range planning for these children). Furthermore, Wikler (1981) contended that when the professional community is involved with these families, it is probable that the families are in crisis. Thus, it is unlikely that professionals have much experience with the coping mechanisms utilized by families who do manage to deal effectively with stressors related to raising a child who is mentally retarded.

Consequently, the issues families face in raising a mentally retarded child are important to address to
ensure that appropriate support and services are provided. Information about these families may provide the practitioner with more accurate knowledge about how these families deal with the unique issues related to raising a mentally retarded child, and in planning treatment strategies for similar families experiencing high levels of stress.

This research focused on parental stress and coping in mothers with a mentally retarded child living in the home. These mothers were compared to mothers without a developmentally delayed child, and to mothers with a child receiving psychological therapy for behavior problems. The purpose of this comparison was to determine how families with mentally retarded children were unique relative to "typical" families and families constituting a clinical population. The three groups were compared for type and amount of parenting stress. Moderator variables such as resources and perception of stressors were also examined and compared for these three groups.

Wikler (1986) observed that the extensive literature on family stress has not been sufficiently integrated with the research literature on mentally retarded individuals and that the theoretical framework for studies of stress in families is not always explicit. In an attempt to combine the literature on
family stress and coping with the research on children who are mentally retarded and their families, the following topics will be addressed: First, family stress and coping theory will be addressed, and the Double ABCX Model of Adjustment and Adaptation (McCubbin and Patterson, 1981) will be presented. Second, studies focusing on stress in families with mentally retarded children will be examined within the context of family stress theory. Third, research addressing the role that moderator variables (e.g., resources and perception of stressors) play in families with a mentally retarded child will be presented and evaluated. Fourth, the relevance of the Double ABCX model for research comparing mentally retarded children and their families to other family groups, along with the rationale and purpose of the present study, will be discussed.

Family Stress and Coping Theory

Walsh (1982) noted that family theory has developed rapidly over the past three decades with contributions from sociology, anthropology, social psychology and social history. She cited systems theory, exchange theory, behavioral theory, symbolic-interactionist theory, family developmental theory, and stress and coping theory as relevant models for considering normal and dysfunctional family processes. According to Walsh
these theories are not contradictory. The major difference between these models is their emphasis on a particular aspect of family functioning. As the focus of the present paper is parental stress and coping, family stress and coping theory will be utilized to develop a theoretical model for the research.

McCubbin, Cauble and Patterson (1982) stated that scholars in the area of family stress research have accepted the philosophy of Lazarus (1966), who described stress as a general label for a large, complex, and interdisciplinary area of interest and study. Lazarus (1966) used stress to represent an area of problems that include stimuli producing stress reactions, the reactions themselves and various intervening processes. He contended that the field of stress includes physiological, sociological and psychological phenomena along with their respective concepts. For the purposes of the present discussion, a narrower definition of stress, specifically family stress, will be developed.

Hansen and Johnson (1979) claimed that the view of stress as a short term, single stimulus has resulted in a lack of clarity in defining stress. These authors also examined change as a critical element in the experience of stress. Hansen and Johnson (1979) and Rahe (1974) stated that stress is not a necessary
result of all change and suggested that the experience of stress involves not only the objective rate of change, but also the perceived rate of change which involves the individual's appraisal of the event.

Mechanic (1974) claimed that "mastery of stress is not a simple repertoire, but an act we process over time and relationships to demands that are themselves changing, and that are often symbolically created by the groups within which man lives, and new technologies which such groups develop" (p.35). Hansen and Johnson (1979) pointed out that Mechanic's (1974) account emphasized the interplay of the individual's definitions within his or her situational contexts. Based upon Mechanic's definition, Hansen and Johnson (1979) defined stress as a discrepancy between what an individual thinks or perceives he/she needs and what he/she experiences in their environment. Hansen and Johnson (1979) added that this definition can be expanded to the group or family level. At the family level, it can be theorized that stress will result in a family when there is a discrepancy between what a family perceives its needs are and what the family actually experiences in its environment.

McCubbin and Patterson (1981) further defined family stress (as distinct from stressors) as a state that arises from an actual or perceived demand
capability imbalance in the family's functioning. These authors viewed family stress as being characterized by a multidimensional demand for adjustment or adaptive behavior. McCubbin and Patterson (1981) claimed that stress varies depending upon the nature of the situation, the characteristics of the family unit and both the psychological and physical well-being of its members. According to McCubbin and Patterson (1981), distress results when stress is subjectively defined as unpleasant or undesirable by the family unit.

**Hill's ABCX Formulation**

Empirical research in the area of family stress and coping began in the earlier part of this century, largely in response to societal events such as depression, war separation and reunion, unemployment, alcoholism, and bereavement (Angell, 1936; Koos, 1946; Hill, 1949). Hill (1949) proposed one of the major formulations in the family stress and coping literature in his study of war separation and reunion. Hill (1949) presented the ABCX formulation in which (A) the event, interacts with (B) the family's crisis meeting resources, and (C) the definition the family makes of the event, to produce (X) the crisis. Hill (1958) stated that the family's crisis meeting resources and the definition the family makes of the event lie within
the family and must be seen in terms of the family's structures and values. The first variable, the hardships of the event, lies outside the family and is an attribute of the event itself. The model remained virtually unchanged for over twenty years, but was modified slightly twice (Hansen and Hill, 1964; Hill, 1958).

Burr (1973) and Hansen and Johnson (1979) summarized and analyzed many of the theoretical ideas in the family stress literature. Particularly, they explored Hill's (1949) ABCX model and attempted to further define each variable. These articles will be used to discuss Hill's model which will be used to introduce McCubbin and Patterson's Double ABCX Model of Adjustment and Adaptation.

The A factor: the stressor event. Burr (1973) defined Hill's A factor, the stressor event, as an event that produces a change in the family social system. He stated that anything that leads to change in some aspect of the system such as boundaries, structure, goals, processes, roles, or values can produce some amount of crisis in the system. Burr contended that this variable denotes something different from routine changes within a system that are expected as part of its regular operation; rather, it connotes events that lead to system changes. He
explained that some stressors produce large amounts of crisis and some produce very little crisis.

Families experience both normative and nonnormative stressor events, along with the hardships that accompany them, throughout the family life span. Normative events encompass the predictable developmental changes which occur over the life span in individual members of the family unit and the family as a whole. Boss (1980) contended that transition periods from one life cycle stage to the next are accompanied by role transformations that involve ambiguity in changing rules, expectations and behaviors of family members. McCubbin, Cauble, & Patterson (1982) cited transition to parenthood, raising adolescent children, launching children, and retirement as the more common normative stressors.

Unanticipated situational family experiences which usually place the family in a state of instability and which call for coping are referred to as nonnormative stressor events (McCubbin, Cauble & Patterson 1982). Generally, nonnormative stressors are unforeseen and families are not prepared to cope effectively. They may not have the social, psychological or material resources available to manage such events. Common nonnormative events include accidental injury, illness, hospitalization and loss of employment. While
childbirth is a normative stressor event, having a child who is mentally retarded would be considered a nonnormative event. McCubbin, Cauble & Patterson (1982) contended that nonnormative stressors may present the family unit with the opportunity for personal and family growth, while also creating increased vulnerability of the emotional well-being of family members and the stability of the family unit.

The B factor: crisis meeting resources. According to Burr (1973), the major contribution of Hill's ABCX formulation was that it identified two variables (the B and C factors) that influence the relationship between the stressor event and the amount of crisis in the system. The B factor was described by Hill (1949) as the crisis-meeting resources of the family. Hill (1949) summarized the B factor as the "adequacy-inadequacy" of family organization. Burr (1973) described the B factor as the family's ability to prevent a change in the social system from creating a crisis or disruption in the system.

Burr noted that Hansen (1965) developed a theoretical model in which he used the term vulnerability to label what seemed to be the same phenomenon as Hill's B factor. Burr added that neither theorist defined this variable, but it seemed to denote variation in the family's ability to prevent a stressor
event or change in the family's social system from creating crisis in the system.

The C factor: definition of the event. Hill's C factor is the definition the family makes of the event. Hill (1949) differentiated between three types of definition: Definition formed by an impartial observer, definition formed by a community, and definition formed by the family. Although Hill (1949) stated that his model dealt with the definition made by the family, Burr stated that this does not identify what about this definition may vary. According to Burr, the main difference in definition was whether the family defines the change in the system as easy or difficult. Burr (1973) contended that if this is a correct analysis of what is varying in this factor, the best label for this phenomenon is probably the subjective definition of the severity of change.

Burr (1973) pointed out that the theoretical idea dealing with the definition the family makes of the severity of change is that the definition makes a difference in the amount of crisis in the family system. He proposed a positive relationship between the perceived severity of changes in the family social system and the family's vulnerability to stress (i.e., the more the perceived severity of the stressor, the greater the family's vulnerability to stress or
crisis). Burr contended that this idea has had a long tradition in social psychology and can be looked at as "if something is perceived as real it is real in its consequences" or "self-fulfilling prophecy" (Burr, 1973, cited in McCubbin, Cauble & Patterson, 1982, p. 9).

The X factor: the crisis. Hill (1949) defined crisis as "any sharp or decisive change for which old patterns are inadequate" (p.51). Burr contended that Hill (1949) did not explain how the phenomenon of "crisis" varies. According to Burr (1973), crisis denoted variation in the amount of disruption, incapacitation, or disorganization of the family social system. Family social system was described as "an organization consisting of intricately related social positions that have complex sets of roles and norms, and that the system exists to accomplish a wide variety of objectives such as reproduction, socialization, and emotionally intimate interaction" (Burr, 1973, in McCubbin, Cauble, and Patterson, 1982, p.9). Burr also viewed crisis as varying continuously from no crisis to a high amount of crisis. He stated that when no crisis exists it does not mean that there are no stressors in the system, rather it indicates that the problems are of a routine rather than unusual nature.
Hansen and Johnson (1979), in a discussion of Burr's (1973) article, claimed that Burr's definition of crisis is restrictive. Essentially, Hansen and Johnson (1979) questioned whether all "sudden or decisive changes" in family capacities or organization should be termed "crisis." They elaborated that in some families disorganization may be closer to a "regenesis" in which members accept disruptions of habit and tradition not as problems, but as opportunities to renegotiate their relationships. Hansen and Johnson (1979) acknowledged that this possibility was ignored in Hill's (1949) and Burr's (1973) concept of "crisis." Hansen and Johnson viewed crisis as a descriptive term to refer to only one kind of many responses to stress. These authors maintained that the concept of crisis is useful when one is interested in families that fall into processes that are destructive to family unity when under stress. They added that researchers and theorists also need to understand why some families do not fall apart and why those that do have not fallen apart before. Hansen and Johnson called for conceptualizations that resist the idea of a necessary discontinuity of behavior or a sick state to explain family relations in conditions of stress.
In summary, Wikler (1986) stated that Hill's ABCX formulation is based on an assumption that the stressor event is a discrete event with a beginning and an end. Wikler claimed that Hill's formulation therefore pertained to acute rather than chronic stressors. Hill (1949) presented family adjustment as a roller coaster model. He proposed that a period of disorganization occurs following the stressor event and that the family then restructures and re-establishes its equilibrium. According to Mederer and Hill (1983) the new level may be better or worse than the previous level of family functioning.

Wikler (1986) contended that the degree of disorganization the family experiences during the crisis would be determined by the B and C factors. She added that by assessing the resources the family has available for handling a stressor event, as well as the meaning that it makes of the stressor event, one should be able to predict the extensiveness of the family crisis that would result from the stressor event.

The Double ABCX Model

Utilizing Hill's (1949) Family Crisis Model and the concepts described above as a framework, McCubbin and Patterson (1981) introduced the Double ABCX Model of Family Adjustment and Adaptation. Based on findings made with families who experienced a prolonged
war-induced separation, McCubbin and Patterson (1981) suggested that Hill's (1949) ABCX Model could be strengthened by the addition of post-crisis variables which could facilitate the understanding of why some families are able to adapt more satisfactorily to crisis or stressors. They also suggested a framework which allows for the study of adaptation to stressors across time, whereas, Hill's model is more suited to studying short-term adjustment to stressors. McCubbin and Patterson's (1981) post-crisis variables have been incorporated into the Double ABCX Model. McCubbin and Patterson (1981) summarized the Double ABCX Model as follows:

The double "A" factor: Stressors and change. This factor included not only the stressor event, but also allowed for other stressors present in the families' lives. It included the "pile-up" of stressors that may result from the original stressor event (e.g. financial strain due to the birth of a chronically ill child). McCubbin and Patterson (1981) noted that three factors contribute to a pile-up in the family system in a crisis situation as a result of: (a) the hardships inherent in the initial stressor, (b) normal change and development, and (c) the trial and error efforts to manage the situation (p. 29). In summary, McCubbin and Patterson (1981) added to Hill's A factor (the stressor
event) the additional life stressors and changes which make family adaptation more difficult to achieve.

The double "B" factor: Family resources.
McCubbin and Patterson (1981) stated that "resources are the psychological, social, interpersonal, and material characteristics of individual members, the family unit and the community that may be brought into play in reducing tension, managing conflicts, and in general, meeting demands and needs" (In McCubbin, Cauble and Patterson, 1982, p.38). They viewed individual resources as including education, psychological stability, the capacity to be nurturing, the ability to manage the home, the ability to function independently, and the ability to manipulate resources to one's advantage. Family resources include integration, cohesiveness, flexibility, organization, moral religious values, and expressiveness. Environmental resources are composed of social support networks, medical and psychological counselling services, and social policies that enhance family functioning and protect families from financial disaster. McCubbin and Patterson (1981) extended Hill's B factor by delineating between two general types of resources: Resources which are available to the family prior to the stressor and reduce the probability of the family entering into crisis, and,
coping resources (individual, family and community) strengthened or developed in response to the crisis situation.

Two concepts, vulnerability and regenerative power (Burr, 1973) appear to be related to the factor of family resources. Burr (1973) defined vulnerability to stress as variation in a family's ability to prevent a stressor event or change in a family social system from creating crisis or disruptiveness in the system. According to Burr (1973) regenerative power denoted variation in the ability of the family to recover from a crisis. McCubbin and Patterson (1981) contended that the concepts of vulnerability and regenerative power have become the major reference points for researchers attempting to explain why some families are able to: (a) defend themselves against crisis or (b) recover from a stressor event or impending crisis.

The double "C" factor: Family perception. Family perception encompasses the processes families utilize to achieve satisfactory resolution. Specifically, the C factor includes perception of the most significant stressor event, the total crisis situation and its added stressors, old and new resources, and the family's estimate of what is needed to bring the family system into balance. McCubbin and Patterson (1981) expanded this factor when they separated the
perceptions families make depending on whether the family's response is focused on before or after a crisis develops. Prior to crisis, family perception involves evaluation of how stressful the event may be or anticipation of the stressor. Perception subsequent to crisis involves the family's view of the stressor and related hardship, the pile-up of life events, and the meaning that the family attaches to the total family situation. According to McCubbin and Patterson (1982), families' perceptions post-crisis tend to involve religious beliefs, redefinition of the situation, and giving the situation meaning.

Hansen and Johnson (1979) cited ambiguity as central in whether a family experiences stress or crisis in response to change, and linked it to the C factor of perception. These authors viewed definitional qualities of a situation as critical, and claimed that the uncertainties introduced by change are the most stressful qualities of a change situation. Hansen and Johnson referred to the uncertainty of the change situation as ambiguity. Ambiguity may be related to a family's ability to define and implement coping strategies when experiencing unfamiliar stressors. However, Hansen and Johnson also saw conditions of heightened ambiguity as occasions for the families to reconstruct as well as destruct the social
reality. This could help them define their individual situations and negotiate new agreements.

The double "X" factor: Family crisis and adaptation. This factor represents the outcome of the family efforts or the placement of the family on the continuum between bonadaptation and maladaptation. McCubbin and Patterson (1981) viewed family crisis as one phase in the continuum of family adjustment to stress over time, and questioned whether "reduction of crisis" alone is an adequate index of family post-crisis adjustment. They introduced the concept of family adaptation as one possible outcome for a family faced with stressors or a crisis. McCubbin and Patterson (1981) defined family adaptation as "the degree to which the family system alters its internal functions (behaviors, rules, roles, perceptions) and/or external reality to achieve a systemic (individual or family)--environmental fit" (In McCubbin, Cauble, and Patterson, 1982, p. 38). Adaptation is achieved through reciprocal relationships in which (a) system demands (needs) are met by resources from the environment and (b) environmental demands are satisfied through system resources (Hansen & Hill, 1964; Mechanic 1974; Melsen, 1980). McCubbin and Patterson (1981) stated that family adaptation is achieved when the discrepancy between the demands on the family unit
(from within the family, and from the environment) and the resources (from within the family and from the environment) are at the absolute minimum.

McCubbin and Patterson's (1981) Double ABCX model extends Hill's (1949) original formulation in several ways. First, it allows for adaptation to be considered over time. Thus, this model is especially suited to research investigating how families adapt over an extended period of time to a stressor event such as the birth of a mentally retarded child. Second, McCubbin and Patterson's (1981) extension facilitates a multidimensional comparison of stressors, moderator variables and adaptation among various families. Finally, the Double ABCX model also provides a theoretical framework for reviewing existing research, and for guiding future research pertaining to families with a mentally retarded child.

In the following sections the research literature pertaining to families with mentally retarded children will be reviewed. The Double ABCX model will be used as a framework for evaluating the literature. Research relating to each of the factors (Aa, Bb, Cc, Xx) will be discussed.
The Stressor-Stress Relationship

Probably the largest area of research pertaining to families of children with mental retardation attempts to identify stressors which influence the level of adaptation a family makes. This approach examines which families and family members are most vulnerable to stress, and which stressors are most responsible for stress levels. In terms of McCubbin and Patterson's model, these studies examine the relationship of the Aa factor, stressors and change, to the Xx factor, family crisis and adaptation.

Studies examining the relationship between the stressor of mental retardation and the level of stress a family experiences typically have had correlational designs and have examined characteristics of the mentally retarded child (i.e., behavior problems, independence, demandingness, etc.) and their relationships to family or parent functioning. Although, research has generally indicated that mothers of mentally retarded children do experience high levels of stress (Beckman, 1983; Bradshaw & Lawton, 1978; Burden, 1980; Cooke, Bradshaw, Glendinning, Baldwin, Lawton, & Staden, 1982; Quine & Pahl, 1985; Tew & Lawrence, 1975), the conclusions from these studies are contradictory. Byrne and Cunningham (1985) pointed out that it is difficult to draw conclusions about which
characteristics of the families and children are related to variations in the amount of stress reported.

The results of a large body of research have focused on the relationship between the characteristics of the mentally or physically impaired child and family adaptation. Some studies have suggested variation in the amount of stress reported as a function of the child's diagnosis (Cummings, 1976; Cummings, Bayley, & Rie, 1966; Holroyd & McArthur, 1976). For example, Holroyd and McArthur (1976) found differences in amount of stress reported by families of children (ages 3-12) who were autistic, had Down's syndrome and were outpatients in a psychiatric clinic. The Questionnaire on Resources and Stress (Holroyd, 1974) was used to measure mothers' attitudes and feelings. Overall, the mothers of autistic children scored higher on the questionnaire (i.e., had higher stress levels) than the mothers of children with Down's syndrome or mothers of children receiving outpatient treatment. Mothers of children with Down's syndrome reported no more personal or family problems than the mothers with children in outpatient treatment.

Beckman (1983) investigated whether specific personality/behavioral characteristics of handicapped infants were associated with the amount of parent and family stress reported by the mother. Subjects in this
study included 31 handicapped infants (9 females, and 22 males) with an age range of 6.6 to 36.6 months of age. All subjects were enrolled in a parent-based intervention program, and all had some identified organic involvement (e.g., Down's syndrome, cerebral palsy, spina bifida). Severity of the children's handicaps ranged from mild to profound. Beckman utilized the following measures: The Questionnaire of Resources and Stress (Holroyd, 1974), the Holmes and Rahe Schedule of Recent Experience (Holmes & Rahe, 1967), the Carolina Record of Infant Behavior (Simeonsson, Huntington, Short, & Ware, 1982), an 11 item caregiving checklist designed by Beckman, and the Bayley Scales of Infant Development.

Beckman reported that the data analysis was correlational. Significant relationships were found between measures of stress (i.e., Questionnaire of Resources and Stress) and the child characteristics of temperament, responsiveness, repetitive behavioral patterns, and caregiving demands. Generally, mothers who reported more parent and family problems had infants who made a greater number of unusual caregiving demands, were less socially responsive, had more difficult temperaments and had more repetitive behavior patterns. Beckman referred to these relationships as comprising a "difficulty of care element." She
reported that these findings were consistent with other studies (Friedrich & Friedrich, 1981; Holroyd & McArthur, 1976) in terms of scores on the Questionnaire of Resources and Stress. Beckman's profile means were similar to Friedrich and Friedrich's (1981) handicapped group and Holroyd and McArthur's (1976) Down's syndrome group. Beckman's subjects scored significantly higher on two subscales than the subjects in the two aforementioned studies. The scales were Excess Time Demands and Physical Incapacitation. Beckman (1983) stated that these elevated scores may be related to the fact that children in her study were infants. She suggested that studies comparing families of handicapped and nonhandicapped infants are needed to distinguish the added stress resulting from a handicap from that resulting simply from caring for an infant.

McKinney and Peterson (1987) also investigated the effects of having a disabled child on family stress levels. Sixty-seven developmentally disabled children (7 to 41 months of age) were recruited from seven early intervention programs for this research. Subjects had a diagnosis of either Down's syndrome, cerebral palsy or some other physical disability such as spina bifida. The results of this study indicated that the mothers of the developmentally disabled children obtained significantly higher scores than the normative scores
on the Child Domain of the Parenting Stress Index (Abidin, 1983). McKinney and Peterson suggested that as a group, the characteristics of developmentally disabled children acted as a greater stressor than those of nonhandicapped children. They noted a pattern of increased scores across level of severity of physical disability, particularly in terms of the problems of child demandingness and mood. McKinney and Peterson added that children with moderate and severe physical impairments presented more problems in general and placed more demands on the mother than children with mild disabilities.

Blacher, Nihira, and Meyers (1987) compared three groups of mentally retarded children divided according to the severity of their mental retardation (i.e., educable, trainable, severe mental retardation). As did McKinney and Peterson (1987), they found significant effects for the severity of the retardation. The birth of a severely retarded child had an early and pervasive effect on the family. The initial impact was high and constant for families of a child who was severely mentally retarded, while in the families with a child who was educable mentally retarded the effect decreased with age. The results from structured interviews indicated lower family adjustment for the group of children who were severely
mentally retarded and their families. Blacher et al. (1987) speculated that these results may be related to the greater level of retardation, greater burden of care, and demands for parent involvement in schooling and training. They added that the constant need to adjust to a severely mentally retarded child along with the continued burden of care, may have prevented the family from resuming its "normal" routine after dealing with the initial diagnosis.

Bradshaw and Lawton (1978) utilized the Malaise Inventory (Rutter, Graham, & Yule, 1970) to measure the amount of stress in 303 families of "very severely disabled children". The Malaise Inventory asks individuals if they have had any of 24 emotional and physical/psychosomatic symptoms in recent weeks. No significant difference was found between the degree of the child's impairment (e.g., mobility, communication, independence) and the mothers' Malaise scores. These findings were similar to those reported by Tew and Lawrence (1975). These authors found no significant difference between the malaise scores of mothers with children who were mild and moderately handicapped with spina bifida. However, mothers of severely handicapped children in the Tew and Lawrence study had higher malaise scores, particularly when the child was non-mobile and incontinent. The scores of subjects in
Bradshaw and Lawton's (1978) study did not vary for severely handicapped children. However, the authors did report significant variance according to three aspects of management. First, they found that mothers of children who played normally had lower malaise scores than mothers who reported that their children did not play normally. Second, the authors reported that mothers of normally active children scored lower than mothers of hyper- and under- active children. Finally, mothers who reported that their child's health was normal had lower scores than mothers who reported that it was only fair or poor.

Kazak and Marvin's (1984) research on social networks and family stress compared families with a handicapped child (53 families with a child with a major diagnosis of myelomenigocele) to a group of 53 families without a child who was handicapped. The results indicated that families with handicapped children experienced greater stress than controls, but family adaptation was considered to be adequate. In particular, mothers of handicapped children tended to be more vulnerable to the effects of stress than were the control mothers or the fathers from both groups. There was also considerable stress between these mothers and their children as measured by the Parenting Stress Index (Abidin & Burke, 1978). This was presumed
to be a consequence of the mothers' responsibilities of caring for the child.

Quine and Pahl (1985) also investigated stresses involved in caring for a mentally handicapped child at home. They expanded their analyses to include measurement of the relationship between combinations of stressors and stress levels in mothers. This study included 200 families of severely mentally retarded children from two health districts of southeast England. Quine and Pahl examined aspects of the child's impairment and impact of the impairment on caregiver's stress levels. Stress levels were determined by maternal response to the Malaise Inventory (Rutter, Graham, and Yule, 1970). Measurement of the child's mobility, continence, self help skills, vision, hearing, communication skills, behavior and medical conditions were determined with the Disabilities Assessment Schedule (Holmes, Shah, & Wing, 1982) which was completed by the child's teacher or care assistant. Interviews were also conducted with the children's families to collect data about all family members, the nature of the children's handicaps, the problems these presented and the families' use of and satisfaction with statutory and voluntary services.

The mothers' mean malaise scores were outside the normal range which indicated that mothers were
experiencing a high degree of stress. After establishing high stress levels in mothers caring for a mentally retarded child, Quine and Pahl investigated which particular problems appeared most stressful. Quine and Pahl (1985) found that level of stress as measured by the Malaise Inventory was not related to diagnostic category or nature of the child's impairment (i.e., incontinent or immobile), lack of communication skills and lack of self-help skills. However, they did find that combination of impairments into a composite score produced a significant association between number of impairments and malaise scores. The impairment score was calculated on the basis of data collected from the teachers and care assistants using the Disabilities Assessment Schedule and was independent of the "stress" variable. Children with more impairments tended to have parents with higher stress levels.

Also, the malaise scores of mothers whose children needed a lot of help in their physical care were higher than those requiring little or no help. The difference reached significant levels when dressing and undressing along with night-time disturbance were considered. Based upon this finding, Quine and Pahl created a burden score by combining items for which a child may require help (i.e., washing, meal times, undressing, dressing, night-time). A significant positive
correlation was found between total burden score and mothers' stress level.

Additionally, Quine and Pahl (1985) found a significant association between the degree to which a child's behavior was disordered and the level of stress reported by the mother. The more severe the behavior problem in the child, the higher the malaise score of the mother. Quine and Pahl (1985) stressed that the link between behavior disorder and stress is an important finding. These authors found that children with management difficulties in a number of areas (e.g., child not easy to occupy, behavior problems, unusual appearance, difficult to manage, disrupt parent's sleep) were significantly more stressful than those with fewer or no management problems. Night-time disturbance was highly significant and related to the most severe stress scores.

The strength of Quine and Pahl's research is that they extended their analysis of the stressor-stress relationship. Unlike Bradshaw and Lawton (1978), Quine and Pahl (1985) considered combinations of child characteristics (e.g., total number of impairments) which may have contributed to maternal stress rather than single stressors (e.g. ability to walk) in isolation. Generally, mothers of children in the Quine and Pahl study experienced more stress when their child
had behavior or management issues, many impairments, and required extra work. This finding appears similar to the "difficulty of care element" described by Beckman (1983) and to the results reported by McKinney and Peterson (1987).

Another group of research studies has investigated the relationship between having a mentally retarded or disabled child and the marital adjustment of the parents. Again, results from this research were not conclusive. Farber (1959) examined the effects of having a severely mentally retarded child on marital integration in 240 families. He found that outcome was more closely related to marital integration prior to presence of the child than to any influence of the child, and that the disruptive effects on the parents' marriage increased as the child got older. Gath (1977) conducted an interview study and rated significantly more marriages as "poor" among the parents of children with Down's syndrome than among parents of nonhandicapped children. However, it should be noted that even though negative measures were higher for the Down's syndrome group than the control group, positive measures were also higher in the Down's syndrome group. Walsbren (1980) found no difference between parents of mentally handicapped children and parents of non-handicapped children using the Locke-Wallace
Marital Adjustment Inventory (Lock & Wallace, 1959). Additionally, Kazak and Marvin (1984) found no difference between parents of children with spina bifida and control group parents. The parents of children with spina bifida scored higher on some measures of marital satisfaction than the control group. Friedrich and Friedrich (1981), however, did find that parents of mentally retarded children experienced significantly less marital satisfaction than control group parents. Byrne and Cunningham (1985) pointed out that the differences in these findings may be attributable to differences in the age of the children examined in the various studies. Waisbren's (1980) sample included families with children 13 months of age, Friedrich and Friedrich (1981) used children who were an average of 9.8 years of age, and Kazak and Martin (1984) did not report the age of their sample. Byrne and Cunningham suggested that it was possible that marital satisfaction decreases over time in families with mentally retarded children. They also acknowledged that most of the studies cited utilize an instrument with a single score to measure the complex variable of marital satisfaction.

Byrne and Cunningham (1985) suggested that the lack of consistent findings in the body of stressor-stress
research indicated that the measurement of differences between families on a single stressor provided insufficient information to distinguish between families experiencing high levels of stress and those who were not. Another factor possibly influencing lack of consistent findings in this area, was the tendency of some researchers to combine diverse groups of disabled children together into one sample (e.g., McKinney and Peterson, 1987 used Down's syndrome, cerebral palsy and other physically disabled children in their sample). Other studies have labeled their sample as developmentally disabled without specifying the nature of the group's disabilities (e.g., Bradshaw and Lawton (1978) refer to their sample as severely disabled). Additionally, Quine and Pahl (1985) asserted that there is also variation within subtypes of mental retardation. They stated that "severely mentally handicapped does not tell us very much about the child so labelled. Some severely mentally handicapped children are completely immobile, while others are so active that they exhaust those around them" (p. 502). Generalizability of findings was also made difficult because studies using very young and older children often have had contradictory results (Beckman, 1983; Bradshaw, & Lawton 1978; Butler, Gill, Pomeroy, & Fewtrell, 1978). Consequently, stage of
family life cycle and developmental issues related to various age periods may have an influence on the stress levels parents experience.

It appears that the only firm conclusion from this research is that while families with a child who is mentally retarded experience added stressors this does not mean that the family necessarily will experience difficulties in adaptation. Several studies have indicated that when families do experience high stress levels, they appear to be related to a combination of child characteristics which Beckman labelled a "difficulty of care element" (Beckman, 1983; McKinney & Peterson, 1987; Quine & Pahl, 1985). This does not explain why some families are vulnerable to stressors or how stress can be alleviated. Lack of control groups in these studies also prevents comparison of these families to families without mentally retarded children. Although not specifically studied, there is the suggestion that variables independent of the stressor may moderate the family's stress level. It seems that inclusion of the double B and C variables from McCubbin and Patterson's (1981) model may help clarify this issue.
The Relationship of Moderator Variables to Adaptation

The contradictory findings of the aforementioned studies support the theoretical contentions of family stress theorists (Burr, 1973; Hansen & Johnson, 1979; Hill, 1949; McCubbin & Patterson, 1981) that there is not a simple stressor to stress level relationship. In terms of McCubbin and Patterson's (1981) or Hill's (1949) models, both the B (resources), and C (perception), factors are considered moderator variables which intervene in the stressor to stress relationship. Research examining these factors is limited. Some studies, however, have examined variables which appear to represent the B and C factors. These studies will be reviewed next.

Family Characteristics as Resources and Stress Levels

As previously stated, McCubbin and Patterson (1981) identified family resources as beneficial to families in managing crises or working toward adjustment. Bristol (1987) found that both informal and formal support (intra & external familial resources) made independent contributions to the prediction of quality of parenting and marital adjustment in families with an autistic or communication impaired child. Bristol stated that this finding reinforced McCubbin's (1979) contention that active coping strategies play a role that goes beyond the passive receipt of support.
Beckman (1983) along with Quine and Pahl (1985), cited the number of parents living in the home as a family characteristic associated with the amount of stress experienced by mothers. They found single mothers experienced significantly more stress. Other studies found no difference in stress between one and two parent families (Bradshaw & Lawton, 1978; Butler, Gill, Pomeroy, & Fewtrell, 1978).

Kazak and Marvin (1984) found that marital relationships were as positive and strong in the families who had a child with spina bifida as they were in a comparison group of families with nonhandicapped children. This result was in direct contrast to previous research, which had suggested that the presence of a handicapped child had a negative impact on the marital relationship (Friedrich & Friedrich, 1981). Kazak and Marvin's analysis of the subscales of the Dyadic Adjustment Scale indicated that in some cases having a handicapped child may have actually functioned to strengthen the marital relationship. Mothers of children with spina bifida perceived a significantly higher degree of affection in their marriage than the comparison group. Fathers of the children with spina bifida had a significantly higher degree of consensus in their marriage than the comparison group. Kazak and Marvin (1984) stated that
their results indicated that, rather than affecting the marital relationship, the stress in families with handicapped children seemed related to parenting issues.

Kazak and Marvin (1984) also mentioned that mothers perceived fathers to be an important source of psychological support for the family. Lamb (1983) reported similar findings in regard to support from fathers. In families with a mentally retarded child, the fathers' psychological support as well as his physical assistance was important and may have played a major role in the families' ability to cope. Compared to families with nonhandicapped children, Kazak and Marvin (1984) found that families of children with spina bifida tended to have highly functional spouse subsystems where the father was relatively excluded from the parenting subsystem. Kazak and Marvin (1984) contended that the daily demands of parenting a handicapped child, and the unrelenting financial burden involved, may produce a situation in which the high degree of specialization in parenting becomes both the path of least resistance and the most efficient solution. This notion also fits with the above contention that stress levels in these families may be more related to parenting issues than to marital satisfaction.
Bristol (1979) and Farber (1959) considered the age of the child as a moderator of stress levels. They found that family stress occurred more frequently in families of older handicapped or mentally retarded children. Additionally, boys were viewed as more stressful than girls. Bradshaw and Lawton (1978), however, found no significant relationship between either the age of the child or age of the mother and stress reported by the mother. Beckman (1983) also found sex of child and the child's age to be unrelated to maternal stress levels.

**Economic Resources as Moderators of Stress**

Several studies have focused on economic and social variables as resources and examined their relationships to stress levels. According to Beckman (1983) and Bradshaw and Lawton (1978), socioeconomic status and family size did not appear to contribute significantly to stress. Ferguson and Watt (1980) indicated that stress level was not related to the presence of a mentally retarded child, but was highly related to social class. They concluded that mothers of disabled children, whatever the social class background, were no more stressed and anxious than working class mothers of non-handicapped children. Quine and Pahl (1985) presented results which showed a positive relationship between lower malaise scores of mothers with higher
family incomes. They also found that women with husbands in a non-manual occupation had lower mean malaise scores than women who had husbands in manual occupations. Minnes (1988) found that parents with a higher socio-economic status who were experiencing high stress showed a greater preference for institutional care of their child than parents of lower socio-economic status. Minnes suggested that this finding may reflect that parents with a higher socio-economic status have feelings concerning the stigma associated with having a mentally retarded child.

**Social Support as a Moderator of Stress**

Social Support has also been considered to be a resource families may use in coping with stressors. McCubbin, Cauble and Patterson (1982) contended that individuals who are socially supported seem to adapt easier to changes and appear to be protected from the maladaptive physiological and psychological effects of stress. Hammer (1983) described social networks as providing feedback which confirms behavior and maintains performance, thereby contributing to both physiological and psychological functioning. McCubbin, Cauble, and Patterson (1982) utilized Cobb's (1979) definition of social support. Cobb defined social support as entirely informational or communicative in
nature. According to Cobb (1979) social support included the following:

(a) emotional support leading the recipient to believe he/she is cared for or loved.
(b) esteem support leading the recipient to believe that he/she is esteemed and valued.
(c) network support leading the recipient to believe that he/she has a defined position in a network of communication and mutual obligation (Cobb, 1979, In McCubbin, Patterson, and Cauble, 1982, p. 189).

Kazak and Marvin (1984) studied social networks and family stress in families with handicapped children. They compared 56 families of children with major diagnoses of myelomeningocele (spina bifida) with a group of 53 families without handicapped children. Each parent completed three stress measures: Langer Symptom Checklist (Langer, 1962), the Parenting Stress Index (Abidin & Burke, 1978), and the Dyadic Adjustment Scale (Spanier, 1976). Parents also participated in an interview which gathered information about basic family demographic data and the family's social network.

Kazak and Marvin (1984) obtained significant differences when the structural characteristics of both groups of parents' social support networks were compared. They found that families of children with
spina bifida had smaller and denser overall social networks than did comparison families, but the quality of the interaction with others was good. When family versus friendship networks were analyzed separately, it was evident that there were no major differences between the groups in terms of their family network size. The friendship network of parents who had children with spina bifida was smaller than the comparison group of parents. Mothers and fathers of handicapped children also had much greater overlapping network membership than was the case in comparison group families.

Kazak and Marvin stated that although these high density networks may foster a sense of cohesiveness and support, both mothers and fathers of children with spina bifida reported higher stress levels. They speculated that dense social networks may reduce access to other resources (i.e., different viewpoints and information). They added, however, that the network appeared to be well adapted to the needs of raising a handicapped child, and was congruent with the close, highly specialized structure of the family itself.

Trute and Hauch (1988) surveyed families that had adjusted positively to the birth of a developmentally disabled child and were providing home care for their disabled child. A sample of 36 families with a
disabled child was obtained through a child development center. Thirteen of the children were diagnosed as having Down's Syndrome and the remainder presented with an array of handicapping conditions. The children's disabilities ranged from slight to severe.

Trute and Hauch (1988), like Kazak and Marvin (1984) found that parents of handicapped children had small social networks. Both the family and friend networks of mothers were composed mainly of women, also mothers were more likely to turn to other women in times of crisis. It was also found that family and friends provided mothers with more than one type of support. Analysis of support-type data comparing support received from family to that received from friends showed that family provided more material aid, physical assistance, and respite, while friends were sought out for emotional support, advice and information, and social participation.

Generally, Trute and Hauch's (1988) investigation of families successfully adapting to their child's disability supported the notion that while social support of these families was different from families with nonhandicapped children, it was not maladaptive. Their study suggested that families showing positive adaptation to the birth of a disabled child were supported by small, well organized human networks.
Parental skill in utilization of extended family, and friendship networks appeared critical in a family system's positive reorganization following the birth of a disabled child. These families tended to have smaller social networks but indicated that they had formed friendships subsequent or just prior to the disabled child's birth. This contradicts the notion that these families often withdraw or experience social isolation (Carver & Carver, 1972; Davis & MacKay, 1973; Dunlop & Hollingsworth, 1977; Farber, 1959; Lesinson, 1975; McAllister, Butler & Lei, 1973).

 Mothers also indicated that they received abundant support from their social network. Additionally, this sample's total network and family network density was high while mean density of friendship was low. Trute and Hauch stated that the logistics of caring for a disabled child at home would seem to militate against maintaining a loose network of friends. However, loosely knit friendship networks have been associated with positive adjustment to events requiring substantial life change (Wilcox, 1981). These contacts may make novel advice and information more accessible.

 Another type of social support available to families are formal support networks. According to Wikler (1986), formal support networks consist of professionals and community agencies used by the
family. Vincent (1983) examined the sequence in which families under stress report how they choose family resources. He found that professionals were turned to last. Wikler (1986) pointed out that when a family requests help from professionals, it may be because all previous attempts to engage support from informal support networks have failed. Wikler also added that families without financial resources, careers, or access to formal service systems must rely heavily on informal support networks (e.g., family and friends). In families with mentally retarded children, frequent contacts with grandmothers were found to be especially significant in increasing coping ability (Farber, 1959; Holt, 1958; Waisbern, 1980).

Several studies have also indicated that parents viewed professional and community services as impersonal, slow, cumbersome, and insensitive (Ayer, 1982; Bayley, 1973; Lloyd-Bostock, 1976; Lonsdale, 1978). Reid (1983) suggested that one in eight parents understood the organization of services. Byrne and Cunningham (1985) noted that the single need expressed by parents in every study they reviewed was for a link person between the family, and health, social and education services who could explain, mediate, and interpret (Ayer, 1982; Bayley, 1973; Lloyd-Bostock, 1976; Lonsdale, 1978; Reid, 1983).
Combinations of Resources as Moderator Variables

Some studies which have focused on moderator variables have examined a variety of resources and their relationships to family adaptation (Friedrich & Friedrich, 1981; Minnes, 1988; Quine & Pahl, 1985; Petersen, 1984). Quine and Pahl (1985) assessed the cumulative effects of economic and social disadvantage on families with mentally retarded children. They accomplished this by devising an adversity score which took the following elements into account: being a single parent, one family member having a longstanding disability or having been an inpatient during the previous year, housing that was unsuitable for family needs, low income, money worries, an unhappy marriage, and lacking a close friend. The sample was divided into a high (four or more of the above characteristics) and low adversity group (three or fewer of the above characteristics). The high adversity group consisted of forty subjects and the low adversity group consisted of one hundred and sixty subjects. The malaise scores of these two groups were significantly different with the high adversity group obtaining higher stress scores.

In order to assess the relative importance of all the various factors which affect the caretaker's experience of stress, Quine and Pahl (1985) included all variables they hypothesized were likely to affect
maternal stress (i.e., multiplicity of impairments, behavior problems, adversity in family) in a step-wise multiple regression equation. The nine significant variables were as follows: behavior problems in the child, night-time disturbance, social isolation of mothers, adversity in the family, multiplicity of impairments, difficulty settling the child in at night, problems with the child's health, problems with the child's appearance, and parents having money worries. Quine and Pahl (1985) stated that these results indicated that stress in mothers was related to two areas. The first area focused on the child and the second on social and economic circumstances of the family. Translated into McCubbin and Patterson's (1981) Double ABCX model this finding appears to support the notion of the stressor (A) to stress (X) relationship and the resource (B) to stress (X) relationship.
In summary, research attempting to relate a single resource to level of stress has been contradictory. For instance, Beckman (1983) and Bradshaw and Lawton (1978) determined that socio-economic status did not significantly contribute to stress level, while Ferguson and Watt (1980) indicated that stress level was highly related to social class. Quine and Pahl (1985) found that when stressors and resources were examined as a group, social and economic circumstances of the family proved to have a significant relationship to maternal stress level. This supports the need to investigate resources as a group rather than as single variables. It is possible that while no single stressor or resource is related to adaptation across all families, certain patterns or combinations of both may be unique to families experiencing certain stressors. In other words, it is possible that families with mentally retarded children have a different combination of stressors and/or resources than families without a disabled child or families with children with emotional problems.
**Family Perception and Stress Level**

Wikler (1986) contended that the impact of a child's mental retardation on a family may be triggered less by the child's capacity on an absolute scale than by the discrepancy between the parents' perception of the child's actual performance and expected performance. She asserted that the C factor is difficult to measure because it is situated within the subjective realm of each family member and its inaccessibility to the researcher may account for the lack of attention it has been given in studies. Since research examining family perception as a moderator variable is virtually nonexistent, findings which implicate perception as an important factor in family adaptation will be addressed.

Bradshaw and Lawton's (1978) research on stress levels in families with a retarded child provided evidence that perception of a stressor is an important moderator variable. Their results revealed variations in stress according to the mothers' perception of adequacy of house size or accommodation space, satisfaction with her role as a worker or housewife, and objective and subjective amount of support received from others. When the Malaise scores were examined according to what mothers thought about their housing,
it was found that mothers who thought their house was unsuitable because of the child scored significantly higher than those who thought their house was suitable, regardless of the actual size of the house. Bradshaw and Lawton (1978) also obtained significant variation in stress experienced by mothers according to the mother's satisfaction or dissatisfaction with her role as a housewife or worker. Generally, mothers who described themselves as severely restricted had higher scores than other mothers.

Additionally, Bradshaw and Lawton found that the level of stress reported by mothers varied according to both objective and subjective assessments of help received from family, friends, and social workers. The mothers with the most help had lower malaise scores. Mothers who wanted more help in caring for the child at home scored significantly higher than mothers who did not want help.

Similarly, German and Maisto's (1982) results showed that families who maintained their mentally retarded child at home perceived that they had greater support and help from grandparents and extended family members than families with mentally retarded children receiving residential care. They also reported a greater availability of sitters than families who had placed their children in residential care during the
previous years. These findings seem to indicate that the mother's perception of and attitudes toward the mentally retarded child may be more influential, in some cases, than objective criteria (e.g., severity of mental retardation, or diagnosis) on the amount of stress the mother experiences.

Some research has indicated that belief in a religion or a moral-religious emphasis is related to family adjustment. Early research described a significant relationship between religious beliefs and whether or not a mentally retarded child was cared for at home (Farber, 1959; Zuk, 1959). Later studies found that belief in a religion did not contribute to family adjustment (Friedrich, 1979; German & Maisto, 1982; Waisbren, 1982). Nihera, Meyers and Mink (1980) determined that moral-religious emphasis in a family was related to observed coping levels of the family. Turnbull, Brotherson, and Summers (1984) concluded that particular religious denomination may have been of less importance than the family's personal interpretation of religion. Byrne and Cunningham (1985) also pointed out that the contradiction in research findings pertaining to religious beliefs may lie in the manner in which researchers measured the strength of religious beliefs. According to Byrne and Cunningham, the aforementioned
studies did not clearly describe how they measured religious beliefs.

Pollner and Wikler (1985) presented a case study which illustrated how family perceptions may aid the family in denying a child's mental retardation. According to Pollner and Wikler a family of five (mother, father, teenage son & daughter, and a 6-year-old daughter) sought treatment at a psychiatric clinic for their 6-year-old daughter because she was "acting retarded" in public. Although the family perceived the child as normal, clinical testing revealed that the child had a mental functioning of an infant and was unable to recognize her own name. The family showed no evidence of psychosis. Pollner and Wikler's data consisted of 15 hours of videotaped interactions between the child and various members of her family. They concluded that the family's perception was a product of highly skilled, unconscious, stage-managing to make the child seem competent to themselves.

Pollner and Wikler (1985) commented that this child's family actually interacted with her in the fashion that all families interact with a preverbal infant. They speculated that as the child grew older and did not acquire the skills and competencies appropriate for her age, the family refused to
relinquish their old patterns of interacting with her. Pollner and Wikler contended that the psychological and interpersonal costs of accepting and recognizing the child's disabilities may have been too threatening for the family.

Furthermore, Wikler (1986) also contended that the structure and means of maintenance of perceptions of a child's retardation are just as powerful in shaping family reactions when the perceptions are accurate as they are when the perceptions are delusional. Wikler (1986) concluded that it is only through detailed attention to family perceptions of a child's retardation that we can fully comprehend the process of accommodation to the stressor of mental retardation.

The above findings appear to support examination of family beliefs and perceptions when researching family stress or adaptation. For instance, Bradshaw and Lawton (1978) commented that other independent factors beyond stressors may be important determinants of stress and that these factors were not uncovered in their study. Again, as with the other variables examined in this paper, if we desire to obtain a clearer picture of family functioning, it is necessary to obtain information on how the perceptions of families with mentally retarded children relate to adaptation.
Applicability of the Double ABCX Model to Research

Bristol (1987) tested the applicability of selected aspects of the entire double ABCX model to predictors of successful adaptation in families of developmentally disabled children. Subjects included autistic children and communication impaired children (ages 2.3 to 9.7 years). Bristol indicated that subjects were also mentally retarded, but the degree of retardation and the frequency were not reported. Testing was conducted prior to treatment. Bristol (1987) found that the double ABCX model strongly predicted successful adaptation in families of developmentally disabled children. The overall canonical correlation of predictor variables with the criterion variables, when adjusted for the large number of variables relative to subjects, yielded a canonical correlation of .81, p=.001. Additionally, the total model including child characteristics, family resources, and subjective definition significantly predicted observers' ratings of quality of parenting. The double ABCX model also significantly predicted maternal depression and marital adjustment.

Bristol (1987) derived several implications from her research. First, she stated that the double ABCX model can be used to predict aspects of successful family adaptation to home care of developmentally
disabled children. Bristol contended that a multivariate model, like the double ABCX, was needed to understand the complex relationship between having a handicapped child and successful family adaptation. Second, Bristol suggested that the model may be useful for developing intervention strategies. She pointed out that findings regarding the importance of support, coping strategies and subjective beliefs suggest areas which could be targets for practitioners designing early intervention programs. For instance, the finding of a relationship between clarity of handicap and lower maternal stress suggested the need for early identification or parent education to minimize uncertainty. Bristol suggested that teaching coping strategies involving seeking information, obtaining services, and carrying out prescribed activities may increase parents' feelings of involvement, control and effectiveness. Finally, Bristol (1987) pointed out that focusing on successful adaptation rather than solely on pathology or poor coping offers a viable avenue for future researchers and clinical practitioners. Her study indicated that even before receiving special services, the majority of families were coping successfully with their disabled children.

In addition to Bristol's comments, the Double ABCX model has other strengths which make it useful for
research examining adaptation in families with a mentally retarded child. First, unlike Hill's (1949) model, McCubbin and Patterson's (1981) model defines outcome on a continuum of bonadaptation to maladaptation. Thus, this model does not suppose that all stressors result in crisis. Second, the Double ABCX model is also applicable to all types of families. Over the last 30 years, research on family response to diverse normative (i.e., child birth, marriage, etc.) and nonnormative (i.e., unemployment, war separation, etc.) stressors has supported the contribution of each factor in the double ABCX model to adaptation (McCubbin, 1979).

Consequently, the double ABCX model appears to be appropriate for comparing families who have experienced the nonnormative stressor of having a mentally retarded child to families without a mentally retarded child. The literature reviewed supports the contribution of each factor of the model to a family's reaction to and coping with a mentally retarded child. However, the hypotheses and findings of this body of literature need to be further defined and elaborated. Specifically, comparison groups must be utilized if researchers and clinicians wish to understand the unique issues faced by families with mentally retarded children. Secondly, research needs to address the importance of
each factor in the model in determining a family's adaptation.

The present study examined the A, B, C, and X factors of McCubbin and Patterson's (1981) model. As mentioned, the literature reviewed has provided evidence that each factor does influence adaptation, but none of the studies reviewed utilized the model as a whole and most did not utilize comparison groups. Murphy (1982) found in a review of the literature on families with handicapped children, that only sixteen of more than fifty articles reviewed were controlled analytical studies. Additionally, only half of the sixteen studies included a control group of non-retarded/non-delayed children.

The purpose of this study was to identify how mothers with a child who is mentally retarded may be both similar and unique relative to mothers from a normative group and to mothers with a child who has behavior problems. In addition to identifying similarities and differences between the comparison groups and mothers with a child who is mentally retarded, implications for development of interventions specific to families with retarded children in this age range will also be addressed. Finally, it is hoped that this research will provide a basis for expansion
of controlled, developmentally focused research in this area.
Predictions

Stressors and Parenting Stress

1. It is predicted that it will be possible to discriminate between the three groups based on both stressor and parenting stress variables. Stressors will be defined by three measures: Level of assistance required by the child, number of behavior problems reported for the child, and life events external to the parent-child system. Based on the criteria for group membership: (a) it is expected that mothers with a child who is trainable mentally retarded will report that their child requires more assistance than will mothers in the other two groups; (b) it is expected that mothers with a child who is mentally retarded and mothers in the normative group will report that their children exhibit fewer behavior difficulties than mothers with a child who has behavior problems; (c) finally, since the occurrence of life events can be expected to happen in a random manner, it is unlikely that it will be possible to discriminate between the three groups in terms of life events external to the parent-child system.

The amount of parental stress associated with characteristics of the child and the amount of parenting stress associated with characteristics of the
parent are variables which should also discriminate between the three groups. Based upon the criteria for group membership: (d) it is expected that mothers with a child who is mentally retarded should report greater parenting stress related to characteristics of their child than mothers from the normative group. The rationale for 1(d) is based on the literature that indicates families with a mentally retarded child experience elevated levels of stress (Beckman, 1983; Bradshaw & Lawton, 1978; Quine & Pahl, 1985; Wikler, 1981).

Since it is expected that the level of assistance required will be a more frequent stressor for families with TMR children than behavior problems, it is predicted that (e) mothers with a child who has behavior problems will have parenting stress levels that are greater than the other two groups. This is based on Cameron and Orr's (1989b) findings which revealed that the number of behavior problems reported were more strongly related to parental stress than the level of assistance required by the child.

Additionally, family therapists and researchers state that stressors/stress related to a non-retarded child's behavior problem may be a reflection of disequilibrium in the family system whereby the child's behavior may reflect conflict between other family
members (Madanes, 1981). In this case, it would be expected that for mothers with children who have behavior problems, parental stress would be associated with both parent and child characteristics rather than being primarily related to child characteristics, as is typically the case in families with children who are mentally retarded.

Resources and Perception

2. This prediction will compare the three groups on the B and C factors of McCubbin and Patterson's (1981) Double ABCX Model. (a) Even though it is expected that mothers with a child who is mentally retarded will report more stressors and higher parental stress levels than mothers from the normative group, differences in the family resources between these two groups are not expected to differ. The Double ABCX model and the research reviewed does not present any evidence to indicate that families with a child who is mentally retarded should have less capability to resist crisis or to adapt to the stressors. (b) On the other hand, it is predicted that mothers with a child in treatment for behavior problems will indicate that their families will be more vulnerable to crisis and have poorer family resources than the other two groups. This is based upon the assumption that children who have behavior problems and are externalizers often come from
homes in which the parents are experiencing problems and are often inconsistent in their discipline (Bee, 1985). Consequently, it is expected that these mothers will not report sufficient coping skills or family strengths necessary to handle stressors in an adaptive manner.

(c) The Double ABCX model proposes that the C factor, perception, influences the relationship between stressors and stress levels. However, it does not stipulate how different "types" of families would be expected to compare on the C factor. Consequently, although theoretically it can be expected that the ability to redefine and appraise situations will vary as stressors and stress levels increase in each group, between group differences can not be predicted. Thus, it is predicted that the three groups will not vary in their ability to redefine stressors and accept problematic issues.

Social Support
3. The kinds and amount of social support reported should vary among the three comparison groups and will be related to stress levels. Based on the research of Kazak and Marvin (1984) and Trute and Hauch (1988), it is predicted that mothers of children with mental retardation will report less social support than the comparison group of non-retarded children without
behavior problems. In the absence of confirming data it is only speculation as to the social support of mothers with children who have behavior problems. However, based upon the social liability of having a disturbed child, it is anticipated the amount of social support reported should be lower for this group.

**Double ABCX Model**

4. It is predicted across the three groups in this study, that mothers with more stressors, fewer resources, and perceptions that do not redefine or give meaning to stressors will experience higher levels of parenting stress. This prediction is based on McCubbin and Patterson's (1981) Double ABCX model which states that resources, and the ideological beliefs and perceptions of families, buffer the impact of stressors on families.
Method

Subjects

The study was divided into two parts. The first part compared the three groups of mothers with male children on stress related factors. The second part was an evaluation of McCubbin and Patterson's Double ABCX model and involved the mothers identified in the first part plus a group of mothers with daughters who were trainable mentally retarded and mothers with daughters who were not mentally retarded.

Phase 1. The three groups included the following subjects: (a) Group DD: mothers with a male child classified as trainable mentally retarded (n=18), (b) Group NM: mothers with a male child who was not mentally retarded and was not receiving any type of psychological services (n=13), and (c) Group BP: mothers with a male child who was receiving psychological services (n=10). Group DD had a mean age of 9.2 years (SD=2.1), Group NM had a mean age of 8.2 years (SD=1.82), and Group BP had a mean age of 10.1 years (SD=1.29).

The social status of the three groups was determined with the Hollingshead Four Factor Index of Social Status (1975). Families were classified into one of five categories according to the level of education and occupation (1=highest SES level, 5=lowest
SES level). In families where both parents worked the scores for each parent were combined and averaged. Group DD had an average SES rating of 2.9 (SD=1.4). Group NM had an average SES rating of 2.8 (SD=.9). Group BP had an average SES rating of 3.5 (SD=.9).

Maternal responses to questionnaires were utilized to measure a family's standing on each of the variables being investigated. This choice was justified by prior research which has indicated that mothers are more susceptible to stress related to child rearing (Beckman, 1983; Bradshaw & Lawton, 1978; Burden, 1980; Cooke, et al., 1982; Quine & Pahl, 1985; and Tew & Lawrence, 1975) and are more active in the actual parenting of the child (Kazak & Marvin, 1984).

The selection procedures and criteria for each of the three groups will be discussed separately because procedures and criteria varied for each group.

**Group DD.** The data pertaining to Group DD were archival, and part of a data set gathered in a survey conducted through four adjacent schoolboards in Southwestern Ontario. A total of 207 questionnaire packets were sent to parents of children (ages 5-21) classified as trainable mentally retarded (i.e., I.Q. below 50 and adaptive functioning impaired) in their school settings (See Appendix F for primary diagnoses of subjects). Eighty-four of these questionnaires were
returned (46 males, 38 females). Of the 84 subjects, 41 had children which fell into the 6-12 year-old-age-range and 18 of these children were male. Of these eighteen subjects, seventeen were the natural mothers of the identified child and one was an adoptive mother. The educational settings of children in the schoolboard survey varied from full integration (i.e., classes with "normal" peers) to full segregation (schools where all students were identified as trainable mentally retarded).

**Group NM.** Mothers in Group NM were reached by recontacting the mothers from Group DD. These mothers were asked to supply the name of a family that was similar to themselves (e.g., age of children, socioeconomic status, etc.) that they thought might be interested in participating in the study. The mothers with non-delayed children were contacted and asked to participate in the study. Of 35 packets of questionnaires handed out, 34 were returned. One subject experienced the death of an immediate family member and decided not to participate in the research. Three additional subjects were excluded from the study because they indicated that their 6-12 year-old-child had been diagnosed as having a Learning Disability or an Attention Deficit Disorder. Thirteen of the
thirty-four mothers had a male child between the age of 6 and 12.

**Group BP.** The subjects in Group BP were obtained from a regional children's centre in Southwestern Ontario (N=10). In order to maintain confidentiality, subjects were recruited by their child's therapist. The researcher met with the team designated to recruit subjects in order to explain the study and the criteria for selecting subjects. Therapists then approached the mothers of clients they were seeing who met the selection criteria and asked them to participate. Subjects who agreed to participate filled out a packet of questionnaires and returned them to the therapist. The therapist then forwarded the questionnaires to the team leader who returned them to the researcher.

Subjects recruited for this group had a child who had been in therapy for at least two sessions, had been exhibiting significant behavior problems, and had not been classified as mentally retarded. Behavior problems were measured with the Child Behavior Checklist (Achenbach & Edelbrock, 1983). In order to be included in the study, the 6-12 year-old child had to have scored above the 98th percentile (T score of 70+) on the narrow-band externalizing scale, or above the 90th percentile (T score of 63+) on the broadband scale. Since IQ scores were not available
for each child, the therapist's clinical judgment and knowledge of the client's background was relied upon to ensure that the children were not mentally retarded. Examination of the frequency data revealed that one mother indicated her child had been diagnosed as having an attention deficit disorder, and six described their child as hyperactive. Scores for each child on the Child Behavior Checklist, along with length and mode of therapy are presented in Appendix G. Scores from the Child Behavior Checklist were not available for the child of one subject. This individual was included because her child's therapist indicated that the child was being treated for "externalizing" or acting out behaviors. One mother with a female child in treatment filled out the questionnaires, but was excluded because the child did not meet the selection criteria.

The size of Group BP was limited due to difficulties in recruiting families with female children who met the criteria for Group BP from the Regional Children's Centre.

**Phase 2.** A larger subject pool (N=82) was used to test prediction 4. In addition to the mothers of the male children described above, this subject pool included data collected on mothers of 41 female children. Twenty-three of these mothers had a female child who was trainable mentally retarded and 18 of the
mothers had a female child who was not mentally retarded and did not have behavior problems. All of the female children were between the ages of 6-12 and selected in the same manner as mothers of the male children. Sixty-seven of the mothers used as subjects for Phase 2 were married and 15 reported that they were unmarried. Demographic information (i.e., SES, and age of the children) describing the larger sample is presented in Appendix H.

Measures

The following scales were utilized to operationalize each of the factors described in McCubbin and Patterson's (1981) Double ABCX Model: Questionnaire. A questionnaire (see Appendix A) was designed as part of a larger project, the purpose of which was to identify resources and coping strategies of families with developmentally delayed children at home and to develop a model of services and professional resources for these families (Cameron & Orr, 1989a). The purpose of this questionnaire was to provide demographic data from which the socioeconomic status of the families could be derived using the Hollingshead Four Factor Index of Social Status. Questions were also included to obtain information about services families were using, handicapping condition(s) of the child (e.g., developmental delay,
seizures, hyperactivity, etc.), amount of assistance
the child required, level of independence achieved, and
behavior problems exhibited by the child.

Two questions from this questionnaire were used to
assess stressors related to the child (i.e., Double A
factor). They were level of minor and total assistance
required by the child and the number of occasional and
frequent behavior problems demonstrated by the child
(See questions number 13 and 16 in Appendix A). Based
upon the literature reviewed, it was felt that these
two items represented characteristics of the child
which were often perceived as stressors by the parent

Item 13 which measured the level of assistance
required by a child in various aspects of personal care
was composed of eight items (i.e., feeding, toileting,
dressing, bathing, washing hair, brushing teeth,
shaving, and menstrual hygiene). Respondents were
required to rate their child as independent, needs
minor assistance, or totally dependent for each task.
The total assistance score was obtained by summing the
number of minor assistance and totally dependent
responses.

Item 16 was used to measure behavior problems.
Respondents were asked to rate their child on six items
describing behavior problems (i.e., physically harms
others, harms self, destroys property, interferes with others sleep, sexual aggressiveness, and irritates others in the household). Subjects indicated whether each behavior occurred frequently, occasionally or never. A behaviour problem score was obtained by summing the number of frequent and occasional responses.

**Family Inventory of Resources for Management (FIRM).** This measure was utilized to operationalize the Double B factor of McCubbin and Patterson's model. The FIRM (McCubbin, Comeau & Harkins, 1981) consists of 69 items and four scales derived from factor analytic procedures on data derived from 322 families with a chronically ill child (myelomeningocele and cerebral palsy). A brief description of each of the four scales follows:

1. **Family Strengths 1: Esteem and Communication.**

This scale (15 items) is a combination of personal, family system and social support resources in six areas: (a) family esteem (i.e., respect from friends, relatives, co-workers and among family members); (b) communication (i.e., sharing feelings, discussing decisions); (c) mutual assistance (i.e., helping each other and relatives); (d) optimism; (e) problem solving ability;
and (f) encouragement of autonomy among family members.

2. **Family Strengths 2: Mastery and Health.**
   This scale includes 20 items that reflect personal, family system and social support resources along three dimensions: (a) sense of mastery over family events and outcomes (e.g., fate control, flexibility, managerial abilities); (b) family mutuality (i.e., emotional support, togetherness, cooperation); and (c) physical and emotional health.

3. **Extended Family Social Support.** This scale contains 4 items which indicate the mutual help and support given to and received from relatives.

4. **Financial Well-Being.** This scale (16 items) reflects the family's perceived financial efficacy: (a) ability to meet financial commitments; (b) adequacy of financial reserves; (c) ability to help others (e.g., relatives, the needy); (d) optimism about the family's financial future (e.g., adequacy of insurance, employment benefits, retirement income, earning power, and the family's future

The remainder of items comprise two scales which were added to the FIRM to provide the investigator with additional information, but were not included in the factor analysis (McCubbin, Comeau & Harkins, 1981). These scales are labeled Sources of Financial Support and Social Desirability Scale.

The FIRM requires respondents to read a list of family statements and consider how well the statement describes their family situation. The response format is a Likert-type scale which ranges from 0 = Not at All (i.e., This statement does not describe our family situation/This does not happen in our family) to 3 = Very Well (i.e., This statement describes our family very accurately/Our family is like this most of the time). Scores are obtained for each factor by transferring the number circled by the respondent to the box in the column marked "for computer use only." When a "r" appears to the right of the item number the score must be reversed. Additionally, scores on the Financial Support Scale must be converted to a two-point scale. Answers marked 0 or 1 are scored as 0, and answers marked 2 or 3 are scored as 1. Boxed scores are added for each column and the raw scale score is placed in the double boxes below each column.
The sum of the first four scale scores provides the total FIRM score.

Means and standard deviations are provided for each scale. A family score below one standard deviation from the mean on any scale may indicate a lack or depletion of resources in that area. Family scores greater than one standard deviation from the mean may indicate a better-than-average supply of resources on that scale. A family score which falls within one standard deviation from the mean in either direction indicates a score similar to most of the families from the normative sample. A score within this range indicates moderate resources in that area.

McCubbin, Comeau and Harkins (1981) reported internal reliability for the four factor analytically derived scales as .89 (Cronbach's alpha). Internal reliabilities for the individual scales were also reported as follows: Family Strengths I: Esteem and Communication = .85; Family Strengths II: Mastery and Health = .85; Extended Family Social Support = .62; and Financial Well-Being = .85.

The FIRM manual also reports validity checks. Comeau (1985) found significant positive correlations between the FIRM scales and the Family Environment Scale dimensions of cohesion, expressiveness, and organization. According to McCubbin and Thompson
(1987), these associations between family resources and desirable family functioning offer support for the validity of the FIRM.

The Social Support Inventory. The Social Support Inventory (McCubbin, Patterson, Rossman, & Cooke, 1982) was developed to measure the social support individuals perceive themselves to be receiving. It was utilized in this study to compare the groups for social support which is part of the the Double B factor from McCubbin and Patterson's model.

Test items were developed from in-depth semistructured interviews conducted by one researcher with 22 expectant and first-time parents (i.e., 11 couples). Couples for the sample were selected at random from participants in the Minnesota Early Learning Design Parent Education Programs in the Minneapolis-St. Paul, Minnesota area.

The interviews focused on the couples' sources of social support and the kinds of support each source provided. Content analysis of the transcribed interviews by a team of researchers resulted in the identification of five kinds of support and eleven sources of support. Cobb's (1979) definitional categories of kinds of social support were supported by this analysis and were reformulated to make up the five
kinds of social support examined by the Social Support Inventory. They were described as follows:

**Emotional Support:** Information which leads you to believe that you are cared for and loved as a person.

**Esteem Support:** Information which leads you to believe that you are valued and respected for who and what you are and what you do.

**Network Support:** Information which leads you to believe that you receive a sense of trust and security for belonging to a group to whom you are also obligated.

**Appraisal Support:** Information which provides you with feedback about how you are doing and ideas for resolving difficulties.

**Altruistic Support:** Information which leads you to believe that you are worthwhile because of what you have done with and for others. (Cooke, Rossman, McCubbin, and Patterson, Unpublished manuscript, p.11).

The Social Support Inventory begins with a section of yes/no questions to determine if a particular source of social support exists. These questions also serve as brief definitions of the sources of social support for the respondents. The eleven identified sources of social support are: spouse, children, other relatives,
close friends, co-workers, community/neighborhood
groups, church/synagogue, professionals/service
providers, special groups, the media, and spiritual
beliefs.

In addition to the initial section, the inventory
contains 60 items to which an individual may respond
"no," "yes," or "yes a lot." Under each of five
statements of kinds of support are listed 11 sources of
support and "other" (See Appendix C). For example, one
item states: "I have a feeling of being loved or cared
about from:"
. A respondent then indicates which of the
sources of support listed under the statement provide
this kind of support. Cooke, Rossman, McCubbin and
Patterson (1981) mentioned that although the inventory
was developed from interviews of first-time parents, it
has been found to be applicable for use in measuring an
individual's social support in general or social
support in other contexts or life cycle roles.

Scores for the SSI are derived as follows: A "no"
or blank response was scored "0;" "yes" was scored
"1;" and "yes a lot" was scored "2." Normative scores
are available upon request from the authors. Cooke et
al. (1981) stated that although it is possible to
indicate separate scores for each kind and all sources
of social support, the separation may not provide the
correct information about the complexity of social support for an individual.

Test-retest reliability was obtained by administering the Social Support Inventory to a group of 13 parents who had characteristics similar to the couples in the original interview groups and who were enrolled in a parent education class. The inventory was then readministered one week later. A test-retest reliability of .81 was obtained. The same procedures were used to administer the Social Support Inventory to a group of 18 educators. A test-retest reliability of .79 was obtained for this group.

Validity for the Social Support Inventory was examined through a two-stage process (Lynn, 1986). During the developmental stage, content validity was determined using three methods: (a) A systematic review of the social support literature which revealed that the items used in the Social Support Inventory represented the content in the literature; (b) Transcription and content analysis of the interviews with the 22 parents confirmed the conclusion from the literature review; (c) The sources and kinds of support identified in the interviews were arranged in a format which allowed for the measurement of the interaction of these two variables.
During the second, or judgment stage of content validation a team of four researchers knowledgeable about the literature on social support evaluated the categories of sources and kinds of social support identified in the interviews and confirmed by the literature which became the items in the Social Support Inventory. Additionally, the 22 parents who were interviewed were later asked to complete the Inventory. Two family-life professionals were able to match the transcriptions of the couple interviews to the corresponding 22 Inventory responses with 80% accuracy.

**The Family Crisis Oriented Personal Evaluation Scales (F-COPES).** Two scales from the F-COPES (McCubbin, Olson, & Larsen, 1981) were used to operationalize the Double C factor of the Double ABCX model. The scales used were the Reframing and the Passive Appraisal scales.

Development of this instrument involved a review of the literature related to coping theory and research. Other coping inventories were also reviewed. Forty-nine items were generated and later pretested using a sample of 119 family members representing all stages of the life cycle. After initial data analyses, the number of items were reduced to 30. Factor analytic procedures were used to determine the underlying dimensions of the scale. Eight scales
emerged. In a second normative sample (N=2746) factor analytic procedures were calculated and five factors emerged. A brief description of the two utilized in this study follows:

Reframing: This dimension (eight items) assesses the family's capability to redefine stressful events in order to make them more manageable.

Passive Appraisal: Four items assess the family's ability to accept problematic issues, and therefore minimize reactivity.

Sum scores can be obtained for each scale and the total scale by adding the numbers circled for each item. The four items (12, 17, 26, 28) from the Passive Appraisal scale must be reversed when scoring. This ensures that all items are weighted in the same positive direction for both the analysis and the interpretation of results. Separate norms were determined for adults and adolescents (male and female) for each F-COPES sub-scale and the total scale.

Test-retest reliability coefficients (N= 2582) were computed on the final factor structure. The alpha reliabilities for the scales used in this study are as follows: Reframing (.82), and Passive Appraisal (.63). The test-retest reliabilities from a second study (N=116) are as follows: Reframing (.61), Passive
Appraisal (.75). The factors of "Reframing" and "Passive Appraisal" show slightly lower test-retest scores in comparison with the other factors. McCubbin and Thompson (1987) suggested that the more concrete behavioral items, such as "Soliciting Social Support," provide more response consistency over time than those factors which relate to more cognitive adjustment.

The Parenting Stress Index (PSI). The Parenting Stress Index-Form 6 (Abidin, 1986) is a screening instrument (120 items) designed to identify parent-child systems under excessive degrees of stress and at risk for the development of dysfunctional parenting behaviors or behavior problems in the child involved. It was utilized in this study to operationalize the Double X or adaptation factor of the Double ABCX Model. The PSI assesses and defines three domains of stress: child characteristics, parent characteristics, and situational demographic-life stresses.

The Child Domain (47 items) is organized into the following six scales: Adaptability (11 items), Acceptability (7 items), Demandingness (9 items), Mood (5 items), Hyperactive/Distractibility (9 items), and Reinforces Parent (6 items). Abidin (1986) proposed that the Child Domain, while not designed to be a temperament measure, does tap into those temperament
characteristics which reveal the greatest long term predictive ability.

The Parent Domain (54 items) of the PSI examines some of the principle parent characteristics and family context variables which have been identified as impacting upon the parent's ability to function as a competent caregiver to the child. The Parent Domain consists of the following eight scales: Depression (9 items), Attachment (7 items), Restriction of Role (7 items), Sense of Competence (13 items), Social Isolation (6 items), Relationship with Spouse (7 items) and Parent Health (5 items).

Additionally, the Life Stress Scale (19 items) assesses stressors outside the parent-child relationship and provides demographic information about the family. This scale was utilized along with the aforementioned questionnaire items (i.e., items 13 and 16) to measure the Double A factor of McCubbin and Patterson's model.

Items from the Child and Parent Domains are answered by endorsing one of five responses ranging from "strongly agree" to "strongly disagree". Scale scores for each Domain are obtained by adding the weights of the numbers (e.g. 1 through 5) above the answers selected. The domain score (i.e., Child or Parent) is arrived at by totalling the scale scores in
a given domain. The PSI Total Score is derived by combining the two domain scores.

Abidin (1986) stated that the 15th to 80th percentile rank was in the normal range for all domains and subtests. In terms of Total Raw Score these percentiles covered the span of 180 through 250. Abidin added that a Total Raw Score of greater than 267 indicates excessive stress within the parent-child system and should be followed up with a referral for professional consultation.

The normative sample for this instrument consisted of 534 parents who were visiting a small, group pediatric clinic in central Virginia. The sample included a wide range of normal children as well as children referred for special problems in behavior or health. All children were between the ages of 1 month and 19 years. Abidin (1986) acknowledged, however, that the PSI has been used most frequently with children between birth and ten years of age. Most parents in the normative group were white mothers (92%) with a wide income range. Additionally, the education level of the parents was relatively high with one-third of the mothers and fathers having graduated from college, graduate school or professional school. Percentiles, means, and standard deviations were
derived from the norm group for each Scale score, Domain score, and Total score.

Reliability coefficients for the Parenting Stress Index were computed from the responses of the normative sample (N=534). Alpha reliability coefficients were determined for each scale, each domain, and the total score. Coefficients for the scales of the Child Domain range in magnitude from .62 to .70. Coefficients for the Parent Domain range from .55 to .80. The reliability coefficient for the Child Domain is .89 and for the Parent Domain, .93. The reliability for the Total Stress score is .95. Loyd and Abidin (1985) reported that these coefficients are sufficiently large to indicate a high degree of internal consistency on the PSI.

Loyd and Abidin (1985) stated that the factorial validity of Form 6 of the PSI was investigated by three factor-analytic analyses. Again, the normative sample served as the subjects. Loyd and Abidin (1985) reported that the items tended to load on factors according to the scale to which they belonged for both the Child and Parent Domains. The scores for each subject on the 13 scales formed the data for the third analysis. Data were subjected to a principal components analysis and a two-factor solution was obtained. According to Loyd and Abidin this finding
supported the notion that each domain is tapping two distinct traits.

The Parenting Stress Index manual also presents a section of research abstracts which summarize research relating to the concurrent and construct validity, discriminant validity, predictive validity and outcome measurement validity of the PSI (Bendell & Culbertson, in press; Jenkins, 1982; Lafferty, Cote, Chafe, Kellar, & Robertson, 1980; Lafiosca, 1981; McKinney & Peterson, 1984).

Procedure

The mothers who agreed to participate from all three groups were asked to read the directions on each form and fill them out in the order presented. Mothers were also asked to sign and return a consent to participate in the study form. A name and a phone number was provided in case questions or difficulties arose that pertained to the study or to filling out the forms. Additionally, mothers were assured verbally and in a cover letter, that all information received was recorded using code numbers only, and that no names would be used in reporting the results. They were also informed that their participation or nonparticipation in the study would not jeopardize any of the present programs or services in which the child and/or family were involved.
Some variation occurred in the directions on the Family Studies Research Survey form. The instructions were altered for the mothers of both comparison groups. For Group NM the instructions read: "In answering the following questions, please refer to your child between the ages of 6 and 12, unless otherwise indicated. If more than one of your children falls into this age range, choose one child and answer all questions by referring to this child." Mothers in Group BP were given the following directions: "In answering the following questions, please refer to your child who is currently involved in treatment at the Regional Children's Centre."

Since the method used to gather the data for each of the three groups differed, the procedure followed for each group will be summarized.

**Group DD:** Data for the Group DD were drawn from the project archives of a survey conducted through four adjacent school boards in Southwestern Ontario (Cameron & Orr, 1989a). Cameron and Orr (1989a) contacted parents through the school their child attended. A package containing an introductory letter with a consent form and the battery of tests was sent to parents. Parents completed the materials and returned them by mail. A $10.00 honorarium was given to those parents who returned the questionnaires.
Questionnaires were distributed to 207 families. Three months later the packages were distributed again by the schools to families who had not responded the first time. The final sample consisted of 84 families. This represented a 41% return rate. According to Cameron and Orr (1989a) interviews with the school staff indicated that the school staff believed that non-returns were based on reasons other than levels of stress in the families. However, it is difficult to assess the actual characteristics of the 59% of the families who did not participate in the study. Additionally, information pertaining to the study was provided in five languages which also included an offer to meet with the families and review the forms. Nine families required assistance.

Of the 84 packets of questionnaires collected by Cameron and Orr (1989a), 41 fell into the 6-12 year old age range which was examined in this study. While all 41 subjects were used in Phase 2 of this study (prediction 4), only subjects with male children from this group were used in Phase 1 (predictions 1-3). Eighteen of the 41 subjects had a male child in the 6-12 year age range.

**Group NM:** Data on mothers in Group NM were obtained by recontacting mothers with trainable mentally retarded children who had participated in the
aforementioned survey and asking them if they knew of a family similar to their own with a child who was approximately the same age. If the response was positive, the mother from Group DD was asked to contact the mother and inquire whether she would be interested in participating in the present study. Permission for the researcher to contact the mother was also sought at that time. Once a mother agreed to participate, the researcher phoned them and arranged to drop off the survey package at their home. A total of 35 packets of questionnaires were handed out. Approximately one week after the questionnaires were dropped off, the researcher recontacted the subjects and arranged to pick up the packets of questionnaires. Two subjects returned their questionnaires by mail because of the distance they lived from the researcher and their work schedules. Of the 35 packets of questionnaires handed out, 34 were returned. Thirty-one of these subjects met the criteria to be included in this group. As with Group DD all subjects were used in Phase 2 of this study (prediction 4), while subjects with male children (N=13) were used in Phase 1 (predictions 1-3).

**Group BP:** A proposal to conduct research was forwarded to The Management Research Committee at a Regional Children's Centre in southwestern Ontario in February of 1989. Once approval was received the
researcher met with the team leader and team which was involved in the data collection. The purpose and selection criteria for the research were explained to the team members. Therapists with children in therapy for behavior problems (Group B) were asked to inform the mothers of their clients about the study and ask if they wished to participate. Once a mother agreed to participate, her child's therapist gave her a packet of questionnaires. It was requested that the questionnaires be returned at the following session. The name and phone number of the researcher were provided in case the client had any concerns or questions related to the study. To ensure confidentiality, consent forms were removed prior to the researcher receiving the questionnaires and kept on file at the hospital. A feedback summary, in the form of a computerized report, based on the Parenting Stress Index (Abidin, 1986) was provided to the therapist for discussion with each client. The researcher also volunteered to discuss the results with any parent or therapist if requested.

**Design and Analysis**

The present study was a correlational study with two comparison groups designed to examine the relationships between stressors, moderator variables of stress, and parental stress levels. The focus of the
study is on mothers with a male child who is classified as trainable mentally retarded. Two comparison groups, a normative group and a group of mothers with a child in treatment for behavior difficulties, were included to investigate how mothers with a trainable mentally retarded male child may be similar to or different from a normative population and a clinical population. Additionally, to control for factors which have been reported as contributing to stress in families or which may influence outcome, the groups were matched as closely as possible for the variables of age and sex of the 6-12 year old child, number of parents in the home, and family social status.

**Phase 1.** Predictions 1(a-e) compared the number and types of stressors, as well as the amount of parenting stress experienced in each of the three groups. The following analyses were utilized to examine the first set of predictions. A standard discriminant function was utilized to determine differences in parenting stress levels for each group on the Parent and Child domains of the Parenting Stress Index. Scores on the Life Stress Scale of the Parenting Stress Index, along with a score for assistance needed (Questionnaire item 13) and behavior problems (Questionnaire item 16) taken from the demographic questionnaire were also included in this
analysis. Standard discriminant function analyses were also conducted on the scales of the Child Domain and on the scales of the Parent Domain of the Parenting Stress Index to look for variation in the patterns of scale scores among the three groups.

Predictions 2a-c compared the three groups on the variable of family resources and family perception. The second group of predictions were analyzed with two one-way MANOVAs. First a MANOVA was used to compare the three groups on each of the scales which comprise the total score on the Family Inventory of Resources for Management. A one-way MANOVA was also utilized to compare the three groups on the Reframing and Passive Appraisal scales of the Family Crisis Oriented Personal Evaluation Scales.

Prediction 3 stated that the kinds and amount of social support reported would vary among the three comparison groups and that it would be related to stress levels. This prediction was tested with a two-way ANOVA and a one-way MANOVA. The two-way ANOVA examined the relationship of group and amount of social support with parent stress. The one way MANOVA was conducted to examine differences in the social support category scores on the Social Support Inventory based on group membership.
Phase 2. Prediction 4 stated that for all subjects, mothers with more stressors, fewer resources, and perceptions that did not redefine or give meaning to stressors would experience higher levels of parenting stress. Prediction four was tested with a standard multiple regression equation. The Total Stress Score of the Parenting Stress Index was used as the criterion variable. Stressors, resources, and perceptions of stressors were entered as predictor variables. Stressors were determined by two items (Item 13 and 16) from the questionnaire designed for this study and the Life Stress Scale of the Parenting Stress Index. The Family Inventory of Resources for Management was used as a measure of resources, and the scales of Reframing and Passive Appraisal, from the Family Crisis Oriented Personal Evaluation Scales, were used as a measure of perception.
Results

Phase 1

The presentation for phase 1 of this study is organized in the following manner. First, the demographic variables for each of the three groups of subjects will be presented. Second, these three groups will be compared with the normative samples and with each other on The Parenting Stress Index, The Family Inventory of Resources for Management, and the Reframing and Passive Appraisal scales of the Family Crisis Oriented Personal Evaluation Scales. Third, the analyses for the first three sets of predictions outlined previously will be presented. All analyses were performed using SPSS-X programs.

Demographics

All groups were matched as closely as possible for the demographic variables of child age, number of parents in the home, and family social status. A one-way ANOVA revealed no significant differences between the three groups for age ($F=3.21$, $p>.05$).

It was not possible to test for differences between the three groups of mothers on the variable of marital status with a Chi Square analysis because of an expected frequency of less than 5 in 50% of the cells. Observation of frequency data revealed that Group BP
had a greater proportion of single parents than the other two groups (50% of Group BP parents were single compared to 22% in Group DD and 15% in Group NM). On the Parenting Stress Index married parents in Group BP (n=5) had a mean total stress score of 273.6 (SD=24.06), and unmarried parents (N=5) had a mean total stress score of 315.40 (SD=46.98). A t-test was conducted and revealed no significant difference between married and unmarried parents in Group BP on the total score of the Parenting Stress Index (t=1.77, p=.114).

Consequently, although it was not possible to analyze differences in the marital status between the three groups, single parents in Group BP did not report significantly greater levels of stress than married parents in Group BP. Thus, for this sample, marital status does not appear to be significant in influencing parental stress levels. However, because of the small N (N=5) for each category (married vs. not married) in Group BP, these results should be interpreted with caution. It should be noted, however, that the findings from the Ontario Child Health Study (1986) identified marital status as one of the factors associated with disorders in children. Consequently, the discrepancy between the marital status of mothers in Group BP and of mothers in the other two groups is
probably representative of differences in clinical and nonclinical populations.

Social status was determined with the Hollingshead Four Factor Index of Social Status (1975). Based upon scores received for education level and occupation, subjects were classified into one of the five following categories:

- Major business and professional = 1
- Medium business, minor professional, technical = 2
- Skilled craftsman, clerical, salesworker = 3
- Machine operator, semiskilled worker = 4
- Unskilled laborer, menial service worker = 5

Table 1 presents the break-down of social status for mothers in each of the three groups. Since Group NM did not have any subjects in the lowest social status category (5), and Group BP did not have any subjects in the highest social status category (1), the two highest and two lowest categories were collapsed for each group.

A Chi Square analysis could not be completed to determine if groups were of similar social status because 6 of 9 cells (66.7%) had an expected frequency of less than five. Consequently, a one-way ANOVA was conducted to determine if stress levels varied according to social status level. Examination of the group means showed that the mothers with higher social
Table 1

Frequencies & (Percentages) of Subjects in Each Group Classified According to the Hollingshead Four Factor Index of Social Status

<table>
<thead>
<tr>
<th>Social Status Level</th>
<th>Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DD</td>
<td>NM</td>
</tr>
<tr>
<td>1 &amp; 2</td>
<td>8 (44.4)</td>
<td>5 (38.5)</td>
</tr>
<tr>
<td>3</td>
<td>4 (22.2)</td>
<td>5 (38.5)</td>
</tr>
<tr>
<td>4 &amp; 5</td>
<td>6 (33.3)</td>
<td>3 (23.1)</td>
</tr>
</tbody>
</table>

Note.

Group DD = Mothers with a male child who is trainable mentally retarded
Group NM = Mothers with a male child who is not mentally retarded and does not have behavior problems
Group BP = Mothers with a male child who is not mentally retarded and has behavior problems
status (levels 1 & 2) had a mean total stress score of 284 (SD=53.30). The mothers in the middle level social status group (level 3) had a mean total stress scores of 245.31 (SD=57.13). Mothers in the lowest social status group (levels 4 & 5) had a mean total stress score of 271.64 (SD=50.79). The results of the ANOVA indicated that there were no significant differences between social status levels for the Total Score from the Parenting Stress Index (F=1.80, p=.18).

In order to ensure that the three groups varied on the variable of behavior problems, they were compared on the mean number of behavior problems reported for their sons. Item sixteen from the questionnaire developed to measure demographic information and child characteristics was utilized as a measure of behavior problems because mothers in Group DD and NM had not completed the Child Behavior Checklist. The three groups were compared for mean number of occasional and frequent inappropriate behaviors. Group DD had a mean of 2.4 (SD=1.5) behavior problems. Group NM had a mean of 1.5 (SD=1.3) behavior problems and Group BP had a mean of 4.0 (SD=1.2) behavior problems. Results of a one-way ANOVA indicated that there were significant differences between the three groups (F=8.92, p<.0007). Follow-up with a Scheffe' procedure indicated that Group BP was significantly different at the .05 level
from both Group DD and Group NM. Thus, mothers in Group BP perceived their children as having significantly more behavior problems than the other two groups. Since the literature has shown that behavior problems are related to higher stress levels in families with mentally retarded children, this difference will help differentiate stress related to parenting a mentally retarded child from factors related to parenting a child with behavior problems.

Normative Descriptions

The following are comparative descriptions of each of the three groups with the normative group data for the Parenting Stress Index (PSI), The Family Inventory of Resources for Management (FIRM), and the Reframing and Passive Appraisal Scales of the Family Crisis Oriented Personal Evaluation Scales (F-COPES). Means and standard deviations for the three groups on these measures are presented in Table 2. The emphasis of this section is on the clinical patterns of the groups, statistical analysis of these differences will be presented in a subsequent section.

Group DD. The mean score for Group DD (N=18) was in the clinically significant range (85th percentile or
Table 2

Means and (Standard Deviations) of the Groups on the Parenting Stress Index, FIRM, and the Reframing and Passive Appraisal Scales from the F-COPES

<table>
<thead>
<tr>
<th>Measure</th>
<th>DD</th>
<th>Mean Group Scores</th>
<th>BP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PSI</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Domain</td>
<td>144 (27)*</td>
<td>94 (30)</td>
<td>151 (17)*</td>
</tr>
<tr>
<td>Parent Domain</td>
<td>141 (29)</td>
<td>132 (45)</td>
<td>144 (30)</td>
</tr>
<tr>
<td>Total</td>
<td>285 (49)*</td>
<td>226 (47)</td>
<td>295 (42)*</td>
</tr>
<tr>
<td>Life Stress</td>
<td>6 (7)</td>
<td>6 (4)</td>
<td>15 (15)</td>
</tr>
<tr>
<td>Child Domain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adapt.</td>
<td>36 (8)*</td>
<td>24 (5)</td>
<td>34 (7)*</td>
</tr>
<tr>
<td>Accept.</td>
<td>23 (6)*</td>
<td>14 (5)</td>
<td>21 (4)*</td>
</tr>
<tr>
<td>Demand.</td>
<td>29 (7)*</td>
<td>18 (5)</td>
<td>30 (4)*</td>
</tr>
<tr>
<td>Mood</td>
<td>13 (4)*</td>
<td>10 (3)</td>
<td>16 (4)*</td>
</tr>
<tr>
<td>Distract</td>
<td>31 (8)*</td>
<td>21 (4)</td>
<td>31 (6)*</td>
</tr>
<tr>
<td>Rf Parent</td>
<td>13 (4)*</td>
<td>13 (5)*</td>
<td>18 (4)*</td>
</tr>
<tr>
<td>Parent Domain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>23 (7)</td>
<td>21 (6)</td>
<td>22 (8)</td>
</tr>
<tr>
<td>Attachment</td>
<td>14 (2)</td>
<td>14 (4)</td>
<td>16 (3)*</td>
</tr>
<tr>
<td>Restrict. Role</td>
<td>21 (7)</td>
<td>18 (5)</td>
<td>20 (5)</td>
</tr>
<tr>
<td>Sense of Comp.</td>
<td>36 (7)</td>
<td>29 (9)</td>
<td>37 (7)*</td>
</tr>
<tr>
<td>Soc. Isol.</td>
<td>14 (5)</td>
<td>12 (2)</td>
<td>15 (6)</td>
</tr>
<tr>
<td>Rel. Spouse</td>
<td>20 (6)</td>
<td>16 (5)</td>
<td>20 (8)</td>
</tr>
<tr>
<td>Health</td>
<td>14 (5)</td>
<td>12 (2)</td>
<td>13 (4)</td>
</tr>
<tr>
<td><strong>FIRM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tot. FIRM</td>
<td>104 (31)</td>
<td>124 (22)</td>
<td>88 (29)*</td>
</tr>
<tr>
<td>Fam. Str. 1</td>
<td>32 (8)</td>
<td>38 (4)</td>
<td>28 (8)*</td>
</tr>
<tr>
<td>Fam. Str. 2</td>
<td>35 (11)</td>
<td>42 (9)</td>
<td>27 (16)*</td>
</tr>
<tr>
<td>Ext. Fam. Soc.</td>
<td>8 (3)</td>
<td>10 (2)</td>
<td>9 (4)</td>
</tr>
<tr>
<td>Finan.</td>
<td>30 (13)</td>
<td>37 (8)</td>
<td>25 (11)</td>
</tr>
<tr>
<td><strong>F-COPES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reframing</td>
<td>29 (7)</td>
<td>31 (4)</td>
<td>30 (5)</td>
</tr>
<tr>
<td>Pas. Appr.</td>
<td>17 (3)</td>
<td>18 (2)</td>
<td>15 (3)</td>
</tr>
</tbody>
</table>

Note. All means and standard deviations are rounded to the nearest whole number.
* indicates that on the Parenting Stress Index scales, the mean score was above the clinical cut-off score and on the FIRM below the average range.
higher) on both the Total score, and the Child Domain score of the Parenting Stress Index. All of the Child Domain subscales were in the clinically significant range. The Parent Domain score and all subscales from the Parent Domain were below the 85th percentile. The score on the Life Stress Scale (measures stressors external to the parent-child system) of the Parenting Stress Index was within normal limits (M=5.72, Cut-off Score=17).

Since "normative ranges" were utilized in the test manual to interpret the FIRM, they will also be used here. Higher scores indicate better resource utilization. The average total score of Group DD on the FIRM was within the normative range. Furthermore, the mean subscale scores of Group DD on the FIRM were all within the normative range. The Extended Family Social Support Scale, which indicates mutual help and support given to and received from relatives, was just within the normative range (Group DD M=7.5, Normative Range=7-11, Normative Mean=9). Eight subjects (44.6%) had scores of seven or lower on this scale. Generally, however, resources for this group of families appeared to be in the normative range.

The Reframing and Passive Appraisal scales from The Family Crisis Oriented Personal Evaluation Scales measure a family's internal coping patterns. The
Reframing scale measures the family's capability to redefine stressful events and make them more manageable. Percentiles are provided in the F-COPES manual to compare scores with the normative group. Group DD had a mean score of 29 on this scale. This score placed them into the 38th percentile when compared to the normative group for utilization of reframing as a coping mechanism. On the Passive Appraisal Scale, which measures a family's ability to accept problematic issues and minimize reactivity, Group DD had a mean score of 17. This score is above the 99th percentile.

In summary, mothers in Group DD reported levels of parental stress related specifically to characteristics of their child that were in the clinical range. Family resources appeared to be within normal limits, with social support from extended family at the low end of the normative range. Percentile scores on the measures of the families' internal coping patterns indicated that these families were more likely than most families in the normative group for this instrument to accept problems with minimal reactivity.

**Group NM.** Group NM scored within the normal range on the Total score, the Child Domain score, and the Parent Domain Score of the Parenting Stress Index. The Life Stress Scale was also within the normal range.
The only subscale that was elevated for Group NM was the Child Reinforces Parent scale (M=13, Cut-off Score=12), which is part of the Child Domain.

Consequently, it appears that mothers in Group DD find the characteristics of their children more stressful than the mothers in Group NM. On the Parenting Stress Index, mothers in Group DD reported stress levels in the clinical range on the Total Stress Score, the Child Domain Score and on all the Child Domain subscales. Mothers in Group NM had mean scores in the normative range for these scales. Mothers in both Groups, however, had mean scores above the clinical cut-off on the scale of Reinforces Parent.

The average total score for Group NM on The FIRM was 124, which placed this group in the high normative range for resources (Normative Range=92-128). Scores were found to be in the normal range for all the FIRM scales.

The average score of Group NM on the Reframing scale of F-COPES was 31, which placed this group in the 59th percentile. The mean score on the Passive Appraisal scale was 18. This score fell above the 99th percentile. The scores for Group DD and Group NM were in the same percentile for the Passive Appraisal scale. Thus, when compared to the normative group used to standardize the F-COPES, Group DD and Group NM appear
similar in their tendency to accept problematic issues and minimize reactivity, but were quite different than the normative group used to standardize F-COPES. On the Reframing scale, Group NM had a score of 31 (Group DD M=29, 38th percentile).

**Group BP.** Group BP (N=10) scored above the clinical Cut-off on the Total Parenting Stress Index score, and on the Child Domain Score. The Parent Domain score and the Life Stress Scale score were within the normal range. However, the Life Stress Scale score (M=15) was close to the Cut-off of 17. All of the mean scores on the Child Domain scales were in the clinical range for this group. Two subscales from the Parent Domain were in the clinical range. The mean score for Group BP on both the Sense of Competence scale (M=37, Cut-off Score=37) and the Attachment scale (M=16, Cut-off Score=16) was at the cut-off score.

The pattern of scores in the clinically significant range for Group BP was slightly different from Group DD on the PSI. Both Group DD and Group BP scored in the clinically significant range on all the Child Domain scales. However, the mean score for Group BP was also in the clinical range on the Sense of Competence scale and the Attachment scale from the Parent Domain. Group DD had scores in the normative range for these two scales.
The average total score for Group BP (M=88) on the FIRM was more than one standard deviation below the mean (FIRM M=110, SD=10, Normative Range=92-128). The mean score for Group BP was below the normative range on two of the four subscales (Family Strengths I: Esteem and Communication M=28; Family Strengths II: Mastery and Health M=27). The subscales of Extended Family Social Support, and Financial Well-Being were within the normative range. Thus, mothers in Group BP had a mean score lower than the normative range on measures of resources relating to family strengths, whereas, the mean scores for mothers in Group DD and Group NM were within the normative range.

On the Family Crisis Oriented Personal Evaluation Scales, Group BP had a mean score of 30 (49th percentile) on the Reframing Scale, and a mean score of 15 on the Passive Appraisal Scale (99th percentile). The score for Group BP on the Reframing scale (30) was within one point of both the score of Group DD (29) and the score of Group NM (31). The mean score of Group BP on the Passive Appraisal scale (15) was lower than both the score of Group DD (17) and the score of Group NM (18), although close in terms of the percentile score.

Tests of the Predictions

In testing the assumptions of the statistics used to test the predictions, one outlier was identified on
the variable of the total stress score from the Parenting Stress Index. The data for this subject were deleted from the data set. The subject belonged to Group NM (Families with children who are not retarded and do not have behavior problems). This subject had a total score of 327 on the Parenting Stress Index. Thus the number of subjects in Group NM was reduced from 13 to 12.

Predictions 1a-1e. Predictions 1a-1e stated that it would be possible to discriminate between the three groups using stressor variables and parental stress variables as predictors for group membership. It was predicted that mothers in Group DD would report their children required more assistance and would report higher stress levels than mothers in Group NM. It was also predicted that mothers in Group BP would report that their children had more behavior problems and would report higher parental stress levels than the other two groups. Finally, it was predicted that life stressors external to the parent-child system would not vary across the three groups.

SPSS-X Discriminant was used to perform a direct discriminant function analysis using three stressor variables and two stress variables as predictors of membership in three groups. Tabachnick and Fidell (1983) described the purpose of discriminant function
analysis as predicting group membership on the basis of a variety of predictor variables. According to Tabachnick and Fidell the question of best group prediction is the question of MANOVA turned around. There are two facets of discriminant analysis which may be emphasized in research. One is obtaining a decision rule for classifying new cases, and the other is interpreting the discrimination space in terms of the variables contributing most heavily to separation of the groups in that space. Thus, the primary goals of discriminant function analysis are to find the dimension or dimensions along which groups are maximally different and to predict group membership on the basis of the predictor variables used to create the dimensions. Although the main objective in this research is interpreting the discrimination space, classification rates will also be presented.

Predictor variables for this analysis were number of behavior problems reported for the child (Beh.Prob.), level of assistance required by the child (Level of Asst.), life stressors external to the parent-child system (Life Stressors), stress related to the child's characteristics (Child Dom.), and stress related to the parent's characteristics (Parent Dom.).

Two discriminant functions were derived with a combined $\chi^2(10) = 59.5, p < .00001$. After removal of the
first function there was still highly significant discriminating power, \( \chi^2(4)=26.99, p<.0001 \). The two discriminant functions accounted for 57% and 43% of the between-group variability, respectively. Figure 1 illustrates that the first discriminant function maximally separated subjects in Group DD, from subjects in Group BP, with subjects in Group NM in the middle. The second discriminant function discriminated subjects in Group NM from subjects in Group DD and subjects in Group BP.

The correlations between the predictor variables and canonical discriminant functions (presented in Table 3), suggested that the primary variables distinguishing mothers in Group DD from mothers in Group BP (first function) were the level of assistance required by the child and the life stressors external to the parent-child system. Children who were trainable mentally retarded required more assistance from their parents (mean level of assistance required=3.89) than children who had behavior problems (mean level of assistance required=.90). Mothers with
Figure 1

Plot of the Three Group Centroids on Two Discriminant Functions Derived From Three Stressor and Two Stress Variables

Note.

Group DD=Mothers with a child who is trainable mentally retarded
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems
Group BP=Mothers with a child who has behavior problems
Table 3

Results of the Discriminant Function Analysis Comparing Groups DD, NM, and BP on a Combination of Stressor and Stress Variables

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>1</th>
<th>2</th>
<th>Univariate F(2,37)*</th>
<th>LSTRESS</th>
<th>CHDOM</th>
<th>BEH.PROB.</th>
<th>PDOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVELASST.</td>
<td>.65</td>
<td>.48</td>
<td>17.01</td>
<td>.12</td>
<td>.54</td>
<td>.37</td>
<td>.16</td>
</tr>
<tr>
<td>LSTRESS</td>
<td>-.33</td>
<td>.20</td>
<td>3.89</td>
<td>.30</td>
<td>.05</td>
<td>.27</td>
<td></td>
</tr>
<tr>
<td>CHDOM</td>
<td>.03</td>
<td>.98</td>
<td>20.61</td>
<td></td>
<td>.57</td>
<td></td>
<td>.57</td>
</tr>
<tr>
<td>BEH.PROB.</td>
<td>-.31</td>
<td>.54</td>
<td>8.92</td>
<td></td>
<td></td>
<td></td>
<td>.35</td>
</tr>
<tr>
<td>PDOM</td>
<td>.02</td>
<td>.41</td>
<td>3.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

 Canonical R .78 .73  
 Eigenvalue 1.53 1.16

Note.
Group DD=Mothers with a child who is trainable mentally retarded 
Group NM=Mothers with a child who is not mentally retarded and does 
not have behavior problems 
Group BP=Mothers with a child who has behavior problems 
LEVELASST.=Level of assistance required by a child;  
LSTRESS=Life Stressors external to the parent-child system;  
CHDOM=Child Domain of The Parenting Stress Index;  
BEH.PROB.=Number of behavior problems reported for a child;  
PDOM=Parent Domain of The Parenting Stress Index  
*All univariate Fs are significant at the p<.05 or less
a child who was trainable mentally retarded reported fewer life stressors (mean Life Stressors=5.72) than the mothers with a child who had behavior problems (mean Life Stressors=15.4).

For the second discriminant function, the primary variables distinguishing mothers in Group NM from the other two groups were the number of behavior problems parents reported for their children, the Child Domain score from the PSI, and the Parent Domain score from the PSI. Mothers in Group NM reported lower scores on the aforementioned variables (mean Beh.Prob. score=1.5; mean Child Dom. score=96.9; mean Parent Dom. score=117.08) than either mothers in Group DD (mean Beh. Prob. score=2.4; mean Child Dom. score=143.89; mean Parent Dom. score=141) or mothers in Group BP (mean Beh. Prob. score=4; mean Child Dom. score 150.5; mean Parent Dom. score=144).

Pooled within-group correlations among the five predictors were included in Table 3. When tested individually, five of the ten correlations were statistically significant, (three at α=.01, and two at α=.05). There was a significant positive relationship between parental stress related to characteristics of the child and parental stress related to characteristics of the parent (r(38)=.57, p<.01). This indicated that mothers who reported greater stress
related to their child also were experiencing greater stress from issues related to their own functioning. A significant positive relationship existed between stress related to child characteristics and the level of assistance required by the child ($r(38)=.54, p<.01$). A significant positive relationship was also found between stress related to child characteristics and number of behavior problems reported for the child ($r(38)=.57, p<.01$). These relationships indicated that mothers who reported higher stress related to their child's characteristics also tended to have a child who required more assistance or who had a greater number of behavior problems. Mothers who reported less stress had a child who required less assistance and had fewer behavior problems.

A significant positive correlation was found between the mothers' reported level of stress related to their own characteristics and the number of behavior problems reported for their children ($r(38)=.35, p<.05$). This means that mothers who were experiencing greater stress related to their own characteristics also tended to report more behavior problems for their children and vice-versa. Number of behavior problems reported and level of assistance required by the child also showed a positive moderate correlation ($r(38)=.37, p<.05$). Mothers who reported more behavior problems
for their child also tended to view that child as requiring more assistance and mothers who reported fewer behavior problems tended to see their child as requiring less assistance.

Ninety-five percent of the cases (N=40) were correctly classified using a classification procedure. Two subjects from Group DD were misclassified as belonging to Group NM. Subjects in Group NM and Group BP were classified with 100% accuracy. Group DD had an 89.9% prediction accuracy rate.

Analyses of the PSI Child and Parent Domains.

Discriminant function analyses were performed on the subscales of the Child and Parent Domains of the Parenting Stress Index. These analyses were carried out to look for possible differences between the three groups of families on the Child Domain and the Parent Domain of the Parenting Stress Index. Separate analyses were completed for the subscales of the Child Domain and the subscales of the Parent Domain because of the small N for each group. Tabachnick and Fidell (1983) stated that when using discriminant function analysis, the sample size of the smallest group should exceed the number of predictor variables.

A direct discriminant function analysis was performed using the six subscales of the Child Domain from the Parenting Stress Index as predictor variables.
for membership in three groups. Predictor variables were Adaptability, Acceptability, Demandingness, Mood, Distractability/Hyperactivity and Reinforces Parent.

Two discriminant functions were derived from the Child Domain subscales with a combined $\chi^2(12)=49.31$ $p<.00001$. After removal of the first function, there was still significant discriminating power $\chi^2(5)=16.51$, $p<.005$). The two discriminant functions accounted for 72% and 28% of the between group variance, respectively. Figure two illustrates that the first discriminant function maximally separates Group NM from the other two groups. The second discriminant function distinguishes mothers within Group BP from Group DD and Group NM.

The pooled within groups correlations between discriminating variables and canonical discriminant functions showed that the primary variables distinguishing mothers in Group NM from the other two groups were the Child Domain subscales of Demandingness, Adaptability, Distractability-Hyperactivity, and Acceptance. Table 4 presents the means and standard deviations for each group on the aforementioned variables.
Figure 2

Plot of the Three Group Centroids on Two Discriminant Functions Derived From the Parenting Stress Index Child Domain Scales

Note.

Group DD=Mothers with a child who is trainable mentally retarded
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems
Group BP=Mothers with a child who has behavior problems
### Table 4

**Group Means and (Standard Deviations) for the Child Domain Scales in the First Discriminant Function that Primarily Distinguished Group NM from Group DD and Group BP**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>DEMAND</th>
<th>ADAPT</th>
<th>DISTRACT</th>
<th>ACCEPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD</td>
<td>28.67</td>
<td>36.06</td>
<td>30.94</td>
<td>22.78</td>
</tr>
<tr>
<td></td>
<td>(7.45)</td>
<td>(8.22)</td>
<td>(7.63)</td>
<td>(5.77)</td>
</tr>
<tr>
<td>NM</td>
<td>17.33</td>
<td>23.08</td>
<td>20.67</td>
<td>13.75</td>
</tr>
<tr>
<td></td>
<td>(3.60)</td>
<td>(4.87)</td>
<td>(3.50)</td>
<td>(5.33)</td>
</tr>
<tr>
<td>BP</td>
<td>30.00</td>
<td>34.40</td>
<td>31.20</td>
<td>20.80</td>
</tr>
<tr>
<td></td>
<td>(3.94)</td>
<td>(6.55)</td>
<td>(5.51)</td>
<td>(4.24)</td>
</tr>
</tbody>
</table>

**Note.**

Group DD=Mothers with a child who is trainable mentally retarded  
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems  
Group BP=Mothers with a child who has behavior problems
As can be seen in Table 4, subjects in Group NM had lower mean scores than either Group DD or Group BP on the variables mentioned above. Mothers in Group NM viewed their children as less demanding and less distractable/hyperactive than mothers in Group DD and Group BP. Mothers in Group NM also saw their children as more adaptable and were more accepting of their children than mothers in the other two groups.

The primary variables discriminating mothers with a child who had behavior problems from the other two groups were the variables of Reinforces Parent and Mood. Mothers in Group BP viewed their child as less reinforcing (Mean Reinforces Parent=18.20) than mothers in Group DD (Mean Reinforces Parent=12.78) and mothers in Group NM (Mean Reinforces Parent=12.17). Mothers in Group BP also viewed their children as having a higher level of affective dysfunction (Mean Mood=15.9) than mothers in Group DD (Mean Mood=12.67) and mothers in Group NM (Mean Mood=9.91). Table 5 presents results for this discriminant function analysis of the Parenting Stress Index Child Domain Scales.

Pooled within-group correlations, which illustrate the relationship among the six Child Domain subscales, are also shown in Table 5. When tested individually,
Table 5
Results of a Discriminant Function Analysis Comparing Groups DD, NM, and BP on the Child Domain Scales

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>1</th>
<th>2</th>
<th>Univariate F(2, 171)</th>
<th>ADAPT</th>
<th>DISTRACT</th>
<th>ACCEPT</th>
<th>REINFORCE</th>
<th>MOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEMAND</td>
<td>.72</td>
<td>.47</td>
<td>17.84</td>
<td>.68</td>
<td>.41</td>
<td>.43</td>
<td>.41</td>
<td>.35</td>
</tr>
<tr>
<td>ADAPT</td>
<td>.67</td>
<td>.19</td>
<td>13.44</td>
<td>.25</td>
<td>.51</td>
<td>.46</td>
<td>.24</td>
<td></td>
</tr>
<tr>
<td>DISTRACT</td>
<td>.61</td>
<td>.31</td>
<td>13.96</td>
<td>.20</td>
<td>.16</td>
<td>.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCEPT</td>
<td>.60</td>
<td>.08</td>
<td>10.78</td>
<td>.58</td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REINFORCE</td>
<td>.10</td>
<td>.75</td>
<td>6.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.49</td>
</tr>
<tr>
<td>MOOD</td>
<td>.32</td>
<td>.67</td>
<td>8.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Canonical R .78 .61
Eigenvalue 1.55 .51

Note.

Group DD=Mothers with a child who is trainable mentally retarded
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems
Group BP=Mothers with a child who has behavior problems
DEMAND=Demandingness; ADAPT=Adaptability;
DISTRACT=Distractability/Hyperactivity; ACCEPT=Acceptance;
REINFORCE=Reinforces Parent

*All univariate Fs are significant at the p<.005 or less.
nine of fifteen correlations showed statistical significance (four at $\alpha = .01$, and five at $\alpha = .05$). The variable of Adaptation had a significant positive relationship with the variables of Acceptability ($r(38) = .51 \ p < .01$), Demandingness ($r(38) = .68 \ p < .01$), and Reinforces Parent ($r(38) = .46 \ p < .05$). A significant positive relationship was also found between the variables of Acceptance and Reinforces Parent ($r(38) = .58 \ p < .01$) and between Acceptance and Demandingness ($r(38) = .43 \ p < .05$). The variable of Demandingness was also significantly correlated with the variables of Mood ($r(38) = .35 \ p < .05$), Distractability/Hyperactivity ($r(38) = .41 \ p < .05$) and Reinforces Parent ($r(38) = .41 \ p < .05$). The variables Mood and Reinforces Parent had a significant correlation ($r(38) = .49 \ p < .01$) in a positive direction. All of the significant correlations of the subscales from the Child Domain were in a positive direction.

The overall accuracy of prediction for the classification procedure was 82.5% ($N=40$). Five subjects from Group DD were misclassified. Two were classified as belonging to Group NM and three were classified as belonging to Group BP. Group DD had a 72.2% prediction accuracy rate. Two members from Group BP were misclassified. One was classified as belonging to Group DD and one was classified as belonging to
Group NM. The accuracy of prediction rate for Group BP was 80%. Group NM membership was predicted with 100% accuracy.

A direct discriminant function analysis was also performed using the seven subscales of the Parent Domain from the Parenting Stress Index as predictors of membership in three groups. Predictor variables were Depression, Attachment, Restriction of Role, Sense of Competence, Social Isolation, Relationship with Spouse and Parent Health. Of the seven scales, only Sense of Competence showed a significant F-ratio ($F=7.86 \ p<.001$). Since neither discriminant function was significant (Function 1: $\chi^2_{14}=23.3 \ p=.06$; Function 2: $\chi^2_{6}=5.91 \ p=.43$), the discriminant function analysis was not interpreted. A follow-up with a Scheffe procedure for the Sense of Competence Scale revealed that Group NM (Mean=27.17) differed significantly from both Group DD (Mean=35.6) and Group BP (Mean=37.4). Examination of the means showed that mothers in Group NM reported a greater sense of competence as a parent than mothers in Group DD and mothers in Group BP. This was the only parent characteristic that distinguished the three groups.
Generally, predictions 1a, 1b, and 1d were supported. The groups did vary on the level of assistance required by the child, number of behavior problems reported for the child, and stress related to child characteristics. These differences were in the predicted direction for the three groups. Group BP generally had higher stress scores and more life stressors than the other two groups. Prediction 1c and 1e were not supported. Prediction 1c stated that mothers in the three groups would not report significant differences in the number of life stressors they experienced. Mothers in Group BP reported significantly more life stressors than mothers in Group DD. Prediction 1e stated that the groups would vary on stress related to parental characteristics. The only variable that was significantly different for the groups in this area was the mothers' sense of competence as a parent. Mothers in Group BP and Group DD viewed themselves as less competent in their parenting than mothers in Group NM.
**Prediction 2:** Prediction 2 stated that Groups DD and NM would not vary in the amount of family resources reported, but that Group BP would report fewer resources than the other two groups. It was also predicted that the three groups would not be different for their perceptions of stressors.

A one-way MANOVA was used to test for group differences in resources as measured by the Family Inventory of Resources for Management. The four scales which comprise the Total FIRM score (Family Strengths 1: Esteem and Communication; Family Strengths 2: Mastery and Health; Extended Family Social Support, and Financial Well-Being) were used as dependent variables. Pillai's criterion for significance was used instead of Wilk's Lambda because of possible distortion on alpha levels due to unequal group sizes. Tabachnick and Fidell (1983) reported that use of the Pillai criterion for groups with unequal N improves the robustness of the test. Analyses were performed using SPSSX MANOVA.

Means and standard deviations for each group on the four FIRM scales as well as univariate F-ratios are presented in Table 6. The MANOVA showed significant overall group differences for the four dependent variables \((F(8,70)=2.34, p<.03)\).

All four dependent measures had significant univariate F-ratios (Family Strengths 1: \(F(2,37)=5.71\),...
Table 6

Means, (Standard Deviations) and F-Ratios for Groups DD, NM, and BP on the Four Scales from the Family Inventory of Resources for Management

<table>
<thead>
<tr>
<th>FIRM SCALES</th>
<th>GRP DD</th>
<th>GRP NM</th>
<th>GRP BP</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAM STRENGTHS 1</td>
<td>32.39</td>
<td>38.25a</td>
<td>27.90b</td>
<td>5.71**</td>
</tr>
<tr>
<td></td>
<td>(8.21)</td>
<td>(4.50)</td>
<td>(7.95)</td>
<td></td>
</tr>
<tr>
<td>FAM STRENGTHS 2</td>
<td>34.56</td>
<td>41.33a</td>
<td>26.80b</td>
<td>4.03*</td>
</tr>
<tr>
<td></td>
<td>(10.99)</td>
<td>(.77)</td>
<td>(16.81)</td>
<td></td>
</tr>
<tr>
<td>EXT FAM SOC SUPPORT</td>
<td>7.50a</td>
<td>10.58b</td>
<td>9.00</td>
<td>4.02*</td>
</tr>
<tr>
<td></td>
<td>(3.20)</td>
<td>(1.68)</td>
<td>(3.53)</td>
<td></td>
</tr>
<tr>
<td>FINANC WELL BEING</td>
<td>29.50</td>
<td>37.00</td>
<td>24.70</td>
<td>3.39*</td>
</tr>
<tr>
<td></td>
<td>(12.9)</td>
<td>(8.6)</td>
<td>(10.8)</td>
<td></td>
</tr>
</tbody>
</table>

Note.

Group DD=Mothers with a child who is trainable mentally retarded
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems
Group BP=Mothers with a child who has behavior problems

Means with different superscripts are significantly different from each other.

* p<.05
**p<.01
$p < .007$; Family Strengths 2: $F(2,37) = 4.03$, $p < .03$;
Extended Family Social Support $F(2,37) = 4.02$, $p < .03$;
Financial Well-Being $F(2,37) = 3.39$, $p < .05$). Follow-up with the Scheffé procedure revealed that Group BP had significantly lower mean scores on the variables of Family Strengths 1 and Family Strengths 2 than Group NM. Group DD had a significantly lower group mean than Group NM on the variable of Extended Family Social Support. Although the variable of Financial Well-Being showed a significant univariate F-ratio, no two groups were significantly different from each other at the .05 level.

In summary, the predictions that the groups would vary in the amount of resources reported were partially supported. The mothers in Group BP reported fewer resources than mothers in Group NM on variables related to family strengths. Mothers in Group BP reported less communication and ability to master problems in their family systems than mothers in Group NM. Mothers in Group DD reported significantly less extended family social support than mothers in Group NM. The finding of no significant difference between any two of the groups on the variable of Financial Well-Being may have been a result of the attempt to have the social status of the three groups as close as possible.
A one-way MANOVA was also utilized to test for group differences for maternal perception of stressors. The Reframing and Passive Appraisal scales from The Family Crisis Oriented Personal Evaluation Scales were used as dependent variables. Pillai's criterion was used as the multivariate test of significance.

Means, standard deviations and univariate F-ratios for each group on these two variables are presented in Table 7. The MANOVA analysis indicated no overall significant difference between groups on these two scales ($F(4,74)=2.18$, $p=.08$). While the univariate F-ratio showed no significant difference between the three groups on the Reframing scale ($F(2,37)=.542$, $p=.586$), the three groups did vary significantly on the Passive Appraisal Scale ($F(2,37)=4.12$, $p<.03$). Follow-up with a Scheffé procedure revealed that Group NM and Group BP were significantly different at the .05 level. Group BP was more reactive to and less accepting of problematic issues than Group NM.

This portion of prediction 2 was partially supported. The three groups did not vary significantly in their reported ability to redefine stressors to make them more manageable. Examination of the means in Table 7 revealed that the three groups scored within
Table 7

Means, (Standard Deviations), and F-Ratios of Groups DD, NM, and BP on the Reframing and Passive Appraisal Scales of The F-COPES

<table>
<thead>
<tr>
<th>F-Copes Scales</th>
<th>Group DD</th>
<th>Group NM</th>
<th>Group BP</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reframing</td>
<td>28.56 (6.56)</td>
<td>30.67 (4.23)</td>
<td>29.70 (4.60)</td>
<td>.54</td>
</tr>
<tr>
<td>Passive</td>
<td>16.72 (3.20)</td>
<td>18.00a (1.81)</td>
<td>14.50b (3.24)</td>
<td>4.12*</td>
</tr>
</tbody>
</table>

Note:

Group DD=Mothers with a child who is trainable mentally retarded
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems
Group BP=Mothers with a child who has behavior problems

Means with different superscripts are significantly different from each other.

*p<.05
2.5 points of one another on this scale. The groups did vary significantly in their reactivity to and acceptance of stressors. Mothers in Group BP indicated that their families were significantly more reactive and less accepting of problematic issues than mothers in Group NM. The mean score for Group DD on this variable was midway between the Passive Appraisal scores of Group NM and Group BP.

**Prediction 3.** The purpose of prediction three was to examine group differences in the amount and kinds of social support in the three groups, along with the relationship of group membership and social support to parental stress scores. A MANOVA was used to investigate whether the three groups varied in amount of social support across five categories measured by the Social Support Inventory. The five dependent measures were the category scores from the Social Support Inventory. The categories are as follows: Emotional Support, Esteem Support, Network Support, Appraisal Support, and Altruistic Support. As with the other MANOVAs conducted in this study, Pillai's criterion was utilized as the multivariate test of significance. Analyses were performed using SPSS-X MANOVA and ANOVA.

Means, standard deviations and univariate F-ratios are presented for the three groups in Table 8. The
Table 8

Means, (Standard Deviations) and F-Ratios for Groups DD, NM and BP on the Five Categories of the Social Support Inventory (SSI)

<table>
<thead>
<tr>
<th>SSI Categories</th>
<th>Grp DD</th>
<th>Grp NM</th>
<th>Grp BP</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Support</td>
<td>9.61</td>
<td>11.42</td>
<td>8.00</td>
<td>2.73</td>
</tr>
<tr>
<td></td>
<td>(4.12)</td>
<td>(2.78)</td>
<td>(2.63)</td>
<td></td>
</tr>
<tr>
<td>Esteem Support</td>
<td>9.33</td>
<td>11.92a</td>
<td>7.20b</td>
<td>4.11*</td>
</tr>
<tr>
<td></td>
<td>(4.73)</td>
<td>(3.42)</td>
<td>(2.25)</td>
<td></td>
</tr>
<tr>
<td>Network Support</td>
<td>9.00</td>
<td>10.92</td>
<td>7.40</td>
<td>1.90</td>
</tr>
<tr>
<td></td>
<td>(5.35)</td>
<td>(2.02)</td>
<td>(3.89)</td>
<td></td>
</tr>
<tr>
<td>Appraisal Support</td>
<td>6.44</td>
<td>6.67</td>
<td>6.60</td>
<td>3.03</td>
</tr>
<tr>
<td></td>
<td>(4.36)</td>
<td>(3.20)</td>
<td>(2.99)</td>
<td></td>
</tr>
<tr>
<td>Altruistic Support</td>
<td>10.11a</td>
<td>13.92b</td>
<td>10.50</td>
<td>5.12*</td>
</tr>
<tr>
<td></td>
<td>(3.31)</td>
<td>(3.78)</td>
<td>(2.76)</td>
<td></td>
</tr>
</tbody>
</table>

Note.

Group DD=Mothers with a child who is trainable mentally retarded
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems
Group BP=Mothers with a child who has behavior problems

Means with different superscripts are significantly different from each other.

*p<.05
MANOVA showed significant overall group differences for the five dependent variables ($F(10,66)=1.98 \ p<.05$). Significant univariate F-ratios were obtained on two of the five dependent variables. The category of Esteem Support ($F(2,37)=4.71 \ p<.03$) and the category of Altruistic Support ($F(2,37)=5.12 \ p<.02$) showed significant group differences.

Follow-up with a Scheffé procedure revealed that Group NM and Group BP were significantly different from each other in Esteem Support category. Examination of group means showed the Group NM mothers ($\bar{M}=11.92$) felt they received significantly more information that they were valued and respected for who they were and what they did than Group BP mothers ($\bar{M}=7.2$). The mean score of mothers in Group DD ($\bar{M}=9.33$) fell between the means of Group NM and Group BP and was not significantly different from either group.

Results of a Scheffé procedure indicated that Group DD ($\bar{M}=10.1$) and Group NM ($\bar{M}=13.9$) were significantly different from each other for the category of Altruistic Support. Mothers in Group NM perceived themselves as receiving significantly more information which leads them to believe they are worthwhile because of what they have done for others
than mothers in Group DD. The mean score for Group BP mothers (Mean=10.5) was near the mean for Group DD, but not significantly different from the mean for Group NM.

The prediction that Group DD would have lower overall social support than Group NM was not supported. Mothers in Group DD reported significantly lower social support only in the area of Altruistic Support. This means that these mothers did not get as much of their sense of worth from doing things for others as mothers in Group NM.

The prediction that Group BP would vary from the other two groups in amount of social support was also generally not supported. Group BP varied significantly from Group NM on only the Esteem Support Category. This category measures how valued and respected an individual feels. Thus, mothers with a child who had behavior problems felt less valued and respected than mothers with a child who was not retarded and did not have behavior problems.

A (2x3) ANOVA was conducted to examine the relationship between groups and amount of social support on parental stress levels. Subjects were classified by group and amount of social support. Subjects were placed into a high or low social support category. Total Social Support Index scores above 53
(median) were classified as high social support, and those below 53 were classified as low social support. The dependent variable for this analysis was the Total Score from the Parenting Stress Index. Means and standard deviations from this analysis are presented in Table 9.

Results indicated that both main effects were significant \( (F=10.26, p<.0001) \). However, the interaction of social support and group membership was not significant. The three groups varied significantly on the Total Stress Score of the Parenting Stress Index \( (F=10.25, p<.0001) \). Follow-up analysis with a Scheffe procedure revealed that Group NM \( (M=214.00, SD=34.63) \) had significantly lower total scores on the Parenting Stress Index than Group DD \( (M=284.89, SD=49.39) \) and Group BP \( (M=294.60, SD=41.50) \). This finding was probably largely due to the difference in the group means on the Child Domain of the PSI. As reported in the discussion of Predictions 1a-e, the three groups did not significantly differ on the Parent Domain Score of the Parenting Stress Index.

A significant main effect was also found for high vs. low social support on parental stress level \( (F=4.46, p<.05) \). Examination of the mean Total Parenting Stress Index scores in the high or low social support category indicated that subjects with high
Table 9

**Group Means and (Standard Deviations) for Total Scores on The Parenting Stress Index (PSI) with Subjects Categorized According to Level of Social Support**

<table>
<thead>
<tr>
<th>Group</th>
<th>High Social Support</th>
<th>Low Social Support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>PSI Score</td>
</tr>
<tr>
<td>DD</td>
<td>8</td>
<td>274.87</td>
</tr>
<tr>
<td>NM</td>
<td>7</td>
<td>199.14</td>
</tr>
<tr>
<td>BP</td>
<td>2</td>
<td>253.00</td>
</tr>
</tbody>
</table>

**NOTE.**

Group DD=Mothers with a child who is trainable mentally retarded
Group NM=Mothers with a child who is not mentally retarded and does not have behavior problems
Group BP=Mothers with a child who has behavior problems
social support had lower Total Parenting Stress Index Scores ($N=17$, $M=241.12$) than subjects with low social support ($N=23$, $M=284.43$).

The prediction that level of parental stress would vary according to the combination of group membership and amount of social support was not supported. However, each independent variable was significant when tested individually. Group NM was significantly different from Group DD and Group BP on the mean total score of the Parenting Stress Index, and mothers who reported a high level of social support had significantly lower total scores on the Parenting Stress Index.

**Phase 2**

**Prediction 4.** The fourth prediction examined whether the data from this study corresponded with McCubbin and Patterson's (1981) Double ABCX model. Since it was not the intention of this prediction to make group comparisons, and because the Double ABCX Model should be applicable to all subjects, the total subject pool ($N=80$) was included in this analysis. It was predicted that families with more stressors, fewer resources, and less ability to redefine and accept stressors would experience higher levels of parental stress.
A standard multiple regression analysis was performed with the total stress score from the Parenting Stress Index as the dependent variable and level of assistance required by the child (Level Asst.), behavior problems of the child (Beh. Prob.), life stressors (Lstress), Reframing and Passive Appraisal Scales from F-COPES (F-COPES), and the total resource score from the FIRM (Tot.FIRM) as independent variables. Analysis was performed using SPSS-X Regression.

Results of the Regression analysis are presented in Table 10. The R for the regression analysis was significantly different from zero (F(5,75)=35.70, p< .00001).

Three of the independent variables contributed significantly to the prediction of the total stress score of the Parenting Stress Index. Level of assistance required by the child ($\beta^2$.10), number of behavior problems reported for the child ($\beta^2$=.03) and the total score from the FIRM ($\beta^2$.18) significantly predicted the total stress score. The five independent variables in combination contributed another 39.7% in shared variability. Seventy percent of the variability (.68 adjusted) in the total stress score from the Parenting Stress Index could be predicted from knowledge of the five independent variable scores.
Table 10

Standard Multiple Regression of Stressors, Resources, and Perception of Stressors on the Total Score from the Parenting Stress Index

<table>
<thead>
<tr>
<th>Variables (DV)</th>
<th>LSTRESS</th>
<th>BEH.PROB.</th>
<th>LEV.ASST.</th>
<th>TOTFIRM</th>
<th>F-COPES</th>
<th>B</th>
<th>B (unique)</th>
<th>SR2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSTRESS</td>
<td>.24*</td>
<td>.63***</td>
<td>.48***</td>
<td>-.69***</td>
<td>-.46**</td>
<td>.15</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>BEH.PROB.</td>
<td>.18</td>
<td>.08</td>
<td>.44***</td>
<td>-.25*</td>
<td>-.20*</td>
<td>6.85</td>
<td>.22</td>
<td>.03</td>
</tr>
<tr>
<td>LEV.ASST.</td>
<td></td>
<td></td>
<td></td>
<td>-.44***</td>
<td>-.36***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTFIRM</td>
<td></td>
<td></td>
<td></td>
<td>-.05</td>
<td>-.10</td>
<td>6.88</td>
<td>.35</td>
<td>.10</td>
</tr>
<tr>
<td>F-COPES</td>
<td></td>
<td></td>
<td></td>
<td>-.57***</td>
<td></td>
<td>-1.05</td>
<td>-.55</td>
<td>.18</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.14</td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td>MEANS</td>
<td>253.31</td>
<td>8</td>
<td>2.3</td>
<td>2.4</td>
<td>113.03</td>
<td>46.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>51.32</td>
<td>9.2</td>
<td>1.7</td>
<td>2.6</td>
<td>27.18</td>
<td>6.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 = .70^9 \]
\[ Adjusted R^2 = .68 \]
\[ R = .84^{**} \]

Note.
TOT.PSII=Total Parenting Stress Index Score; LSTRESS=Life Stress Scale;
BEH.PROB.=Number of occasional and frequent behavior problems; LEV.ASST.=Level
of minor and total assistance required by the child; TOTFIRM=Total FIRM
Score, F-COPES=The combined Reframing and Passive Appraisal Scale scores from
F-COPES.

* unique variability = .31     shared variability = .39
* = p ≤ .05; ** = p ≤ .001; *** = p ≤ .0001; **** = p ≤ .00001
Thus, in terms of McCubbin and Patterson's (1981) Double ABCX model, the Aa factor (stressors) and the Bb factor (resources) predicted the Xx factor (adaptation--operationalized in this study as level of parental stress). Life stressors outside the parent-child system and the Cc factor (perception of stressors) as operationalized for this study did not predict parental stress.
Discussion

This study compared mothers with a male child who was trainable mentally retarded (Group DD) to mothers with a male child in a normative group (Group NM) and mothers with a male child receiving treatment for behavior problems (Group BP). The purpose of this comparison was to identify similarities and differences between the group of mothers with mentally retarded children and the other two groups of mothers on variables representing the factors from McCubbin and Patterson's (1981) Double ABCX Model of family stress and coping. Thus, the three groups were compared on the variables of stressors, resources, perception of stressors, and parental stress. An additional analysis was completed to determine if the data from a larger data set which included both male and female subjects corresponded to McCubbin and Patterson's model.

Summary of the Results

The findings from this research showed that on the measures utilized to operationalize McCubbin and Patterson's (1981) double ABCX model, Group DD generally fell in the middle between Group NM and Group BP. This indicates that generally Group NM had the most resources and highest level of adaptation, with Group DD in the middle and Group BP experiencing the
fewest resources and lowest level of adaptation. The findings comparing the three groups on each of the factors in the Double ABCX model will be addressed more thoroughly in the following discussion.

In regards to the stressor variables and the level of parental stress related to characteristics of the child examined in this study, the findings of the present study generally showed that mothers in Group DD were both different from and similar to the two comparison groups. Group DD mothers reported that the characteristics of their sons were more stressful than mothers with sons in the normative group. In addition, mothers in Group DD were more likely than mothers in Group NM to describe their sons as having difficulties in adjusting to environmental changes, as being overactive or distractable, and as placing many demands on them as parents.

Group DD mothers were also different from mothers with sons who had behavior problems. Mothers in Group DD generally reported that their sons required greater assistance with daily living tasks, reported fewer life stressors external to the parent-child system, found their children more reinforcing, and indicated that their sons had less emotional disturbance than mothers in Group BP.
Mothers in Group DD and mothers in Group BP were similar in that they both found the characteristics of their children to be stressful and generally described their sons as children who had qualities that made it hard for them to fulfill their parenting roles. Mothers in both Group DD and Group BP also reported that the characteristics of their sons did not match the characteristics they had expected. In other words they tended to portray the child as less intelligent, pleasant or attractive than they had expected.

Findings from this study support the results of earlier research (Beckman, 1983; McKinney & Peterson 1987; Quine & Pahl 1985). These researchers found that characteristics of the delayed child, especially those which added to the burden of care or those which were indicative of behavior problems, were related to higher stress levels in the parents.

The mothers of children in Group DD and Group BP also appeared to be dealing with acceptance issues related to the "idealized child" vs the actual child. The findings from this research pertaining to acceptance of the child were similar to what Olshansky (1962) observed when he spoke of the chronic sorrow experienced by parents of mentally retarded children. Parents in this study still appeared to be dealing with the reality that the characteristics of their children
did not match the characteristics they had expected for them. However, results from the present research showed that issues related to loss of the idealized child and acceptance of the real child were not necessarily limited to parents of children who are mentally retarded. Mothers with sons who had behavior problems also experienced loss of the idealized child.

One similarity between mothers in all three groups was that they reported that they did not generally find interactions with their sons to be reinforcing. This may indicate that parenting males in the 6-12 year old period is generally not very rewarding. Further research may be warranted to determine if this finding is representative of maternal attitudes toward parenting latency age children in general, or if it is unique to this sample. Even though the means on the scale of "Child Reinforces Parent" on the PSI were in the clinically significant range for all three groups, mothers in Group BP found their child to be significantly less rewarding than the other two groups.

In terms of parent characteristics, only one scale from the Parent Domain of the Parenting Stress Index discriminated significantly between the three groups. This was the Sense of Competence Scale which indicates how confident a parent is in his or her parenting skills. Generally, mothers in both Group DD and Group
BP reported that they felt less competent as parents than mothers in Group NM. Even though mothers in both Group DD and Group BP reported that they did not feel competent as parents, the issues surrounding these feelings may be quite different for the two groups. Parents in Group DD were faced with parenting issues related to the atypical development of their child. Thus, the normal expectations and sequences in childrearing were disrupted for this group. Children who are mentally retarded not only develop slower than their nonretarded peers, but are also qualitatively different.

The parents in this study with children who had behavior problems were most likely not dealing with issues related to altered developmental patterns, but rather with issues in the management of their children. Consequently, in addition to the characteristics of the child, issues around parenting competence for Group BP are likely to be related to these parents' general feelings of effectiveness as parents, rather than specifically to parenting a special needs child.

Abidin (1985) stated that parents of special needs children (i.e. children who are mentally retarded, hyperactive, cerebral palsy, emotionally disturbed and learning disabled) typically have profiles on the Parenting Stress Index with the Child Characteristics
Domain Score elevated above the Parent Domain Score. He added that the most extreme elevations are found in the results of parents with hyperactive children or behavior disordered children. The results from this study pertaining to Group BP fit this pattern. While mothers in Group DD and Group BP were not significantly different from one another on the Parenting Stress Index, overall, Group BP's Total PSI, Child Domain, and Parent Domain scores were more elevated than scores for either Group DD or Group NM.

The three groups were also compared on the resource and perception factors of McCubbin and Patterson's (1981) Double ABCX model. Mothers in Group DD reported being similar to the normative group in terms of family strengths and financial well-being. However, they were different from the normative group in their perception of extended family social support. Mothers in Group DD reported that there was less mutual help and support given to and received from relatives.

This differs from findings reported by Kazak and Marvin (1984) and Trute and Hauch (1988). These studies found that while parents of children with a developmentally disabled child had generally smaller and denser social support networks than the control group, the quality of interaction was good. Kazak and Marvin also reported that when family vs friendship
networks were analyzed separately, there were no major differences between the groups in terms of their family network support.

The findings of Trute and Hauch (1988) may provide some clarification of this discrepancy. They compared the type of support received from extended family to that received from friends and found that family provided more material support and respite, while friends were sought out for emotional support, advice and social participation. The questions on the FIRM Extended Social Support scale appear to measure emotional support received from extended family rather than material support or respite. Thus, the apparent discrepancy between the findings of this study and prior research may be related to the type of support being measured. Additionally, the FIRM scale of Extended Family Social Support is comprised of only four items. These items may not be comprehensive enough or sensitive enough to accurately differentiate the groups in the complex domain of social support.

However, the implications of the above finding are important. First, the role of the extended family in families with a child who is developmentally disabled needs to be examined further. Issues such as the amount of respite the extended family provides, the amount of emotional and material support given, and the
extended family's acceptance of the child with a disability need to be clarified. These factors are probably all related to the immediate family's ability to cope with the stressors and stress of caring for a special needs child. Secondly, it is important that when working with families who have children with disabilities that inquiries be made to ensure that respite needs and emotional social support needs are being met.

In the present study mothers in Group DD did not differ from mothers in Group BP on any of the FIRM scales. Differences were apparent, however, between Group NM and Group BP. The significant differences between these two groups were on the scales of Family Strengths 1: Esteem and Communication, and Family Strengths 2: Mastery and Health. The first scale measures family esteem, communication, mutual assistance, optimism, problem solving ability, and encouragement of autonomy. The second scale measures a family's sense of mastery over events and outcomes, family mutuality, and physical and emotional health. Both these scales reflect a combination of personal, family, and social support. Thus, mothers from Group BP in comparison to mothers from Group NM generally indicated that their families were not only experiencing stressors and stress related to the
parenting of their child, but also indicated that their families lacked resources in the areas of personal, internal family system resources and social support.

While mothers in Group DD were not significantly different from Group BP on the Family Strength scales of the FIRM, they also did not differ from Group NM. Furthermore, Group DD had mean scores within the average range on these two scales and Group BP did not. Consequently, the resources measured by these two scales do not appear to be an area of weakness for the families of mothers in Group DD. Therefore, it appears that mothers in Group DD have family system resources which they can utilize when coping with stressors and stress. This presents the picture of generally intact families with stressors and stress focused on the disabled child and circumstances surrounding the disability. However, in Group BP stressors and parenting stress appears to be one facet of difficulties which are present throughout the family system.

Another area of the resource factor examined in this study was social support. Differences in the amount and kinds of social support in the three groups, along with the relationship of group membership and social support to parental stress were examined. The findings of the present study showed that mothers in
Group DD varied from the normative group in the social support category of altruistic support. This means that mothers in Group DD tended to perceive themselves as receiving significantly less information which led them to believe they were worthwhile because of what they have done for others. Perhaps the level of assistance these women's children require on a daily basis alters the perception of aiding others from that of altruism to that of necessity. This finding merits further investigation to determine whether these mothers feel less appreciated, get less satisfaction out of helping others, do not fall into a martyr role as easily, or have simply developed other means of making themselves feel worthwhile.

Mothers in Group BP differed from Group NM mothers on the social support category of esteem support. Mothers in this group tended to report that they felt less valued and respected by the people in their social support network when compared to mothers in Group NM. This finding, combined with the findings of a lack of family strengths and low self confidence in parenting, supports the idea that parenting stress levels in this group are not primarily related to characteristics of the child. Rather, in Group BP there seems to be a poor match of parenting skills and family resources with children who are difficult to parent.
Although these findings provide information of specific areas of weakness in social support for the groups, it appears that both a quantitative and qualitative research approach similar to that of Trute and Hauch (1988) may provide more useful information. These researchers divided social support into the categories of family and friends. They examined both the size of the social support networks and the types of support received from each group. The findings from the current study could be elaborated by examining which sources (e.g. family, friends, spouse, child, etc.) contribute most heavily to each kind of support for each group. Interviews may also add clarity to findings and provide information missed by questionnaires.

The relationship between group membership and amount of social support on parental stress levels was also examined in the present study. While both main effects were significant, the interaction between level of social support and group membership was not significant. Thus, as mentioned earlier in this discussion, both mothers in Group DD and mothers in Group BP tended to report higher parental stress than mothers in Group NM. Across groups, mothers with higher social support generally reported lower parental stress than mothers with low social support. This
finding supports the findings of Kazak and Marvin (1984) which indicated that a relationship exists between the amount of social support and parental stress levels. Given the aforementioned findings that the groups generally do not vary in the amount of social support reported across five types of social support, the lack of a significant interaction effect is not surprising.

The three groups of mothers were also compared on the perception factor of McCubbin and Patterson's model. Results showed that the three groups did not vary in their ability to redefine stressors to make them more manageable. However, a significant difference between Group NM and Group BP was evident on the Passive Appraisal Scale from F-COPES. Overall, mothers in Group BP reported that their families were more reactive and less accepting of problematic issues than mothers in the normative group. This finding must be interpreted with caution. All three groups were at or above the 99th percentile for this scale. Since the standard error of measurement is not provided for this scale and the mean scores for all groups are much higher than the mean for the normative group reported in the F-COPES test manual, it is difficult to determine whether this difference is meaningful. The fact that this scale is only comprised of four items
may also limit its utility to measure a variable as complex as perception.

In summary, mothers in Group DD were generally not different from mothers in either of the other two groups in terms of resources and perception of stressors. The only resource which varied for this group was two facets of social support. Group DD reported significantly less external family and altruistic social support than the normative group. Differences found in resources were primarily between Group NM and Group BP. Group BP tended to report fewer family strengths, less esteem support, and greater reactivity to stressors than the normative group. While the differences between Group BP and Group NM do not relate directly to Group DD, they do provide useful information on how a clinical group differs from a normative group. These findings also show that mothers with children who are TMR do not necessarily show the same variations from the normative group as mothers with a child who has behavior problems.

A larger subject pool (N=80) which included mothers with female children was utilized to test whether the combined groups corresponded to McCubbin and Patterson's (1981) Double ABCX model. It was predicted that families with more stressors, fewer resources, and less ability to redefine and accept stressors would
experience higher levels of parental stress. Results of a multiple regression analysis indicated that, in order of importance, the total resources of the family (Bb factor), the number of behavior problems (Aa factor), and the level of assistance required by the child (Aa factor), significantly contributed to the total stress level on the Parenting Stress Index (Xx factor). Although significantly correlated with the dependent variable (i.e., Total PSI score), the predictors of the combined Reframing and Passive Appraisal scales from the F-Copes (Cc factor) and the Life-Stressor Scale from the PSI (Aa factor) were not significant in predicting parental stress levels for this sample.

Thus, it appears that life stressors external to the parent-child system are not significantly related to stress experienced in the parent-child system. However, this variable is useful in that it does discriminate between mothers in Group DD and mothers in Group BP. Mothers in Group BP reported that they had experienced more life stressors in the last year than mothers in Group DD. This difference combined with the high stress levels and the lack of resources may be another example of the general distress that mothers in Group BP appeared to be experiencing and may also be a
factor in causing them to seek professional help for their child's problem.

There are several possibilities to explain the failure of the two F-COPES scales to predict parental stress levels. First of all, as previously mentioned, the three groups scored within two percentile points of one another on the Passive Appraisal scale. Secondly, the mean group scores were not significantly different on the Reframing scale. Additionally, the FIRM and the F-COPES scales have a significant, moderate, positive correlation. Thus, the F-COPES scales may not have accounted for unique variance after the variance accounted for by the FIRM scores was removed. Finally, it is possible that the scale is not valid or that the subjects from this sample are different from the subjects on which the measure was standardized.

Generally the results of the multiple regression analysis supported McCubbin and Patterson's (1981) model. In this study family resources was the variable most strongly correlated with the dependent variable of parent stress level. The stressors (i.e., number of behavior problems reported for the child and level of assistance required by the child) also contributed significantly to the variance in the dependent measure. These findings reinforced McCubbin and Patterson's contention that moderator variables such as resources
have an important impact on the level of adaptation a family achieves in dealing with stressors and stress. In this research, family resources such as communication, esteem, mutual assistance, mastery of events and health had the strongest relationship with family adaptation. The findings also supported the stressor to stress relationship noted in the literature (Beckman, 1983; McKinney & Peterson 1987; Quine and Pahl, 1985). Further research examining the influence of resources as a moderator variable in the stressor to stress relationship is warranted. This type of research may further clarify the influence of resources on both the vulnerability and regenerative power of families faced with similar stressors.

Limitations of the Present Study

The generalizability of this study is limited by several factors. First, the sample sizes are small, which increases the possibility that the groups utilized in this study do not accurately portray the populations they represent. There are indications, however, that this is not the case. Findings from the tests of the predictions indicated that parental stress experienced by mothers in Group DD was primarily related to the characteristics of their child. This coincides with the literature reviewed and the Parenting Stress Index manual (Abidin, 1986), which
cites this as a common profile for parents of children who are developmentally delayed. Also, the characteristics of Group BP in terms of demographic variables, parental stress levels, and resources fit with findings relating to similar individuals from the Ontario Child Health Study (1986) and research presented in the Parenting Stress Index manual (Telleen, et al. 1986).

The second limitation of this study is that all the subjects are male. Thus, it is not known whether the findings are applicable to females or whether these findings would be replicated with samples of mothers with female children. Since females are more likely to express emotional conflict by internalizing, rather than externalizing as the males in this sample did, the types of stressors related to the child as well as group differences may be different for mothers with female children. There is also the possibility that gender issues and societal stereotypes could influence parents to view their sons and daughters differently across the groups.

Thirdly, the selection of the subjects was not random and was carried out differently across the three groups. Thus, a selection factor may exist because of lack of uniformity in soliciting subjects for each group. Selection procedures resulted in subjects from
Group DD coming from a larger pool than subjects in Group NM. Additionally, subjects from Group BP came from a clinical population. Thus, the possibility exists that the samples obtained in the present study represent particular segments of the three populations.

Another issue in selection is that the actual intelligence levels of children whose mothers were in Group NM and Group BP were not available. Although specifications were made that the mothers in these two groups not have children who were mentally retarded, there is no way to be one hundred percent certain that the intelligence of children from these two groups is in the average range. However, since all of the children were of school age it is likely that any deficiencies in intellectual functioning would have been identified.

Finally, as previously mentioned, there are difficulties with the F-COPES scales utilized to measure the C factor (perception) in McCubbin and Patterson's model. Consequently, results from this study relating to the perception factor of McCubbin and Patterson's model must be interpreted with caution.
Theoretical Issues

Based upon the results from this research, the factors from McCubbin and Patterson's (1981) Double ABCX model are useful for between group comparisons of mothers with male children who are age 6-12. The Double ABCX model is also useful for this type of research because it includes not only stressor and stress factors but also incorporates coping factors such as family resources and perceptions.

In this study this was important because Group DD and Group BP look quite similar to one another in the amount of parental stress they were experiencing when compared to the Group NM. The findings pertaining to the Bb or resource factor, however, showed that generally Group DD did not vary when compared to Group NM on family resources. On the other hand, Group BP did. In comparison to mothers in Group NM, mothers in Group BP generally indicated that they viewed their family as lacking in resources to effectively deal with stressors, whereas mothers in Group DD did not report vulnerability in their immediate family system. Deficits in family strengths may have also limited the regenerative power of families in Group BP in coping with new or additional stressors.

In terms of resources, however, mothers in Group DD tended to view themselves as giving and receiving less
support from extended family. Thus, mothers in Group DD may find it generally more difficult to obtain resources from the environment in order to meet family system demands, whereas, mothers in Group BP appeared to lack the resources the family needs to meet both its internal system demands and its external environmental demands.

The findings from this research also supported the stressor (Aa) to adaptation (Xx) relationship and the resource (Bb) to adaptation (Xx) relationship. However, the perception (Cc) to adaptation (Xx) relationship was not supported. The two scales from F-Copes used to operationalize the perception factor may have influenced these negative findings. However, beyond this issue, it seems that the C factor of McCubbin and Patterson's (1981) model needs to be defined and researched more thoroughly before it is utilized to make between group comparisons. It may be that qualitative types of measurement may provide more discriminating and useful information for the perception factor. Use of qualitative techniques are supported by Pollneer and Wikler's (1985) research which used videotapes of family interactions to determine how a family maintained a false belief that their daughter was not mentally retarded.
Practical Implications

Several practical implications specifically related to service providers working with families who have children who are mentally retarded can also be derived from the findings of this study. First it is paramount that the assumption of family pathology not be made even when the parents appear to be experiencing elevated levels of parental stress. Unlike families with children who have behavior problems, these families appear to have adequate family system strengths to cope with their situation. Instead it is probably more useful to address issues pertaining specifically to the child's disability. For instance, TMR children do not follow the typical developmental patterns of children who are not mentally retarded. Thus, it may be more useful for parents to be educated on typical patterns of development for mentally retarded children and to be helped to develop realistic expectations for their child. Parents also need to know that the stress levels they are experiencing are common for people raising special needs children. These suggestions may aid in enhancing parents' sense of competence when parenting these children.

Secondly, it may be useful to ensure that parents of children who are mentally retarded have adequate family and friend support networks, and that both
respite and emotional needs are being met. If a family's support network does not seem to be meeting the family's needs, it may be useful for the family to receive respite through social service programs. This is where a close connection with the local associations for the mentally retarded would probably be most useful. Additionally, contact with other parents who have similar children should be encouraged. This may provide the parents with useful information relating to issues in parenting their special needs child. It may also provide a source of support which other individuals (family and friends) may not be able to give because they have not had the experience of raising a child who is trainable mentally retarded. This type of contact may also free the parents to use family and friends for support in other areas of their lives besides child rearing.

Finally, in circumstances where there is a disorganized family system in addition to the normal stressors and stresses involved in raising a child who is mentally retarded, intervention needs to occur at many levels. In addition to the aforementioned suggestions, it may be imperative to also involve the family in family therapy or implement some other type of psychological intervention. The results of this research provide some signs to look for in making the
differentiation between a family that is dealing primarily with issues related to raising a special needs child and families where there are problems related to overall functioning. The combination of the following factors indicate when a family may need more than intervention relating to raising a special needs child: indication that the family is experiencing numerous stressors external to the parent-child system; indication of behavior problems in a family member; indication of a poor attachment to the child; indication of a mood disturbance in the child; or indication that the family does not have the resources to meet the needs of the family members or the demands placed on the family by the environment.

Suggestions for Further Research

Since little research has been conducted which compares the coping and adaptation of parents with children who are mentally retarded to other parents with similar aged children from both a normative and clinical group, the contribution of this research is that it provides a foundation for further comparison and exploration. Future studies which utilize larger sample sizes and both sexes would be useful in further refining the comparisons between these families. Additionally this research provides preliminary information on various stressors, types of parental
stress, and family resources that are relevant to this type of research. These factors all need to be researched more extensively. It may also be useful for future research to utilize more than just one member of each family as subjects when examining the adaptation and coping of families to stressors/stress.

The perception of stressors and stress and its role in coping needs to be more precisely defined before it is considered in making group comparisons. Orr, Cameron, and Day (1989) utilized causal modeling with McCubbin and Patterson's (1981) Double ABCX model. Path analyses indicated that the causal ordering of the model suggested an ACBX relationship between the variables. Even though findings of the present study did not support the contribution of the Cc factor to adaptation, the results of Orr et al. (1989) support the importance of the perception factor in responding to and coping with stress.

It would also be useful to compare families with children who are mentally retarded to families with children who have other disabilities (e.g., physical handicaps, learning disabilities, hyperactivity, etc.) to obtain a clearer differentiation about variations between families with children who have different developmental disabilities. Comparison of adaptation and coping in families with a special needs child to
other clinical groups may also provide useful information.

Finally, both longitudinal or cross sectional research is needed to determine how family functioning and the demands of special needs children vary throughout the developmental process in comparison to families without children who are mentally retarded. This could provide information about when parents may be most at risk for stress as well as how stable the stressors and coping strategies of these families are across the developmental cycle.

Conclusions

The present study offers important information to guide further research to examine adaptation and coping in families with children who are mentally retarded. This research provided information on areas of strength and difficulty for these families. Inclusion of a normative and a clinical comparison group of mothers with children in the same age range yielded information about similarities and differences between each of these groups and families with a child who is mentally retarded. The results of this study also have implications for social service professionals working with families who have a child that is developmentally delayed. Findings from this research may be used to aid professionals in sensitizing themselves to the
special issues faced by these families as well as to diminish erroneous assumptions that having a child who is mentally retarded will automatically lead to family dysfunction. Finally, this research provides a theoretical and methodological basis for the expansion of controlled, developmentally focused research in the area of family stress and coping.
APPENDIX A

QUESTIONNAIRE
FAMILY STUDIES RESEARCH SURVEY

1. Participant Number: _______________ Date Completed: _______________

Note: In answering the following questions, please refer to your child with special needs, unless otherwise indicated.

2. Child's Date of Birth: _______________

3. Child's Sex: Male ____ Female ____

4. Where does your child live?
   ____ At home with parent ____ Supervised Apartment
   ____ At home with other family ____ Foster Home
   member as head of household ____ Boarding Home
   ____ Group Home _______________ Other, Please Specify.

5. Information Pertaining to Mother/Step Mother:
   Date of Birth: _______________
   Highest grade level or college/university completed: _______________
   Occupation: _______________
   Employed at Present: Yes: ____ No: ____
      Full-Time: ____ Part Time: ____
   Marital Status: _______________
   Has Marital Status Changed Since Birth of Your Child? Yes: ____ No: ____

6. Information Pertaining to Father/Step Father:
   Date of Birth: _______________
   Highest grade level or college/university completed: _______________
   Occupation: _______________
   Employed at Present: Yes: ____ No: ____
      Full-Time: ____ Part Time: ____
7. Total Number of Persons Living in the Home: __________

8. Brothers and Sisters:

<table>
<thead>
<tr>
<th>Sex</th>
<th>Date of Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

9. Please check all that apply to your situation as a parent:

___ Financial Problems
___ Poor Health
___ Serious Health Problems in Other Family Members
___ Elderly Person in Household
___ Another Handicapped Person in Household
___ Other, Please Specify: __________________________

10. Please check all services your child is now receiving:

___ Special Services at Home
___ Respite Care
___ Counseling or Psychotherapy
___ Social or Recreational Program
___ School
___ Extend-a-Family
___ Speech Therapy
___ Physiotherapy
___ Residential Treatment
___ Other, Please Specify: __________________________

11.(a) Please indicate any of the above services your child needs but is not receiving:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

11.(b) Child's diagnosis (if diagnosed):

_________________________________________________________________
12. Please check all conditions that apply to your child:

- Developmental Delay
- Frequent Seizures
- Hyperactivity
- Physical Handicap Requiring Special Adaptive Equipment (Wheelchair, etc.)
- Severe Emotional Problem
- Severe Behavioural Problem
- Severe Visual Problem
- Severe Hearing Problem
- Other Severe Medical Problems E.G.

13. Please check the level of assistance needed by your child in the following aspects of personal care:

<table>
<thead>
<tr>
<th></th>
<th>Independent</th>
<th>Needs Minor Assistance</th>
<th>Totally Dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toileting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathing or Showering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing Hair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brushing Teeth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaving (Men, If Applicable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Menstrual Hygiene (If Applicable)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. What is the level of supervision that your child needs?

- Constant
- Occasional
- None
- Unknown

15. Please check the following independence skills of your child:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walks Independently</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(con't. . . . )
$15 continued

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expresses Own Needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Answers the Telephone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can be Safely Left at Home Alone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knows How to Read Safety Words (Stop, Wait, Poison)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crosses Street Alone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses Public Transportation Independently</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makes Change for One Dollar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tells Time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Indicate if your child does any of the following:

<table>
<thead>
<tr>
<th></th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physically Harms Others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harms Self (Bites, Pinches, Hits, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destroys Property or Objects</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Interferes With Sleep of Others in Household</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is Sexually Aggressive With Others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritates Other Household Members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other, Please Specify Below</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Has your child ever lived apart from the family for more than two months? __________

If Yes: Where: ______________________________________

How Long: ______________________________________

18. Check the primary daytime activity in which your child participates:

____ School

____ Other, Please Specify: __________________________
APPENDIX B

FAMILY INVENTORY OF RESOURCES FOR MANAGEMENT
FIRM

FAMILY INVENTORY OF RESOURCES FOR MANAGEMENT

Hamilton I. McCubbin  Joan K. Comeau  Jo A. Harkins

PURPOSE

FIRM — Family Inventory of Resources for Management was developed to record what social, psychological, community and financial resources families believe they have available to them in the management of family life.

DIRECTIONS

To complete this inventory you are asked to read the list of “Family Statements” one at a time. In each statement, “family” means your immediate family (mother and/or father and children).

Then ask yourself: “HOW WELL DOES THE STATEMENT DESCRIBE OUR FAMILY SITUATION?”

Then make your decision by circling one of the following:

- 0 = Not At All — This statement does not describe our family situation. This does not happen in our family.
- 1 = Minimally — This statement describes our family situation only slightly. Our family may be like this once in a while.
- 2 = Moderately — This statement describes our family situation fairly well. Our family is like this some of the time.
- 3 = Very Well — This statement describes our family very accurately. Our family is like this most of the time.

PLEASE BEGIN — Please read and record your decision for EACH and EVERY statement below.

COMPUTER CODES:  IID □ □ □ □  GID □ □ □  FAMID □ □ □ □
<table>
<thead>
<tr>
<th>FAMILY STATEMENTS</th>
<th>Not at all</th>
<th>Minimally</th>
<th>Moderately</th>
<th>Very Well</th>
<th>SFS</th>
<th>RS</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We have money coming in from our investments (such as rental property, stocks, bonds, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Being physically tired much of the time is a problem in our family</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. We have to nag each other to get things done</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. We do not plan too far ahead because many things turn out to be a matter of good or bad luck anyway</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>5. Our family is as well adjusted as any family in this world can be</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>6. Having only one person in the family earning money is (or would be) a problem in our family</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>7. It seems that members of our family take each other for granted</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>8. Sometimes we feel we don't have enough control over the direction our lives are taking</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Certain members of our family do all the giving, while others do all the taking</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. We depend almost entirely upon financial support from welfare or other public assistance programs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>11. We seem to put off making decisions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12. Family members understand each other completely</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>13. Our family is under a lot of emotional stress</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>14. Many things seem to interfere with family members being able to share concerns</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>15. Most of the money decisions are made only by person in our family</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
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<tr>
<td>16. There are times when family members do things that make other members unhappy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td></td>
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<tr>
<td>17. It seems that we have more illness (colds, flu, etc.) in our family than other people do</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
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<tr>
<td>18. In our family some members have many responsibilities while others don't have enough</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>19. No one could be happier than our family when we are together</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>20. It is upsetting to our family when things don't work out as planned</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. We depend almost entirely on income from alimony and/or child support</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>22. Being sad or &quot;down&quot; is a problem in our family</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
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<tr>
<td>23. It is hard to get family members to cooperate with each other</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>24. If our family has any faults, we are not aware of them</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. We depend almost entirely on social security retirement income</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Many times we feel we have little influence over the things that happen to us</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. We have the same problems over and over—we don't seem to learn from past mistakes</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. One or more working members of our family are presently unemployed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. There are things at home we need to do that we don't seem to get done</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. We feel our family is a perfect success</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>31. We own land or property besides our place of residence</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. We seem to be so involved with work and/or school activities that we don't spend enough time together as a family</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. We own (are buying) a home (single family, condominium, townhouse, etc.)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. There are times when we do not feel a great deal of love and affection for each other</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAMILY STATEMENTS</td>
<td>Not at all</td>
<td>Minimally</td>
<td>Moderately</td>
<td>Very Well</td>
<td>For Computer Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>35 If a close relative were having financial problems we feel we could afford to help them out</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 Friends seem to enjoy coming to our house for visits</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 We feel we have a good retirement income program</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38 When we make plans we are almost certain we can make them work</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39 In our family we understand what help we can expect from each other</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 We seem to have little or no problem paying our bills on time</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41 Our relatives seem to take from us, but give little in return</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 We would have no problem getting a loan at a bank if we wanted one</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43 We feel we have enough money on hand to cover small unexpected expenses (under $100)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44 When we face a problem, we look at the good and bad of each possible solution</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 The member(s) who earn our family income seem to have good employee benefits (such as paid insurance, stocks, car, education, etc.)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46 No matter what happens to us, we try to look at the bright side of things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47 We feel we are able to go out to eat occasionally without hurting our budget</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 We try to keep in touch with our relatives as much as possible</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49 It seems that we need more life insurance than we have</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 In our family it is &quot;okay&quot; for members to show our positive feelings about each other</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51 We feel we are able to make financial contributions to a good cause (nerdy people, church, etc.)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52 We seem to be happier with our lives than many families we know</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53 It is &quot;okay&quot; for family members to express sadness by crying, even in front of others</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54 When we need something that can't be postponed, we have money in savings to cover it</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 We discuss our decisions with other family members before carrying them out</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56 Our relative(s) are willing to listen to our problems</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57 We worry about how we would cover a large unexpected bill (for home, auto repairs, etc. for about $100)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58 We get great satisfaction when we can help one another in our family</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59 In our family we feel it is important to save for the future</td>
<td>0</td>
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<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
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<tr>
<td>60 The working members of our family seem to be respected by their co-workers</td>
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<td>2</td>
<td>3</td>
<td>□</td>
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<tr>
<td>61 We have written checks knowing there wasn't enough money in the account to cover it</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
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<tr>
<td>62 The members of our family respect one another</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
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<tr>
<td>63 We save our extra spending money for special things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
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<tr>
<td>64 We feel confident that if our main breadwinner lost his/her job, (s)he could find another one</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
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<tr>
<td>65 Members of our family are encouraged to have their own interests and abilities</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
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<tr>
<td>66 Our relatives do and say things to make us feel appreciated</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
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<td></td>
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<tr>
<td>67 The members of our family are known to be good citizens and neighbors</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>68 We make an effort to help our relatives when we can</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
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<tr>
<td>69 We feel we are financially better off now than we were 5 years ago</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>□</td>
<td></td>
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</tr>
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</table>

Please check all 69 items to be sure you have circled a number for each one. THIS IS IMPORTANT.
APPENDIX C

SOCIAL SUPPORT INVENTORY
Please answer the following questions.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>A Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you have a SPOUSE or PARTNER?</td>
<td></td>
<td></td>
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<tr>
<td>2. Do you have CHILDREN?</td>
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<tr>
<td>3. Do you have OTHER RELATIVES such as parents, brothers and sisters, in laws?</td>
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<tr>
<td>4. Do you have CLOSE FRIENDS?</td>
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<td>5. Do you have a job (for pay – S) where you have CO-WORKERS?</td>
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<tr>
<td>6. Are you involved with formal or informal COMMUNITY or NEIGHBORHOOD GROUPS?</td>
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<tr>
<td>7. Do you belong to a CHURCH or SYNAGOGUE?</td>
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<tr>
<td>8. Do you have contact with PROFESSIONALS OR SERVICE PROVIDERS such as doctors, nurses, social workers, teachers, child care workers?</td>
<td></td>
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</tr>
<tr>
<td>9. Do you belong to any SPECIAL GROUPS designed to help you with specific difficulties or responsibilities such as parent groups, groups for handicapped or divorced persons?</td>
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<tr>
<td>10. Do you watch TELEVISION, listen to the RADIO, or read NEWSPAPERS, MAGAZINES, PHAMPHLETS, or BOOKS?</td>
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<tr>
<td>11. Do you have SPIRITUAL BELIEFS?</td>
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Please read each statement and then indicate how much support you receive from each of the sources listed by marking: NO (N), YES (Y), or YES A LOT (Y+).

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<tr>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
<th>A Lot</th>
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<tbody>
<tr>
<td>My spouse or partner</td>
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<tr>
<td>My children</td>
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<tr>
<td>Close friends</td>
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<tr>
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<tr>
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<tr>
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<tr>
<td>Special groups I belong to</td>
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<tr>
<td>Reading certain books or watching T.V.</td>
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<tr>
<td>Other:</td>
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<td>Special groups I belong to</td>
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<tr>
<td>Causes that are promoted in books or on T.V.</td>
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<tr>
<td>Other:</td>
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</table>
APPENDIX D

FAMILY CRISIS ORIENTED PERSONAL SCALES
F-COPES

FAMILY CRISIS ORIENTED PERSONAL SCALES

Hamilton L. McCubbin        David H. Olson        Annde S. Larson

PURPOSE
The Family Crisis Oriented Personal Evaluation Scales is designed to record effective problem-solving attitudes and behavior which families develop to respond to problems or difficulties.

DIRECTIONS
First, read the list of "Response Choices" one at a time.

Second, decide how well each statement describes your attitudes and behavior in response to problems or difficulties. If the statement describes your response very well, then circle the number 5 indicating that you STRONGLY AGREE; if the statement does not describe your response at all, then circle the number 1 indicating that you STRONGLY DISAGREE; if the statement describes your response to some degree, then select a number 2, 3, or 4 to indicate how much you agree or disagree with the statement about your response.

<table>
<thead>
<tr>
<th>WHEN WE FACE PROBLEMS OR DIFFICULTIES IN OUR FAMILY, WE RESPOND BY:</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Neither Agree Nor Disagree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
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</thead>
<tbody>
<tr>
<td>1 Sharing our difficulties with relatives</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2 Seeking encouragement and support from friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3 Knowing we have the power to solve major problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>4 Seeking information and advice from persons in other families who have faced the same or similar problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>5 Seeking advice from relatives (grandparents, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6 Seeking assistance from community agencies and programs designed to help families in our situation</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
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<td>7 Knowing that we have the strength within our own family to solve our problems</td>
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<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>8 Receiving gifts and favors from neighbors (e.g., food, taking in mail, etc.)</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>9 Seeking information and advice from the family doctor</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10 Asking neighbors for favors and assistance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>WHEN WE FACE PROBLEMS OR DIFFICULTIES IN OUR FAMILY, WE RESPOND BY:</td>
<td>Strongly Disagree</td>
<td>Moderately Disagree</td>
<td>Neither Agree Nor Disagree</td>
<td>Moderately Agree</td>
<td>Strongly Agree</td>
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</tr>
<tr>
<td>11 Facing the problems &quot;head-on&quot; and trying to get solution right away</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>12 Watching television</td>
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<td>4</td>
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<tr>
<td>13 Showing that we are strong</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14 Attending church services</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15 Accepting stressful events as a fact of life</td>
<td>1</td>
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<td>5</td>
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<tr>
<td>16 Sharing concerns with close friends</td>
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<td>4</td>
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<tr>
<td>17 Knowing luck plays a big part in how well we are able to solve family problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>18 Exercising with friends to stay fit and reduce tension</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>19 Accepting that difficulties occur unexpectedly</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>20 Doing things with relatives (get-togethers, dinners, etc.)</td>
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<tr>
<td>21 Seeking professional counseling and help for family difficulties</td>
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<td>2</td>
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<td>4</td>
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<tr>
<td>22 Believing we can handle our own problems</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23 Participating in church activities</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>24 Defining the family problem in a more positive way so that we do not become too discouraged</td>
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<tr>
<td>25 Asking relatives how they feel about problems we face</td>
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<td>2</td>
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<tr>
<td>26 Feeling that no matter what we do to prepare, we will have difficulty handling problems</td>
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<td>2</td>
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<td>28 Believing if we wait long enough, the problem will go away</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30 Having faith in God</td>
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<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX E

PARENTING STRESS INDEX
PARENTING STRESS INDEX (PSI)

Administration Booklet

Richard R. Abidin
Institute of Clinical Psychology
University of Virginia

Directions:

In answering the following questions, please think about the child you are most concerned about.

The questions on the following pages ask you to mark an answer which best describes your feelings. While you may not find an answer which exactly states your feelings, please mark the answer which comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

Please mark the degree to which you agree or disagree with the following statements by filling in the number which best matches how you feel. If you are not sure, please fill in #3.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Not Sure</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

Example: 1 ② 3 4 5 I enjoy going to the movies. (If you sometimes enjoy going to the movies, you would fill in #2.)

Form 6 — Copyrighted 1983
1. When my child wants something, my child usually keeps trying to get it.
2. My child is so active that it exhausts me.
3. My child appears disorganized and is easily distracted.
4. Compared to most, my child has more difficulty concentrating and paying attention.
5. My child will often stay occupied with a toy for more than 10 minutes.
6. My child wanders away much more than I expected.
7. My child is much more active than I expected.
8. My child squirms and kicks a great deal when being dressed or bathed.
9. My child can be easily distracted from wanting something.
10. My child rarely does things for me that make me feel good.
11. Most times I feel that my child likes me and wants to be close to me.
12. Sometimes I feel my child doesn't like me and doesn't want to be close to me.
13. My child smiles at me much less than I expected.
14. When I do things for my child I get the feeling that my efforts are not appreciated very much.
15. Which statement best describes your child?
   1. almost always likes to play with me,
   2. sometimes likes to play with me,
   4. usually doesn't like to play with me,
   5. almost never likes to play with me.
16. My child cries and fusses:
   1. much less than I had expected,
   2. less than I expected,
   3. about as much as I expected,
   4. much more than I expected,
   5. it seems almost constant.
17. My child seems to cry or fuss more often than most children.
18. When playing, my child doesn't often giggle or laugh.
19. My child generally wakes up in a bad mood.
20. I feel that my child is very moody and easily upset.
21. My child looks a little different than I expected and it bothers me at times.
22. In some areas my child seems to have forgotten past learnings and has gone back to doing things characteristic of younger children.
23. My child doesn't seem to learn as quickly as most children.

24. My child doesn't seem to smile as much as most children.

25. My child does a few things which bother me a great deal.

26. My child is not able to do as much as I expected.

27. My child does not like to be cuddled or touched very much.

28. When my child came home from the hospital, I had doubtful feelings about my ability to handle being a parent.

29. Being a parent is harder than I thought it would be.

30. I feel capable and on top of things when I am caring for my child.

31. Compared to the average child, my child has a great deal of difficulty in getting used to changes in schedules or changes around the house.

32. My child reacts very strongly when something happens that my child doesn't like.

33. Leaving my child with a babysitter is usually a problem.

34. My child gets upset easily over the smallest thing.

35. My child easily notices and overreacts to loud sounds and bright lights.

36. My child's sleeping or eating schedule was much harder to establish than I expected.

37. My child usually avoids a new toy for a while before beginning to play with it.

38. It takes a long time and it is very hard for my child to get used to new things.

39. My child doesn't seem comfortable when meeting strangers.

40. When upset, my child is:
   1. easy to calm down,
   2. harder to calm down than I expected,
   4. very difficult to calm down,
   5. nothing I do helps to calm my child.

41. I have found that getting my child to do something or stop doing something is:
   1. much harder than I expected,
   2. somewhat harder than I expected,
   3. about as hard as I expected,
   4. somewhat easier than I expected,
   5. much easier than I expected.
42. Think carefully and count the number of things which your child does that bothers you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. Please fill in the number which includes the number of things you counted.
   1. 1-3
   2. 4-5
   3. 6-7
   4. 8-9
   5. 10+

43. When my child cries it usually lasts:
   1. less than 2 minutes,
   2. 2-5 minutes,
   3. 5-10 minutes,
   4. 10-15 minutes,
   5. more than 15 minutes.

44. There are some things my child does that really bother me a lot.

45. My child has had more health problems than I expected.

46. As my child has grown older and become more independent, I find myself more worried that my child will get hurt or into trouble.

47. My child turned out to be more of a problem than I had expected.

48. My child seems to be much harder to care for than most.

49. My child is always hanging on me.

50. My child makes more demands on me than most children.

51. I can’t make decisions without help.

52. I have had many more problems raising children than I expected.

53. I enjoy being a parent.

54. I feel that I am successful most of the time when I try to get my child to do or not do something.

55. Since I brought my last child home from the hospital, I find that I am not able to take care of this child as well as I thought I could. I need help.

56. I often have the feeling that I cannot handle things very well.

57. When I think about myself as a parent I believe:
   1. I can handle anything that happens,
   2. I can handle most things pretty well,
   3. sometimes I have doubts, but find that I handle most things without any problems,
   4. I have some doubts about being able to handle things,
   5. I don’t think I handle things very well at all.
58. I feel that I am:

1. a very good parent,
2. a better than average parent,
3. an average parent,
4. a person who has some trouble being a parent,
5. not very good at being a parent.

59. What were the highest levels in school or college you and the child's father/mother have completed?
   Mother:
   1. 1-8th grade
   2. 9-12th grade
   3. Vocational or some college
   4. College graduate
   5. Graduate or professional school

   Father:
   1. 1-8th grade
   2. 9-12th grade
   3. Vocational or some college
   4. College graduate
   5. Graduate or professional school

60. How easy is it for you to understand what your child wants or needs?

   1. very easy,
   2. easy,
   3. somewhat difficult,
   4. it is very hard,
   5. I usually can't figure out what the problem is.

62. It takes a long time for parents to develop close, warm feelings for their children.

63. I expected to have closer and warmer feelings for my child than I do and this bothers me.

64. Sometimes my child does things that bother me just to be mean.

65. When I was young, I never felt comfortable holding or taking care of children.

66. My child knows I am his or her parent and wants me more than other people.

67. The number of children that we have now is too many.

68. Most of my life is spent doing things for my child.

69. I find myself giving up more of my life to meet my children's needs than I ever expected.

70. I feel trapped by my responsibilities as a parent.

71. I often feel that my child's needs control my life.

72. Since having this child I have been unable to do new and different things.
<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>73</td>
<td>Since having a child I feel that I am almost never able to do things that I like to do.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>74</td>
<td>It is hard to find a place in our home where I can go to be by myself.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>75</td>
<td>When I think about the kind of parent I am, I often feel guilty or bad about myself.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>76</td>
<td>I am unhappy with the last purchase of clothing I made for myself.</td>
<td></td>
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</tr>
<tr>
<td>77</td>
<td>When my child misbehaves or fusses too much I feel responsible, as if I didn't do something right.</td>
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</tr>
<tr>
<td>78</td>
<td>I feel everytime my child does something wrong it is really my fault.</td>
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</tr>
<tr>
<td>79</td>
<td>I often feel guilty about the way I feel towards my child.</td>
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<tr>
<td>80</td>
<td>There are quite a few things that bother me about my life.</td>
<td></td>
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<tr>
<td>81</td>
<td>I felt sadder and more depressed than I expected after leaving the hospital with my baby.</td>
<td></td>
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<tr>
<td>82</td>
<td>I wind up feeling guilty when I get angry at my child and this bothers me.</td>
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<tr>
<td>83</td>
<td>After my child had been home from the hospital for about a month, I noticed that I was feeling more sad and depressed than I had expected.</td>
<td></td>
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<tr>
<td>84</td>
<td>Since having my child, my spouse (male/female friend) has not given me as much help and support as I expected.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>85</td>
<td>Having a child has caused more problems than I expected in my relationship with my spouse (male/female friend).</td>
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</tr>
<tr>
<td>86</td>
<td>Since having a child my spouse (or male/female friend) and I don't do as many things together.</td>
<td></td>
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</tr>
<tr>
<td>87</td>
<td>Since having my child, my spouse (or male/female friend) and I don't spend as much time together as a family as I had expected.</td>
<td></td>
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</tr>
<tr>
<td>88</td>
<td>Since having my last child, I have had less interest in sex.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>89</td>
<td>Having a child seems to have increased the number of problems we have with in-laws and relatives.</td>
<td></td>
<td></td>
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<tr>
<td>90</td>
<td>Having children has been much more expensive than I had expected.</td>
<td></td>
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</tr>
<tr>
<td>91</td>
<td>I feel alone and without friends.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>92</td>
<td>When I go to a party I usually expect not to enjoy myself.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>93</td>
<td>I am not as interested in people as I used to be.</td>
<td></td>
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<td></td>
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<tr>
<td>94</td>
<td>I often have the feeling that other people my own age don't particularly like my company.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>When I run into a problem taking care of my children I have a lot of people to whom I can talk to get help or advice.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Since having children I have a lot fewer chances to see my friends and to make new friends.
2. During the past six months I have been sicker than usual or have had more aches and pains than I normally do.
3. Physically, I feel good most of the time.
4. Having a child has caused changes in the way I sleep.
5. I don't enjoy things as I used to.
6. Since I've had my child:
   1. I have been sick a great deal,
   2. I haven't felt as good,
   3. I haven't noticed any change in my health,
   4. I have been healthier.

STOP HERE — unless asked to do items below

During the last 12 months, have any of the following events occurred in your immediate family? Please check on the answer sheet any that have happened.

7. Divorce
8. Marital reconciliation
9. Marriage
10. Separation
11. Pregnancy
12. Other relative moved into household
13. Income increased substantially (20% or more)
14. Went deeply into debt
15. Moved to new location
16. Promotion at work
17. Income decreased substantially
18. Alcohol or drug problem
19. Death of close family friend
20. Began new job
21. Entered new school
22. Trouble with superiors at work
23. Trouble with teachers at school
24. Legal problems
25. Death of immediate family member
APPENDIX F

PRIMARY DIAGNOSES FOR SUBJECTS IN GROUP DD
Primary Diagnosis for Male and Female Subjects in Group DD

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Down's Syndrome</td>
<td>7</td>
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<tr>
<td>Anoxia</td>
<td>1</td>
</tr>
<tr>
<td>Autism</td>
<td>5</td>
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<tr>
<td>Wardenburg's Syndrome</td>
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<tr>
<td>Cerebral Palsy</td>
<td>4</td>
</tr>
<tr>
<td>Spina Bifida</td>
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<tr>
<td>Behr's Syndrome</td>
<td>1</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>1</td>
</tr>
<tr>
<td>Rubenstein-Tabes Syndrome</td>
<td>1</td>
</tr>
<tr>
<td>Partial Deletion of Chromosome 7</td>
<td>1</td>
</tr>
<tr>
<td>Noonan's Syndrome</td>
<td>1</td>
</tr>
<tr>
<td>Not Known</td>
<td>9</td>
</tr>
<tr>
<td>Not Available</td>
<td>8</td>
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<tr>
<td><strong>Total</strong></td>
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APPENDIX G

BEHAVIOR CHECKLIST T-SCORES, TREATMENT MODE, AND LENGTH OF TREATMENT FOR GROUP BP SUBJECTS
Behavior Checklist T-Scores, Treatment Mode, and Length of Treatment for Subjects in Group BP

<table>
<thead>
<tr>
<th>SUB.ID</th>
<th>CBC TOT</th>
<th>EXT</th>
<th>INT</th>
<th>TRTMODE**</th>
<th>TRTLENGTH</th>
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<tbody>
<tr>
<td></td>
<td>T-SCORE</td>
<td>T-SCORE</td>
<td>T-SCORE</td>
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<td>509</td>
<td>89</td>
<td>78</td>
<td>80</td>
<td>5</td>
<td>10</td>
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</table>

Note.

SUB. ID = Subject Identification  
CBC TOT T-SCORE = Child Behavior Checklist Total T-Score  
EXT T-SCORE = Externalizing T-Score  
INT T-SCORE = Internalizing T-Score  
TRTMODE = Treatment Modality  
TRTLENGTH = Months in Treatment

**TRTMODE = 1 - Individual  
2 - Family  
3 - Group  
4 - Home Visits  
5 - Combination of the Above
APPENDIX H

FREQUENCY DISTRIBUTIONS OF THE TOTAL SUBJECT POOL ACCORDING TO THE CHILD'S AGE AND ACCORDING TO THE PARENT'S SOCIO-ECONOMIC STATUS LEVEL
The Distribution of Subjects According to the Age of Their 6-12 Year Old Children

<table>
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<tr>
<th>Child's Age</th>
<th>Frequency</th>
<th>Percent</th>
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<td>8</td>
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<td>7</td>
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Note. The mean age for this sample is 9.17 years (SD= 1.90).
Frequencies and Percentages of Subjects at Each Level of the Hollingshead Four Factor Index of Social Status

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<tr>
<th>SES Level</th>
<th>Frequency</th>
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<td>1</td>
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<td>12.2</td>
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<td>2</td>
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<tr>
<td>Total:</td>
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<td>100.0</td>
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REFERENCES


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*Canadian Journal of Community Mental Health*, 7(1), 5-16.


*American Journal of Mental Deficiency*, 84, 345-351.


VITA AUCTORIS

Patricia Cheston, nee Kernan, was born on June 8, 1959 to Ruth and John Kernan in Wyandotte, Michigan. She graduated from Gabriel Richard High School, Riverview, Michigan in 1977.

Patti received a Bachelors of arts degree in psychology with high honors from Marygrove College, Detroit, Michigan in 1981. She received a Masters of arts degree in clinical psychology from Oakland University, Rochester, Michigan in 1983. Since September 1983 Patti has been enrolled in the Doctoral program in child clinical psychology at the University of Windsor. She is currently employed by Algoma Child and Youth Services, Sault Ste. Marie, Ontario.

Patti is married to Jim Cheston. They have one daughter, Amelia Rose Cheston.