To the Graduate Council:

I am submitting herewith a dissertation written by Carol Kraemer Witherington entitled "Relationships Among Hardiness, Stress, and Coping Efficacy in Mothers of Adolescents With Cognitive Impairments." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.

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RELATIONSHIPS AMONG HARDINESS, STRESS, AND COPING EFFICACY IN MOTHERS OF ADOLESCENTS WITH COGNITIVE IMPAIRMENTS

A Dissertation

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Degree

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Abstract

Raising a cognitively impaired individual creates long-term stress for the family unit and creates the need for effective coping responses. The developmental stage of adolescence in cognitively impaired individuals has been found to be one of the most stressful times for these individuals and their caregivers, primarily the mothers. It is critical to understand those variables that may contribute to effective maternal coping during this adolescent stage so that interventions and programs incorporating these findings can be developed to assist these mothers in reaching their highest coping potential.

The purpose of this research was to investigate the possible relationships between stress and the construct of hardiness and its components, and the coping efficacy of mothers of cognitively impaired adolescents. Four inventories were sent to 133 mothers of cognitively impaired adolescents attending Least Restrictive Environment (LRE) classrooms in high schools in Knox County and to mothers of cognitively impaired adolescents living in Anderson County. These

inventories included: (a) a demographic inventory to describe the subjects, (b) the Perceived Stress Scale, (c) the Personal Views Survey to measure maternal hardiness, and (d) Factor I, Parental Coping Scale, to measure maternal coping efficacy.

Correlational analyses were used with data from 55 completed packets to determine the relationships between stress, hardiness and its components, and maternal coping efficacy. Several t-tests were done to determine possible differences in levels of hardiness for mothers who reported higher levels of coping efficacy versus those who reported lower levels of coping efficacy. Student t-tests were also done to compare hardiness levels in higher income level mothers to those in lower income level mothers.

Correlation analyses showed that there was no significant relationship between stress and maternal coping efficacy or between the hardiness composite, the hardiness control component, and the hardiness commitment components and maternal coping efficacy. The results did show a small but significant negative relationship between the challenge component and maternal coping efficacy ($r = -.28$, $p<.05$).

There were significant negative relationships between stress and the hardiness composite and two hardiness components of control and commitment. However, challenge was not significantly related to stress. T-tests showed that all differences in group means (i.e., income levels and maternal coping efficacy scores; hardiness scores, stress, challenge scores and maternal coping efficacy scores) were found to be nonsignificant.

Results suggest that there was normal variability in maternal coping efficacy, but that the construct of hardiness as measured by the Personal Views Survey does not help to account for this variability. The overall mean perceived stress scores show that these mothers do perceive themselves as more stressed than the normative samples, but these perceived stress levels are not related to their ability to cope with the diagnosis of cognitive impairment in their children. Theoretical and professional implications as well as suggestions for future research are discussed.

Table of Contents

CHAPTER I

INTRODUCTION

There are close to 7 million children and adults (or 3% of the total population) in the United States today who suffer from some degree of subaverage intellectual functioning or cognitive impairment. Seven million is a conservative number when the families and friends of these cognitively impaired individuals are included. Family and friends must help the cognitively impaired individuals deal with the deficits in learning, memory, motivation, ability to use resources, and certain dysfunctional personality characteristics that characterize the diagnosis of cognitive impairment (Maloney & Ward, 1979).

There is no doubt that the diagnosis of cognitive impairment is a significant stressor for many cognitively impaired individuals and their families. Unfortunately, other circumstances besides the effects of the diagnosis create additional stressors for these families. One such situation is the funding of programs and services. Critical cutbacks in all

funding are occurring at federal, state, and local levels with resulting decreases in vocational and support services (Walker, Epstein, Taylor, Crocker, & Tuttle, 1989). The loss of funding for these services results in a "system of services that is disjointed and incomplete. Referral agencies are inadequate, slow, and overly specialized" (Waisbren, 1980, p. 346). Therefore, families are left to flounder for adequate care for cognitively impaired individuals.

A second major issue involves the increasing cost of health care in this country. Expenditures for health care and health-related activities have increased 1500% between 1950 and 1978 and will continue to increase (Neifing, 1990). These rising health care costs occur at a time when health services are greatly deficient and accountability for cost containment is the major issue in the delivery of health care services (McCubbin, 1988). The resulting lack of health services occurs regardless of "insurance coverage, income, education, or the child's diagnosis. This is especially true of the services in the psychosocial and family support domain" (Walker et al., 1989, p. 200).

Another concern of cognitively impaired individuals and their families is a projected increase in the number of individuals diagnosed as cognitively impaired as a result of the sophistication of medical care and environmental factors. Sophistication in medical care strengthens the likelihood that a number of high risk newborns will survive and live out their lives with some degree of cognitive impairment (Hickey, 1986). Environmental factors such as maternal alcohol and drug abuse during pregnancy, severe child abuse, and lead poisoning are other potential contributors to a rise in the numbers of people with cognitive impairments. Thus, environmental and medical care factors have contributed to the increased demand by cognitively impaired individuals and their families on a health services delivery system that is not, even now, meeting these families' needs (Walker et al., 1989).

A fourth stressor for cognitively impaired individuals and their families is the change in mothers' roles in recent years. More than 25% of all families with children in the United States are single-parent families. About 90% of these single-parent

families are headed by women. Concomitant with the rise in single-parent families is the increase in the number of women in the work force, with 25% of these working women being single parents with children (Kamerman & Kahn, 1988). The resulting burdens of job, housework, and child care that these women must shoulder create fatigue, resentment, and family stress (Kamerman, 1980).

The diagnosis of cognitive impairment is an indisputable source of potential stress for cognitively impaired individuals and their families. Past research has supported the theory that families with a cognitively impaired individual do perceive themselves as stressed (Abrams & Kaslow, 1977; Cummings, Bayley, & Rie, 1966; Friedrich & Friedrich, 1981; Hutinger, 1988; Kazak & Marvin, 1984; Wikler, 1981). Researchers find that families of cognitively impaired individuals also experience feelings of "chronic sorrow" (Bowers, 1982; Olshansky, 1966; Wikler, Wasow, & Hatfield, 1981), low self-esteem (Romans-Clarkson et al., 1986; Waisbren, 1980), and stigmatization (Furneaux, 1988) as a result of the long-term stress of cognitive impairment.

Research has demonstrated that in spite of the stressors associated with cognitive impairments, many families with cognitively impaired individuals cope effectively (Goldberg, Marcovitch, MacGregor, & Lojkasek, 1986). One of the major factors that influences the coping efficacy of these families is the parent-child relationship. Nihira, Meyers, and Mink (1983) assert that the home environment of the cognitively impaired individual has an unquestionable impact on the social, psychological, and self-help skills of these individuals. Vietze and Coates (1986) contend that "the success with which the family copes with the stress may determine the quality of life for the member with the cognitive impairment disability and the family itself" (p. 294). Families who are coping effectively with the diagnosis of cognitive impairment tend to be stable as well as affectionate and supportive of each other (Ross, Begab, Dorlis, Giampiccolo, & Meyers, 1985).

Although research has primarily focused on the general characteristics of cognitively impaired individuals and their families, Cummings et al., (1966) argue for the investigation of those areas that may

positively influence effective coping in these families:

> If we wish to reserve the most important single manpower resource we have, that is, the parental caretaking competence of our population, we must find the means to help prevent the parents of difficult children of all varieties from developing personality features which counteract their ability to offer all their children psychological climates conducive to their optimal ego development (p. 608).

One way to help these parents cope with the long-term stressor of raising a cognitively impaired individual is to gain knowledge, through research, of those personality attributes that may support and enhance parental coping efficacy. Kazak (1989) contends that ". . . the most productive strategy for identifying coping processes and designing relevant interventions will rest on the identification of variables that predict adjustment" (p. 28). When those variables or attributes that enhance coping efficacy have been identified, educators, health care providers,

and other professionals can develop and implement preventive health programs based on a proactive philosophy (Wikler, 1986). Health care services can decrease emotional and physical illnesses and, subsequently, help parents accomplish their goal of assisting cognitively impaired children reach their highest potential (Waggoner & Wilgosh, 1990).

Statement of Problem

The purpose of this correlational study was to explore the relationships between the selected personality attribute of hardiness and its components of control, commitment, and challenge and the coping efficacy of mothers of cognitively impaired adolescents. Additionally, certain sociodemographic factors and levels of perceived stress were scrutinized.

Hardiness and its components of control, commitment, and challenge were chosen for inclusion in this study for the following reasons:

1. From my personal experience as a mother of two cognitively impaired adolescents, it makes common sense to me that the presence of hardiness and its

components would help me cope with the long-term stressor of cognitive impairment in my children.

2. Hardiness has not been studied with mothers of cognitively impaired adolescents. The investigation of hardiness would contribute both to the knowledge of these mothers and to the literature on the construct of hardiness.

3. The positive results obtained from prior hardiness research warrant further investigation with mothers of cognitively impaired adolescents.

4. Based on the assumption that hardiness can be learned, Maddi and Kobasa (1984) developed a counseling program that helps individuals of all ages learn hardy behaviors. If hardiness proves to be important to these mothers, this type program would be helpful.

Mothers of cognitively impaired adolescents were selected for several reasons:

1. Mothers are seen as the persons who are most likely to support the cognitively impaired individuals' abilities to utilize available resources (Murphy, 1961) and to advocate their welfare and satisfactory development (Konanc &

Warren, 1984). Mothers in these families have also been viewed as the major links between the child and effective family functioning (Furneaux, 1988), as well as the major links between medical professionals, schools, and other agencies (Horley, 1984).

2. Research has shown that the adolescent period in a person's life is more stressful for mothers and adolescents than any developmental period. In addition, cognitively impaired adolescents are characterized by a greater number of conflicts and problems than their normal peers, thereby increasing potential sources of stress for these adolescents and their mothers.

3. For the most part, cognitively impaired adolescents have middle-aged mothers. These mothers are normally 15-21 years older than when the births took place and, consequently, are forced to face their own mortality and aging process at the same time they must deal with the multiple problems associated with cognitive impairments. The developmental stages of the mothers and adolescents interact and create

multiple opportunities for increased stress within the family system.

4. At the same time that mothers of cognitively impaired adolescents are trying to cope with the long-term stressors of adolescence and cognitive impairment, one of the primary sources of help and support is coming to an end--the educational process. Mandated schooling for handicapped children ends at 22 years of age, and post-school options are extremely limited, leaving these mothers with even more opportunities for increased stress to occur.

Definitions

1. Mental Retardation. A condition characterized by subaverage intellectual capacity and impaired adaptive behavior (Adams, 1971).
2. Cognitive Impairment. Any of five levels of mental retardation including borderline, mild, moderate, severe, and profound levels.
3. Stress. An organism's physiological and psychological response to stressful conditions or stressors (Rabkin & Struening, 1976).

4. Long-term Stressors. The presence of a cognitively impaired individual within a family system for at least 15 years, a situation that requires changes in the mother's ongoing life pattern (Rabkin & Struening, 1976) and requires changes in the family system (Byrne & Cunningham, 1985).
5. Coping Efficacy. The extent to which efforts to manage life demands and strains decreases the impact of the strains on emotional distress (Pearlin & Schooler, 1978). This coping efficacy specifically involves thoughts, behaviors, or perceptions that mothers utilize to resolve or decrease the actual or potential effects of the long-term stressor.
6. Hardiness. A personality construct that differentiates subjects who remain healthy in the face of high stress from those who become ill. The construct contains the components of control, commitment, and challenge (Kobasa, 1979).
7. Middle Adulthood. The period of life from approximately age 35 to 55.

8. Adolescence. The period of life in the cognitively impaired individual that spans the years from 15 to 22.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter contains a comprehensive review of the literature on mothers of cognitively impaired adolescents, including maternal stress and coping efficacy, and on the personality construct of hardiness, including its components of control, commitment, and challenge. Due to the extensive research published on cognitive impairments, stress, coping, and the developmental stage of mid-life, only the most pertinent studies will be cited in this literature review.

Mothers Of Cognitively Impaired Adolescents

Past research regarding the effects of the long-term stressor of cognitive impairment on the family system has been primarily based on the mothers' perceptions of family functioning. Research has unequivocally shown that these mothers experience stress as a result of the presence of a cognitively impaired individual in the family system and find that

their roles as major links between the family and society place them at risk for increased psychosocial and physical problems (Blacher, 1984; Cummings et al., 1966; Furneaux, 1988; Kazak, 1989; Kazak & Marvin, 1984; Margalit & Ravir, 1983). In addition, many of these mothers experience stress as a result of carrying the major burden of childcare despite working full-time. Thus, the effects of a long-term stressor on these mothers appears to be an appropriate focus for this study.

Components of the Long-Term Stressor of Cognitive Impairment

Several components of the multidimensional or complex stressor unique to the mothers of cognitively impaired children have been identified. Seven of the more prevalent are summarized below.

1. Loss of the ideal child. A perfect child is eagerly anticipated throughout pregnancy (Farnham, 1988). The birth of an imperfect child spells the death of the ideal child (Evans, 1983). The realization of the mothers' greatest fear, an abnormal child, preempts the pleasure and laughter

that had been anticipated (Kratochvil & Devereux, 1988). Mothers who were not aware of a problem with their child immediately at birth have a more extended period of anxiety, wondering where their normal child is and when normal behavior will begin (Quine & Pahl, 1987). Mothers of cognitively impaired children must cope with the loss of their ideal child at the same time they must start coping with the demands and unexpected problems of a defective child (Strauss & Munton, 1985).

2. Stigmatization. A feeling of both strangeness and alienation envelops mothers of cognitively impaired individuals. Part of this feeling results from the separateness they experience from the surrounding "normal society."

> Underlying everything else and normally for the rest of their lives many seem to feel that from the moment their "special" child was born they ceased to be part of the normal community, that in some way they were fixed and set apart

> from the rest of humanity and that
> the way everyone else regards them
> has been radically altered
> (Furneaux, 1988, p. 12).

This feeling of detachment from normal society is reciprocal. Normal society has, for the most part, berated these families with reproach and disrespect (Kazak, 1989). The expectation is that families are to look and act normally, and deviations from these norms are equivalent to failure for these families (Vietze & Coates, 1986).

3. Chronic sorrow. Olshansky (1966) was the first researcher who elucidated the concept of chronic sorrow. This chronic sorrow is "an understandable, nonneurotic response to a tragic fact. The sorrow is chronic and lasts as long as the child lives" (p. 21). Other authors subsequently described chronic sorrow as a periodic phenomenon that is chronic in nature rather than time-based (Wikler et al., 1981) and a perfectly natural response to a tragic reality (Wikler, Wasow, & Hatfield, 1983). This periodic

nature of chronic sorrow involves predictable periods of grieving when developmental and transitional crises occur (Eden-Piercy, Blacher, & Eyman, 1986; Wikler, 1981). Hurley and Hurley (1987) emphasize that this sorrow is a "peak and valley" phenomenon, and the handicap itself does not become easier to accept with the passage of time.

4. Uncertain future. For normal children the developmental stage of adulthood signifies the attainment of independence from the original family unit and the establishment of intimate relationships that may lead to new family units (Costello, 1988). For children with cognitive impairments, however, the achievement of these developmental milestones is extremely questionable. "What will happen when I die?" is an oft-repeated concern of these mothers as questions remain as to what the future will hold for their cognitively impaired children (Chinn, Drew, & Logan, 1975; Furneaux, 1988).

5. Self-esteem. The self-esteem of the mothers as well as the self-esteem of the cognitively

impaired individuals is at risk (Blacher, 1984; Cummings et al., 1966; Gath, 1985). Maternal self-respect is tightly woven within the components of their "children's development and accomplishments, so the care of one's own handicapped child might be expected to be especially burdensome" (Romans-Clarkson et al., 1986, p. 1395). The normal feelings of sadness, ambivalence, and disappointment these mothers experience as a result of their children's problems may also threaten the mothers' self-esteem (Waisbren, 1980).

6. Changes in family identity and functioning. With the birth of a cognitively impaired child, the social identity of the family changes radically, putting a subsequent strain on the resources of the family unit (Birenbaum, 1971). Waisbren (1980) found that, in spite of experiencing positive feelings toward their cognitively impaired children, some parents experienced greater stress levels and more negative feelings about their marriages than parents of nonhandicapped children experienced.

Changes in role relationships within the family occur as a result of having to make frequent physician and hospital visits; having to function as physical therapists, teachers, nurses, medicine givers, and advocates; and having to deal with chronic financial and emotional burdens (Costello, 1988; Kazak & Marvin, 1984).

7. Marital Discord. Some debate exists as to the impact of a cognitively impaired individual on the quality of the marital relationship. Kazak (1987) states that "having a disabled child is not necessarily associated with marital discord, although it is related to psychological stress" (p. 144). Other researchers have found that the divorce rate of these parents is no higher than that of the controls (Carr, 1988; Sabbeth & Leventhal, 1984). On the other hand, Friedrich and Friedrich (1981) state that these families experience less marital satisfaction than parents of normal children. Jaffe-Ruiz (1984) asserts that the birth of these children shatters many marriages. One research study determined that a combination of " . . . the birth of a first-born

child who was genetically handicapped, young parents, and a male genetically handicapped/mentally retarded child were significantly related to risk for divorce" (Roesel & Lawlis, 1983, p. 47).

Mid-life Developmental Stage

By the time cognitively impaired children reach adolescence, their mothers are 15 to 21 years older than when the births took place. Consequently, such mothers not only share many of the same general characteristics as those mentioned earlier, but they also find themselves faced with the tasks of mid-life. Consideration of the developmental stage of mid-life is important in gaining a holistic understanding of these mothers.

Erikson (1950) defined the developmental stage of mid-life in terms of "generativity versus stagnation," concepts that involve concern for the new generation, creativity, productivity, and parental responsibility (Peterson, 1983). Other concerns of mid-life include reassessment and evaluation of one's life and acceptance of goals that were or were not accomplished

(Pasquali, Arnold, DeBasio, & Alisi, 1985). Other tasks of this stage include the very real possibility of having to care for one's parents or to mourn their deaths (Blank & Blank, 1968).

Mid-life tasks have the potential to be associated with positive outcomes as well as with risk factors. Drawing from the work of Levinson (1978) on males in mid-life, one could infer that those mothers who successfully cope with the tasks of mid-life exhibit greater wisdom, energy, compassion, and breadth of appreciation for life than those mothers who have problems coping. For the most part, successful completion of mid-life tasks means relinquishing parental responsibilities and gaining more freedom, leisure, and autonomy (Carr, 1988). There are, however, risk factors in mid-life that are associated with increased stress and depression. These risk factors include career difficulties, marital problems, departure of children from the home, and physical changes (Williams, 1984). Physical changes associated with the hormonal fluctuations seen in menopause were once thought to play a major role in the development of stress and depression in mid-life women (Blank & Blank,

1968). More recent research has not found this association
between menopause and stress and depression to be significant (Williams, 1984).

Cognitively Impaired Adolescents

Much research and many books and articles have been published about normal adolescence. It is, first and foremost, a process of maturation, involving periods of physical growth and sexual maturation (Costello, 1988). It is also a time of autonomy versus vulnerability to exploitation as these young people strive for independence (Gilson & Levitas, 1987). Siegel (1974) states that the basic task for this age group is dealing with the dilemma "Am I an adult or am I a child?"

The normal developmental tasks of this age group are indicative of the extent of required changes and adjustments. Some of these tasks include disengagement from family and parents, establishment of an intimate relationship with the opposite sex, acquisition of new social skills, and acceptance of a new body image (Blank & Blank, 1968; Marlow, 1969; Shulman &

Rubinroit, 1987). Finishing mandatory formalized education is another significant task of adolescence.

For the most part, research has shown that adolescence is more stressful for mothers and children than any developmental stage before or after (Zetlin, 1985). It is not surprising, then, that adolescents who are intellectually handicapped enter and leave this developmental stage with many more conflicts and problems than their normal peers. The mental handicap pervades all aspects of these adolescents' lives (Abramson, Ash, & Nash, 1979; Pueschel & Seola, 1988). The problems and conflicts that cognitively impaired adolescents often experience include inability to gain complete independence (Costello, 1988; Pueschel & Seola, 1988), rejection by nonhandicapped peers (Abramson et al., 1979), periods of stress associated with being different (Rawitz, 1988), weaker ego defenses, deficient social skills, and poorer overall judgement (Shulman & Rubinroit, 1987). Gilson and Levitas (1987) emphasize that older cognitively impaired adolescents are also ending mandatory formal education with a concomitant decrease in life choices and limited resources.

The mentally handicapping condition of the adolescent and the subsequent difficulties with which he or she must deal result in a myriad of situations that normal peers and their families do not experience. Cattermole, Jahoda, and Markova (1988) studied cognitively impaired adolescents in detail and concluded that these adolescents lead socially isolated lives with limited autonomy and little or no opportunity to meet handicapped or nonhandicapped people. One author emphasizes this isolation in the following passage:

> The teenage years of retarded children are usually the most difficult of their lives. The hormonal and emotional upheavals which beset normally maturing teenagers are compounded by lack of peer support and by realistic difficulties of separating from the family ties. These are the loneliest years of a growing up retarded child (Jakab, 1982, p. 277).

What is perhaps most important to understanding adolescence in cognitively impaired individuals is the realization that many of these adolescents are

extremely perceptive in characterizing themselves as different, slower, and less capable (Abramson et al., 1979). These cognitively impaired adolescents are aware that they are atypical! Reactive depression, withdrawal, isolation, grief, frustration, and severe aggression are but a few of the emotions and behaviors that may be experienced by these individuals as a result of the awareness they have about their diagnosis.

These emotions, in and of themselves, are not debilitating. However, the oftentimes troubling interaction between the emotions and behavior of the cognitively impaired individual and the emotions, behaviors, and expectations of society presents significant problems. Few people would argue that a warm, positive, and loving environment is needed for the optimal growth and development of all of our children (Burgess, 1981; Dupont, 1989; Ross et al., 1985). Siegel (1974), however, contends that society presents an entirely different situation for cognitively impaired individuals:

> Society, presented with the handicapped person who manifests only <u>some</u> areas of

> failure which operate only some of the time...expects him to fail in all areas and at all times. This dismal expectation is of course mirrored in society's attitudes toward the handicapped, and feeds the negative self-image...Quite literally, the handicapped person's punishment does not fit his crime (p. 40).

A "no-win" situation is created for the cognitively impaired adolescent in which there is literally no way to succeed (Abramson et al., 1979). Failure becomes the norm and the only possible means of turning the situation around is within the scope of the mother-child relationship.

Interaction of Developmental Stages

The interaction of the situational crisis (the diagnosis of cognitive impairment) superimposed on the normal maturational tasks of midlife and adolescence profoundly affects mothers and adolescents alike, thereby creating a point in the life cycle that has been found to be one of the most stressful of all the life stages for those who are involved. The mother-

child relationship that is so important for the optimal functioning of the cognitively impaired individual is especially vulnerable to this stress. For one thing, mid-life mothers of cognitively impaired adolescents must deal with their own developmental tasks and, at the same time, continue to fulfill the needs of children living in developmental stages that do not match their chronological ages (Lutzer & Brubaker, 1988). In the independence versus dependence realm, these mothers may want to fulfill the normal developmental task of separating themselves from childcare demands but are continually frustrated from doing so by the ever present, daily assistance required by the cognitively impaired adolescent. This ongoing dependence of the cognitively impaired adolescent on the mother, at a time when independence is normally anticipated, may increase frustrations and stress within the mother-child relationship (Shulman & Rubinroit, 1987).

Perhaps one of the most difficult tasks with which these mid-life mothers must cope is that of handling their own feelings of grief and frustration while supporting the cognitively impaired adolescents in

their efforts of coping with these same feelings. The cognitively impaired adolescent's pursuit of independence is indeed a difficult journey for both the mother and the adolescent. For many years these mothers and adolescents have endured continuing pressure to succeed, social and academic difficulties, and social rejection. They will continue to experience these same events during the journey through adolescence and into adulthood. The journey may, therefore, become a source of great discouragement and stress for the mothers and adolescents alike.

Yet another situation that puts these mid-life mothers and cognitively impaired adolescents at risk for increased stress involves the education system. Unfortunately, the educational services, support, and respite care provided by the educational system come to an end at age 22 for cognitively impaired individuals. Mothers and their cognitively impaired adolescents are then faced with the multiple problems of decreased services, lack of funding, limited prospects for employment, and limited resources for rewarding personal experiences (Brotherson, et al., 1988; Gilson & Levitas, 1987; Steinberg, 1983). Waiting lists are

long for available services (Steinberg, 1983). Consequently, cognitively impaired adolescents find that forced life at home after high school means limited social lives, little opportunity to make contact with handicapped and nonhandicapped people, and limited autonomy in almost every aspect of their lives (Cattermole et al., 1988).

Synopsis

There is a substantial body of research on the problems and tasks faced by mothers of cognitively impaired adolescents. Adolescence has been shown to be a time of situational and maturational crisis that requires ongoing adjustment for both cognitively impaired adolescents and their mothers. Societal interactions involving lack of resources and a mandatory end to schooling are also significant stressors.

Coping

Definition

Broadly defined, the process of coping is a means for managing stress (McCubbin, 1979). Over many years

of study, theorists have hypothesized that coping is a far more complex phenomenon than originally believed and, therefore, does not lend itself to easy operationalization. Some of the reasons for the difficulty in defining the concept of coping lies in its variability in "mode (information-seeking action), function (problem-solving or stress reduction), and outcome (more or less adaptive)" (Crnic, Friedrich, & Greenberg, 1983, p. 134).

Despite coping's complex nature, several major theories have emerged that attempt to clarify and define the concept. Pearlin and Schooler (1978) view coping as involving three distinct behaviors: (a) eradicating or changing situations that are creating the problem, (b) exercising control over the meaning of the experience so that it is not a stressor, and (c) keeping emotional aspects of the problem within manageable limits. Effective coping behaviors are seen by Pearlin and Schooler as those that decrease the relationship between role-strains (i.e., enduring problems that may arouse feelings of threat) and emotional stresses.

Lazarus' (1966) theory of coping involves practices aimed at lowering or eliminating events that have been perceived as harmful. According to Lazarus, coping is "the behavior or psychological process activated for the purpose of mitigating or eliminating the threat...based on cognitive activity involving appraisal of the conditions of threat and the consequences of the coping behavior" (p. 28). The appraisal process involves primary appraisal (perceiving the event to be a threat) and secondary appraisal (cognitive development of a response to the threat). In addition, Lazarus believes that coping processes must be considered in relation to that person's environment.

Folkman (1984) views coping as efforts to manage demands of life but emphasizes that these coping efforts be viewed outside their eventual success or failure. In her study of perceived control and coping, she states that perceived control is related to both primary and secondary appraisal processes of coping and must, therefore, be examined in the context of specific situations in order to understand the role of perceived control in each of these appraisal processes.

In their 1980 published study, Folkman and Lazarus reported the results of data on 100 men and women who indicated on a 68-item Ways of Coping Checklist how they coped with real life events. The Ways of Coping Checklist involves problem-focused and emotion-focused coping strategies that were found to be used in over 98% of the events included in the checklist. According to Folkman and Lazarus (1980), problem-focused coping involves management of a problem by the use of such skills as problem-solving, direct-action, and decision making. Emotion-focused coping is used to manage emotions and distress as well as to alter the meaning of the situation. Problem-focused coping was used most often in situations that were seen as changeable whereas emotion focused coping increased in those situations viewed as being unalterable.

Other researchers have expanded on the work of Lazarus and his colleagues. Damrosch, Lenz and Perry (1985) developed the Parental Coping Scale (PCS) based on Lazarus' theory of coping. The PCS contains Lazarus' problem- and emotion-focused coping behaviors. An important aspect of the PCS is its attempt to measure both functional and dysfunctional behaviors

within these two coping strategies. For example, cognitive restructuring (i.e., attempts to find positive aspects in the situation and use it as an opportunity for redefining personal values) and information-seeking (i.e., a search for information and advice) are considered functional aspects of problem-focused coping. Expression of negative affect (i.e., strong and emotional behavioral expressions of strain), wish-fulfilling fantasy (i.e., an escape from unhappy reality into fantasy), self-blaming, and minimization of threat (i.e., conscious refusal to dwell on thoughts about the problem) are all examples of emotion-focused coping strategies that are often dysfunctional in nature. Communication of feeling (i.e., involves communication of feelings and acceptance of sympathy/understanding) is a functional emotion-focused coping behavior.

Carver, Scheier, and Weintraub (1989) have also expanded on the work of Lazarus and his colleagues. The focus of their research is to investigate individual differences in coping by including only items in their COPE inventory that could be answered from both a dispositional coping style (what a person

usually does under stress) and a situational coping style (what the person did in a specific coping episode or during a specific period of time). Carver et al. (1989) incorporated scales in their inventory that measure active coping, which is similar to Lazarus problem-focused coping. However, these researchers added several other categories within their problem-focused category. For example, subscales of planning, exercise of restraint, and suppression of competing activities are considered separate activities but are examples of problem-focused coping.

Research on Coping

In the years following publication of coping theories and the subsequent development of inventories based on these theories, research has continued to study the complexities of the coping process. One recent study on coping by Forsythe and Compas (1987) found that Lazarus' problem-focused coping was associated with lower symptom levels where events were perceived as controllable, whereas emotion-focused coping was associated with lower symptom scores when

the event was perceived as uncontrollable. In addition, the number and variety of coping skills the individual possessed had a relationship to overall effective coping strategies.

Felton and Revenson (1981) found in their study of chronic illness that problem-focused coping rather than dysfunctional emotion-focused coping was a positive aspect of dealing with serious illness:

> Efforts to prevent mental health problems among normal adults faced with serious illness might fruitfully be directed at boosting the use of information seeking and at breaking the destructive causal cycle in which poor adjustment and wish-fulfilling fantasy reinforce each other's ill effects (p. 352).

Faerstein (1986) found support for the dual concept of coping mechanisms in that a person can mobilize either defenses or coping mechanisms depending on the assessment of the problem. For example, in mothers of children with learning disabilities, coping mechanisms convert to defense mechanisms such as

projection and displacement of anger when these mothers are confronted directly with their children.

Other researchers have found that problem-solving skills, including the ability to focus on the positive aspects of a situation, are associated with a "normal" psychiatric profile and decreased distress (Vitaliano, Mairuo, Russo, & Becker, 1987) and are associated with decreased parenting stress (Frey, Greenberg, & Fewell, 1989). McCubbin et al. (1983) state that effective coping in parents of chronically ill children are based on three coping patterns that are both problem-focused and emotion-focused:

> (1) maintaining family integration and an optimistic definition of the situation,
> (2) maintaining social support, self-esteem, and psychological stability, and
> (3) communicating with health professionals and other parents in order to gain understanding (p. 368).

Coping in Mothers of Cognitively Impaired Adolescents

The body of research on mothers of cognitively impaired children has identified several factors that

may influence effective coping with this diagnosis. One area that has been shown to affect coping patterns is that of specific characteristics of the children (Beckman, 1983; Cummings et al., 1966). For example, an inability of the cognitively impaired individuals to communicate or develop relationships may affect the ability of the mother to cope (Donovan, 1988; Farber, 1968). Other child characteristics that may affect maternal coping include age and sex of the child with male children and older children affecting maternal coping efficacy more negatively than do females or younger cognitively impaired children (Crnic et al., 1983).

Other significant areas that affect maternal coping efficacy center around interpersonal and intrapersonal resources. Those mothers who have access to respite care coped better than mothers who had no relief from the burdens of 24-hour caregiving (Steinberg, 1983). High marital satisfaction and the general family social climate were also related to effective coping behaviors (Friedrich, Wilturner, & Cohen, 1985). Those mothers with adequate personal and family resources such as financial resources and social

support have more time and energy, and consequently, more personal involvement with their cognitively impaired children (Dunst, Leet, & Trivette, 1988). Donovan (1988) found that availability of community and professional services is also a factor in maternal coping efficacy.

Synopsis

The construct of coping is a multidimensional, complex process that has been studied extensively in many different populations and with a variety of coping inventories. Lazarus' conceptualization of coping provides the basis for this research study.

Coping in mothers of cognitively impaired children has received research attention resulting in the identification of factors that may influence effective coping with the diagnosis of cognitive impairment. Some of these factors include the individual characteristics of the child, income, marital satisfaction, and availability of community resources including that of respite care.

Hardiness

Introduction

In spite of the unequivocal finding that mothers of cognitively impaired adolescents experience stress, these mothers' experiences of stress do not automatically lead to illness. McCubbin, et al. (1980) found that although stress is prevalent in these mothers, it is not necessarily problematic. As a matter of fact, studies have shown that many of these mothers are able to support the cognitively impaired adolescents' abilities to utilize resources (Murphy, 1961) and to grow (Ross et al., 1985). Those mothers who cope effectively are also able to oversee the welfare and satisfactory emotional development of the cognitively impaired adolescents and to remain effective life-long advocates for these individuals (Konanc & Warren, 1984). In addition, effective maternal coping often increases use of social services and participation in parent groups (Abbott & Meredith, 1986).

More general investigation into the relationship between stress and illness has failed to show a direct

link, with most correlations averaging below .30 (Rabkin & Struening, 1976). This low correlation between stress and illness prompted investigation into personality constructs that may influence this stress-illness relationship. In support of this type of research, Kazak (1989) contends that identification of those variables that predict adjustment is the ". . . most productive strategy for identifying coping processes and designing relevant interventions" (p. 28).

One of the personality constructs that may be related to effective coping with a long-term stressor is the construct of hardiness. Kobasa began years of research on hardiness with the hope that reasons for the low correlation between stress and illness could be clarified. She began her hardiness research with the specific objective of determining how highly stressed male executives who remain healthy differ from those who are highly stressed but who show illness. The long-term goal of her research is to help people develop personality characteristics that lead to healthy adaptation in spite of the stressors that exist in today's society (Kobasa, 1979).

According to Kobasa (1979), the construct of hardiness is conceptualized from existential theories and is demonstrated in individuals by three general characteristics: "(a) the belief that they can control or influence the events of their experience, (b) an ability to feel deeply involved in or committed to the activities of their lives, and (c) the anticipation of change as an exciting challenge to further development" (p. 3).

People who are high in internal control believe they can influence circumstances and consequently act according to this belief. People who are strong in commitment can usually find things to do and seem able to do these tasks with thoroughness and enthusiasm. They are able to become completely involved in the job at hand. People who are strong in challenge look forward to change and view change as a stimulus to personal growth. Life for these people is invigorating (Maddi & Kobasa, 1984). Based on the findings of her initial study of middle and upper level male executives of a large public utility, Kobasa (1979) determined that executives who demonstrate the characteristics of

internal control, commitment, and challenge are less prone to illness than those who do not.

Hardiness Composite and Components

Kobasa's hardiness construct as well as its three components are the focus of this research project for several reasons. One principal reason for their inclusion is the many positive results that have emerged in the research since hardiness was first conceptualized in 1979. After Kobasa's initial study on male executives, she and her colleagues continued to investigate hardiness and found that it does appear to protect health (Kobasa, Maddi, & Zola, 1983) by decreasing the likelihood of symptom onset when one is confronted with stressful life events (Kobasa, Maddi, & Kahn, 1982).

Additional research on hardiness has shown it to be related to (a) adaptive behavior in diabetics (Pollock, 1986), (b) decreased physiological response patterns (Contrada, 1989), (c) health status (Wiebe & McCallum, 1986), (d) decreased reports of distress (Hull, Van Treuren, & Virnelli, 1987), and (e) health concern (Hannah, 1988). Other research projects have

found that hardiness exerts a main effect on burnout (McCranie, Lambert, & Lambert, 1987), on health, in general (Roth, Wiebe, Fillingim, & Shay, 1989), and on distress in Type A individuals (Nowack, 1986).

A significant portion of recent hardiness research has linked hardiness with the stress appraisal process, showing that hardiness may moderate the effects of stress by way of cognitive appraisal and perceptual processes (Allred & Smith, 1989; Pollock, 1986; Rhodewalt & Zone, 1989; Rich & Rich, 1987). A limited number of studies assert that hardiness demonstrates moderator effects (Howard, Cunningham, & Rechnitzer, 1985; Kobasa, Maddi, & Zola, 1983; Nowack, 1986). Carver et al. (1989) found a positive association between hardiness and active coping and planning.

One development in research on hardiness is the contention that hardiness be viewed from a components perspective rather than as a unidimensional concept (Funk & Houston, 1987; Ganellen & Blaney, 1984; Hull et al., 1987; Rich & Rich, 1987; Wiebe & McCallum, 1986). The multidimentional view of hardiness evolved from the findings that the components of control, commitment, and challenge exert different effects than does the

composite score of hardiness. For example, Roth et al. (1989) found that commitment was the most important component in terms of an individual association with health. Commitment was also ascertained to be more precisely measured than the other two components (Hull et al., 1987) and was the only component that moderated the impact of life stress (Ganellen & Blaney, 1984). Pollock (1986), in a study of three chronic illnesses and hardiness, determined that commitment was the only positive factor in adaptation to all three chronic illnesses. Kobasa (1979) found that commitment "fosters a particularly optimistic orientation toward the stresses of life and one's ability to successfully resolve them" (p. 709). In their study of mothers of developmentally disabled children, McKinney and Peterson (1987) found that mothers with a high degree of perceived control had lower stress scores.

When considering the three components of hardiness, Schmied and Lawler (1986), in their study of 82 female secretaries, found that higher levels of powerlessness (i.e., decreased control) and greater alienation from self (i.e., decreased commitment) were associated with increased levels of reported illness.

In a study of 68 male undergraduate students, Contrada (1989) ascertained that the "stress-dampening effects of hardiness....were largely attributable to the challenge component" (p. 900). According to Ganellen and Blaney (1984), commitment and challenge are directly related to lower depression scores and to social support whereas control had no such relationship. Variable findings concerning the components support consideration of them as separate constructs (Funk & Houston, 1987).

Hardiness and Mothers of Cognitively Impaired Adolescents

Research interest in the personality construct of hardiness and its three components is not only based on the positive results that have been obtained but also on its relevance to mothers of cognitively impaired adolescents. First, hardiness has not yet been investigated in mothers of cognitively impaired adolescents, which means this research will contribute to the already existing body of literature on the subjects of hardiness and cognitive impairments. Secondly, the concepts underlying hardiness and its

components have been incorporated into educational and counseling programs. It was Kobasa's contention that "hardiness can be learned at any time in life and, therefore, ... people are not damned by an unfortunate childhood" (Maddi & Kobasa, 1984, p. 59).

Hardiness counseling is based on the transformational coping techniques of focusing, situational reconstruction, compensatory self-improvement, and paradoxical intention. Basically, transformational coping involves altering an event so that it becomes less stressful. In order to bring about this lessening of stress, a person must think optimistically and act decisively in changing the event in a less stressful direction (Maddi & Kobasa, 1984). Because hardiness counseling has been implemented successfully in the past, it may be an effective tool for assisting mothers of cognitively impaired adolescents learn to cope effectively with the effects of the long-term stressor of cognitive impairment.

A third principal reason for investigating hardiness in mothers of cognitively impaired adolescents is the pertinent findings obtained in the specific areas of the stress appraisal process and

active coping and planning. Cognitive appraisal of stress and active coping are two important aspects of maternal adaptation to the presence of a cognitively impaired individual in the family system. It is, therefore, important to determine if the relationship between hardiness and these processes can be replicated with mothers of cognitively impaired adolescents.

Methodological Issues with Hardiness Research

Not all findings regarding hardiness have been positive, and methodological problems have plagued this research area (Hull et al., 1987; Roth et al., 1989; Schmied & Lawler, 1986; Topf, 1989; Wiebe & McCallum, 1986). For example, previous research on hardiness has failed to definitively establish hardiness as a stress resistance resource in illness or as a stress moderator. In their critical analysis of the validity of the Hardiness Scale, Funk and Houston (1987) considered the lack of a moderating effect by hardiness on stressful life events as only one of several significant problems with the measurement of hardiness. Other problems include:

1. The use of diverse subscales across studies.

2. The variable use of the composite score of hardiness and the component's scores as a measure of hardiness, in general.

3. The inconsistent manner that different subscales have been used to measure the same concept. An example of this inconsistency is the use of the powerlessness subscale of the Alienation Test to measure commitment in one study (Kobasa, 1982) and control in another study (Kobasa, Maddi, & Kahn, 1982).

4. The use of negative indicators to measure a construct when the concepts may not be true opposites of each other (e.g., use of Alienation from Self and Alienation from Work subscales of the Alienation Test to measure commitment; that is, high levels of one characteristic, commitment, would be measured with low alienation from work and self scores).

Synopsis and Hypotheses

Since its first conceptualization in 1979, hardiness research has produced many and varied results. The present research project had as its major

objective the clarification of the relationship between stress, hardiness and its components, and coping efficacy in mothers of cognitively impaired adolescents. Another objective of this study was to determine if the hardiness components' scores demonstrated different relationships with maternal coping efficacy as compared to the composite hardiness scores. In order to investigate these questions, the following hypotheses were tested:

1. Perceived stress scores will be significantly negatively related to coping efficacy scores.
2. Hardiness composite scores will be significantly positively related to coping efficacy scores.
3. An interaction of hardiness and stress (i.e., hardiness x stress) will be significantly related to coping efficacy.
4. The three hardiness components of control, commitment, and challenge will have a different relationship with coping efficacy from that of the hardiness composite.

CHAPTER III

METHODOLOGY

This chapter contains five sections. The first section describes the design of this research project. The following sections include discussion of the pilot study, subjects, instruments, data collection procedures, and plan for analysis of the data.

Design

This research study is a retrospective, correlational study using questionnaires as the source of data. The predictor variables are perceived stress, hardiness, and the hardiness components of commitment, control, and challenge. The criterion variable is coping efficacy defined in terms of the frequency of various coping behaviors.

Pilot Study

Before the research packet was sent to the mothers targeted for inclusion in this project, a pilot study was undertaken. Eight mothers of cognitively impaired

adolescents were each sent a research packet containing four inventories and an enclosed cover letter requesting information on length of time it took to complete all questionnaires, readability of the questionnaires' items, clarity of the questionnaires' instructions, and clarity of information contained in the cover letter (See Appendix C). All eight packets were returned.

The average amount of time it took the respondents to complete the packet was 29 minutes with a range of 20-45 minutes. Seven out of eight mothers (88%) stated that the cover letter answered all of their questions about the research project. All eight mothers were in agreement that the instructions for each questionnaire were easy to understand. Seven out of eight mothers (88%) stated that the items contained in the questionnaires were easy to understand. One mother, however, felt that two items were ambiguous in nature. Based on the pilot study findings, the decision was made to retain the cover letter, instructions on the questionnaires, and the questionnaires, themselves, in their original formats.

Subjects

Participants in the study were 55 mothers of mentally retarded adolescents from Knox County and Anderson County, which are two adjacent counties in eastern Tennessee. A breakdown of total respondents shows that 41 mothers are from Knox County and 14 mothers reside in Anderson County. Complete details concerning the data collection process with these mothers are presented in a later section of this chapter.

Sociodemographic characteristics of the total sample are presented in Table 1.[1] The percentage distribution of the sample of mothers shows that the greatest percentage of the mothers were in the age range of 39-45 (39%) and that most were married (78%) and were either high school graduates (56%) or college graduates (31%). Although 31% of the mothers were unemployed, 69% were either employed part-time or full-time. Household income exceeded $40,000 per year for 39% of the sample.

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[1]Tables may be found in Appendix A.

Instruments

Perceived Stress Scale

The Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983) is a 14-item inventory utilizing a 5-point Likert-type scale that measures the degree to which respondents find their lives unpredictable, uncontrollable, and overloading (Cohen et al., 1983). The PSS has a junior high school readability level (see Appendix D).

Each item in the PSS is answered from a 5-point scale that includes 0 (never), 1 (almost never), 2 (sometimes), 3 (fairly often), and 4 (very often). The total PSS score is obtained by reversing the scores on seven positive items (i.e., items 4, 5, 6, 7, 9, 10, and 13) and then summing the scores across all 14 items. The resulting score reflects the degree to which the three components of unpredictability, uncontrollability, and overloading are experienced by the respondent.

Reliability and validity data are available on the PSS. In a sample of 82 college students and a sample of 64 smoking-cessation respondents, test-retest reliability was shown to be .85 (after two days) and

.55 (after 6 weeks) respectively. Internal consistency for three research samples was shown to be .84, .85, and .86 (Cohen et al., 1983). Concurrent validity was demonstrated with the small to moderate correlations shown between the number of life events and the PSS in two college student samples and the smoking-cessation sample. A positive correlation between scores on the PSS and the number of cigarettes smoked per day after completion of treatment supports the concurrent validity of the PSS (Cohen et al., 1983).

Predictive validity of the PSS was shown by comparing the PSS with the Life Events scale and with social anxiety. The PSS was shown to be a more effective predictor of depressive symptomatology and physical symptomatology than the Life Events Scale. When testing predictive validity of the PSS with social anxiety, increases in reported social anxiety were associated with increases in perceived stress in the college student sample, thereby further supporting the predictive validity of the PSS (Cohen, et al., 1983).

Personal Views Survey

The Personal Views Survey (PVS) (Hardiness Institute, 1985) was used to assess hardiness and its components of control, commitment, and challenge in mothers of cognitively impaired adolescents (see Appendix E). A factor analysis of the scale did yield the three factors of control, commitment, and challenge. The composite construct of hardiness has an alpha of .87. Control is measure by 17 items and has an alpha of .61. Commitment is measured by 16 items with an alpha of .72. Lastly, challenge is measured with 15 items having an alpha of .70 (Wiebe, Williams, & Smith, in press).

Subjects taking the PVS report how strongly they agree with each of 48 items on a four-point scale, (0) not at all true, (1) a little true, (2) quite a bit true, and (3) completely true. Items are stated in either a positive or negative direction with the final component and composite scores positively indexed (i.e., higher scores indicate higher hardiness). Component scores are obtained by reversing scores on starred items, then summing the items going into each component. The hardiness composite is computed by

adding challenge, commitment, and control scores (Wiebe et al., in press).

In their 1991 study, Wiebe et al. tested the convergent and discriminant validity of the Personal View Survey "by having 91 female and 68 male undergraduates complete two measures of hardiness and two measures of neuroticism, as well as measures of stressful life events and physical symptoms" (p. 2). Convergent validity was assessed by calculating zero-order correlations between the hardiness composites, hardiness components, and neuroticism for all the subjects. Convergent validity of the PVS is supported in that the two measures of neuroticism, the two measures of the hardiness composite, and the component scores of control and commitment are highly correlated (Wiebe et al., in press).

Discriminant validity was tested by comparing the strength of the correlations between the two hardiness inventories with the two neuroticism measures. Tests of the significance of differences between correlations demonstrated that composite hardiness scores correlate more strongly with each other than with the neuroticism scores. The researchers did find that the discriminant

validity of the PVS was stronger in female students than in male students (Wiebe et al., in press).

Because several items on the PVS reflect work situations that may not apply to a percentage of mothers of cognitively impaired adolescents, seven items were modified by this investigator to reflect a more general life orientation. For example, item #2 on the PVS, "I like a lot of variety in my work," was changed to read "I like a lot of variety in my life." This process was used on PVS items 2, 3, 8, 10, 17, 32, and 48 (see Appendix D).

Parental Coping Scale

The Parental Coping Scale (PCS) (Damrosch et al., 1985) is an 81-item inventory that measures the frequencies of various coping behaviors including cognitive restructuring, expression of negative affect, wish-fulfilling fantasy, self-blaming, information seeking, minimization of threat, and communication of feelings. The respondent is asked to reflect on the past week and answer how he or she reacted to each item as a result of having a cognitively impaired child. Each item is then answered on a 5-point frequency scale

including 0 (never), 1 (rarely), 2 (sometimes), 3 (frequently), and 4 (most of the time). The coping behaviors of the PCS can be scored separately on all seven subscales or added together to obtain a total coping frequency score.

Damrosch et al. (1985) adapted the PCS from the Ways of Coping Checklist (Folkman & Lazarus, 1980) and a self-report inventory assessing the effects of chronic illness developed by Felton and Revenson (1981). The PCS is based on the belief that any coping efforts must be viewed within the context of the situation (Folkman, 1984). Therefore, scores on the PCS usually indicate only a frequency of use of a given behavior but do not necessarily mean successful outcomes. For the purpose of this study, the score on Factor I of the PCS was considered indicative of effective coping, because the mothers were asked to answer the inventory based on the specific situation of being a mother of a cognitively impaired adolescent.

Content validity of the PCS is based on a review of the literature and on an evaluation by a parental advisory panel and by specialists caring for cognitively impaired children. The parental advisory

group consisted of twelve parents of cognitively impaired children who were asked by the researchers to give input on the relevance of the items for the study's target population (i.e., parents of cognitively impaired children) and on the adequacy with which the items sampled coping behaviors (Damrosch et al., 1985). The PCS was then pilot tested on a sample of 38 parents of cognitively impaired infants aged 2-12 months. Internal reliability was supported with coefficient alphas ranging from .68-.91 for the seven subscales.

Damrosch and Perry (1989) used the PCS as part of a research study involving 22 mothers and 18 fathers of children with Down's syndrome from one county in a Northeastern state. Seventeen husband-wife pairs were included in the sample of 40. These parents had prior or current affiliation with a local parental support group. Coefficient alphas were again obtained ranging from .65 to .87 for the seven subscales. No discriminant validity data are available on the PCS at the present time.

For the purposes of this research study, only Factor I, Cognitive Restructuring, of the PCS was used to measure the criterion variable for maternal coping

efficacy (see Appendix F). The concept of cognitive restructuring relates most closely to the concept of problem-focused coping, which has as its goal the solving of a problem or altering the source of stress (Folkman & Lazarus, 1980). The Cognitive Restructuring subscale contains 13 items that deal with behaviors mothers may have used in the past week to deal with the presence of a cognitively impaired adolescent in the family system. Examples of Factor I items include "concentrated on something good that could come out of the whole thing," "reminded yourself that things could be worse," "got away from it for a while; tried to rest or take a vacation." According to Damrosch et al. (1985), cognitive restructuring involves "attempts to find positive aspects in the situation, and use it as an occasion for redefining personal values" (p. 107).

Sociodemographic Survey

A six-item demographic survey was developed by the author to obtain subject information on maternal age, marital status, educational level, income, employment status, and whether the mother is a natural, adoptive, or foster mother or a relative with primary caretaking

responsibilities. This demographic information was used to describe the sample (see Appendix G).

Procedures for Data Collection

Upon acceptance of Form A by the University of Tennessee's Office of Compliance, the proposal for this research project was submitted to the Knox County School system. Following receipt of permission to conduct research in the school system by Dr. Samuel Bratton, Coordinator of the Department of Research and Evaluation (See Appendix H), a list of mothers of cognitively impaired adolescents who attend high school in the Knox County school system was obtained from the director of the Least Restrictive Environment (LRE) program with permission of the Department of Research and Evaluation.

The LRE program is one in which most cognitively impaired adolescents living in Knox County are enrolled. This program is based on educating cognitively impaired individuals to be effective citizens in an environment that approximates normal society as closely as possible (i.e., the least restrictive environment). These high school LRE

programs are based on a curriculum that emphasizes vocational experiences through on-site experiences in community-based work environments.

A cover letter (see Appendix I) and four surveys were initially mailed to 117 mothers of cognitively impaired adolescents in Knox County. A self-addressed envelope was included for return of either the completed questionnaire or for return of the blank questionnaire if the mother chose not to participate. Potential respondents were given an address and phone number if they had any questions or comments, as well as assurance that a summary of research findings would be mailed to all respondents who completed the surveys.

At the end of the first three weeks, 12 blank packets had been returned (11%) and 33 were completed (28%). There were 8 packets returned with wrong addresses (7%). A follow-up letter was then mailed to 63 nonrespondents (see Appendix J). One nonrespondent was not included because of investigator knowledge that this household was led by a single father. Three weeks after the follow-up letter was mailed, eight completed packets had been returned increasing by 7% the completed packet return rate from 28% to 35%.

Because of the small completed packet rate from Knox County, this investigator contacted by phone and mail, mothers of cognitively impaired adolescents living in Anderson County. In addition, a request was made for the mailing list of the Anderson County Association for Retarded Citizens. Sixteen additional packets identical to those sent out in Knox County were mailed to mothers in Anderson County. At the end of three weeks, six completed inventories had been returned. Respondents from Anderson County who participated in the pilot study were also included in the final subject pool.

Although the investigator had requested approval from the Anderson County Association for Retarded Citizens to use their mailing list, approval was not received. The major reason given was that many members do not want to be contacted by mail and have made personal requests that their names not be released. A second reason for not approving the research request was the difficulty in determining exactly which members had cognitively impaired adolescents in the family.

In calculating overall response rates, Dillman (1978) contends that excluding unmade contacts in the

response formula (i.e., nonreachable or unwilling participants) is a "more direct indicator of a method's response-inducing capabilities" (p. 50) than simply dividing the number returned by the number in the sample. In using Dillman's formula, the number returned (N=55) divided by the number in sample (N=133) minus noneligible or nonreachable respondents (n=25) equals a return response rate of 51% for this sample. The response rate is disappointing and prompted the further investigation into response rates with parents of cognitively impaired family members.

Analysis of Response Rates

While great numbers of articles have been published on response rates in general, a very limited number of articles address response rates in families who have a cognitively impaired family member. A review of the Educational Resources Information Center (ERIC) and Psychological Abstracts yielded no references on response rates for this population. However, a previous compilation of general research articles by this investigator on these families proved useful in exploring findings of other investigators

with regard to response rates in this population. Out of 35 research articles, nine used the mailed-questionnaire approach and stated the number of respondents in the original mailing.

Only three of the 35 articles included in the prior research compilation specifically addressed the issue of response rates in families with a cognitively impaired family member. Wikler et al. (1981) reported a 16% response rate to an initial questionnaire mailing. After a follow-up phone call, 16 additional questionnaires were returned, yielding an over-all response rate of 32%. These investigators theorize that the subject of the questionnaire, chronic sorrow, may have stimulated feelings of grief in the parents; and, subsequently, "the parents had difficulty responding because of the evocative nature of the questions" (p. 65). A second article contends that, in order to increase response rates, researchers must work through teachers to gain access to parents, because "teachers already have established an ongoing relationship with the parents of their students" (Fox, Rotatori, Green, Macklin, & Zevon, 1983, p. 64). When Brotherson et al. (1988) asked parents about reasons

for nonparticipation, three main ones were given: "(a) it was a private matter, (b) they did not want to be bothered, and (c) they were too busy" (p. 106).

Other explanations for the numerous low response rates experienced by researchers can be found by looking at reasons given by these parents for nonparticipation in other activities related to the cognitively impaired family member. Nonparticipation in professionally prescribed regimens has been an ongoing source of concern for health care professionals and educators. Research has found that early negative experiences with professionals (Jones, 1987) as well as the parents' projected feelings of inferiority, fear, and helplessness (Merton, Merton, & Barber, 1983) create poor relationships between parents and professionals. The effects of these poor relationships with professionals could then generalize to all situations involving helping professionals, including professionals conducting research.

Several researchers view nonparticipation of parents as an issue involving unmet family needs (Dunst et al., 1988) and lack of needed information (Weber & Stoneman, 1986) from professionals. Unmet

physiological, and educational needs must be met before parents would be able to participate in other programs for their cognitively impaired children or for themselves. Other situations that may prevent parental participation include parental feelings of intimidation (Meyers & Blacher, 1987), poor teacher-parent relationships (Fuqua, Hegland, & Karas, 1985), parental burnout (Cone, Delawyer, & Wolfe, 1985), and parental denial (Eden-Piercy et al., 1986).

The problem of parental nonresponse or noninvolvement is a significant one. The reasons for the 51% response rate obtained in this study, as well as the response rates of the other studies included in this analysis, are complex and merit further analysis. In one research study on parent involvement, Cone et al. (1985) listed "all conceivable ways parents could be involved in special education programs" (p. 418). Of the twelve categories listed, research participation was not included. It is obvious that even researchers, themselves, have not considered research a viable aspect of parental involvement. Instead, these researchers are willing to settle for small response rates. However, improvement of parental response rates

will occur only after more thorough investigation of parental nonresponse.

Operational Definitions

Hardiness is operationalized as the sum of the subject's responses on the 48-item Personal Views Survey obtained by adding together three components' scores.

Control is operationalized as the sum of the subject's responses to 17 designated items on the PVS, after reverse scoring 12 of the items.

Commitment is operationalized as the sum of the subjects responses to 16-items on the PVS after reverse scoring 13 items.

Challenge is operationalized as the sum of the subject's responses to 15 items on the PVS, after reverse scoring on 12 items.

Perceived stress is operationalized as the sum of the subject's responses on the 14-item PSS after reversing scores on items 4, 5, 7, 9, 10, and 13.

Coping efficacy is operationalized as the sum of the subject's 13 responses on Factor I, Cognitive Restructuring, of the Parental Coping Scale.

Plan of Analysis

Data analysis procedures were computed using the GB-STAT program. Percentage distributions were created on the demographic variables of age, income, educational level, employment status, and marital status. Data on whether the mother was a natural or adoptive mother was excluded from this study due to their low number (two adoptive mothers out of fifty-five mothers). Univariate descriptive statistics including mean, median, standard deviation, variance, and range were calculated for all predictor and criterion variables. Pearson-product moment correlation was used to examine the relationships between the criterion variable of coping efficacy and the predictor variables. Student t-tests were used to determine group mean differences. Control for Type I error, alpha, was determined at .05 level of significance for statistical analyses.

CHAPTER IV

RESULTS

This chapter contains a presentation of univariate descriptive statistics for predictor and criterion variables and an examination of these data for the presence of outliers and skewness. Correlation analyses of the variables are presented next in order to examine relationships among the variables. Finally, data on several student t-tests is presented to determine group mean differences. A summary of the findings concludes this chapter.

Descriptive Statistics for the Total Sample

Table 2 includes means, medians, standard deviations, variances, and minimum and maximum scores for all continuous variables in this study except for the continuous sociodemographic variable of age. Initial examination of the univariate descriptive statistics established the presence of outliers for the variables of coping (skewness = -.70, kurtosis - 2.13), hardiness composite (skewness = -.64, kurtosis = 1.79),

and the commitment component (skewness = -.32, kurtosis = 1.79). After removal of these outliers on coping, hardiness, and commitment, all the variables demonstrated nearly normal distributions (see Table 3).

Comparison of Means to Normative Samples

Perceived Stress Scale

Although the PSS has not been included in research on mothers of cognitively impaired adolescents, other studies on mid-life women have used this inventory. A sample of 37 mid-life women who participated in a smoking-cessation study had a mean PSS score of 25.71 with a standard deviation of 8.24 (Cohen et al., 1983). In a larger study of 404 mid-life women, the mean perceived stress score obtained was 25.24 and the standard deviation was 8.37 (Thomas, in press). The mothers of cognitively impaired adolescents who participated in this study perceived themselves as slightly more stressed ($x=27.61$), but evidenced more variability in these scores ($SD=9.06$) than the other mid-life samples.

Hardiness Composite

Comparative normative data on the Personal Views Survey was obtained from 162 college-age students who had a mean hardiness composite score of 155.62 with a standard deviation of 12.62. The researchers had scored the inventory by adding total points on a Likert scale of one to four (Charles Carver, personal communication, June, 1991). After scoring the PVS as Carver had done, the author obtained a composite hardiness mean of 145 with a standard deviation of 19.5 for this sample of mothers of cognitively impaired adolescents. The difference between these two mean scores is quite large as is the variance. However, it is difficult to formulate reasons for the difference. An obvious problem might be the composition of the samples. Mothers of cognitively impaired adolescents and college-age students perhaps have little in common with respect to coping with difficult life experiences. The results do speak to lower levels of hardiness in these mothers.

Parental Coping Scale, Factor I

In their study of 17 pairs of mothers and fathers of children with Down's syndrome (Damrosch & Perry, 1989), the mothers in this sample obtained a mean PCS score of 21.24 with a standard deviation of 10.33 for Factor I. The authors mentioned that the mean age of the child was 6.59 years. In comparison, the mean Factor I coping score for mothers of cognitively impaired adolescents in this study is 27.81 with a standard deviation of 7.60. The difference in these mean scores signifies that mid-life mothers of cognitively impaired adolescents demonstrate a greater frequency of cognitively restructuring behaviors than mothers of younger cognitively impaired children.

Tests of Hypotheses

The first hypothesis, that a negative relationship exists between mothers' perceived stress scores and coping efficacy scores, was tested using the Pearson product moment correlation. The results show no relationship between the PSS and PCS (r = .04, p=.75).

A scatterplot of the PSS and the PCS also showed no pattern (see Figure 1).[1]

The second hypothesis, that the hardiness composite score will be positively related to coping efficacy, was tested using a Pearson product moment correlation. There was no relationship found between these two variables (r= -.08, p=.52). A scatterplot of the PVS and PCS supports this lack of relationship between these two variables (see Figure 2).

The third hypothesis, that an interaction effect between hardiness and stress (i.e., H X S) would be related to coping efficacy was tested with the Pearson product moment correlation with the interaction as a predictor variable. There was no relationship found between the interaction of H X S and coping efficacy (r=.04, p=.75). The scatterplot confirms that there is no direction to the plots (see Figure 3).

The fourth hypothesis, that the hardiness components of control, commitment, and challenge components would have a different relationship to coping efficacy than the hardiness composite, was tested using the Pearson product moment correlation.

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[1]Figures may be found in Appendix B.

The hypothesis was only partially supported. Control and PCS (r = .01, p=.92) and commitment and PCS (r = .006, p=.96) were both nonsignificant. However, challenge and PCS had a significant, though opposite, correlation than expected (r = -.28, p<.05). Scatterplots of these relationships demonstrate the slightly negative correlation between challenge and coping as well as the nonsignificant relationships between the PCS and challenge, control, commitment, and hardiness composite (see Figures 6, 4, 5, and 2 respectively).

Correlation Matrix

Correlation coefficients for all the predictor variables and the criterion variable are depicted in Table 4. Examination of the correlation matrix for multicollinearity shows that there were high correlations between the three components of hardiness and the composite score. These high correlations were expected because the composite score is a sum of the components' total scores. There were also high intercorrelations between control and commitment (r = .67, p < .05), between control and challenge (r = .43,

$p < .05$), and between challenge and commitment (r = .41, $p < .05$). Ideally, the components' intercorrelations need to be low so that relationships between them are small, thus supporting the existence of separate constructs. However, the results of this study suggest that the constructs of control, commitment, and challenge are quite strongly related.

The hardiness composite score as well as the components of control and commitment show significant negative relationships to perceived stress at the $p < .01$ level. Interestingly, the challenge component has a nonsignificant (r = -.14, p=.32) relationship with stress. The unexpected lack of a significant relationship of challenge with stress does validate prior research showing the differential effects of the hardiness components from that of the composite.

Student T-tests

Three student t-tests were performed to examine group differences between income levels with respect to coping and between coping levels with respect to hardiness. The subjects were divided into two income groups: (a) those with incomes higher than $40,000 and

(b) those with incomes of $6,000-$39,999 (see Table 5). The results show that maternal coping was not significantly different between lower and higher income groups.

Secondly, two student t-tests were performed to determine mean group differences in levels of hardiness for mothers having higher levels of coping efficacy as compared with those mothers having lower levels (See Table 6). On the first t-test, a median split was performed with mothers in Group #1 having scores less than or equal to the median of 28 on the PCS and those in Group #2 having scores above the PCS median of 28. On the second t-test, a median split was again performed with mothers in Group #1 having scores less than the median of 28 and mothers in Group #2 having scores greater than or equal to the PCS median of 28 (See Table 7). In both t-tests, no significant differences were found between the means. Consequently, none of the four groups differed in their levels of hardiness regardless of level of coping efficacy.

Additional Analyses

In order to determine any significant difference in challenge or stress scores for participants scoring high or low in maternal coping efficacy, two student t-tests were calculated to test for significant differences in group means. The results showed that subjects scoring high or low on coping did not differ significantly on either their challenge or stress scores.

Pearson product moment correlations and multiple regression analyses were computed by item to examine the challenge component in greater detail. Correlation analyses showed that three out of fifteen questions included in the challenge component demonstrate significant relationships to coping: (a) item #3 (r = -.26, p = .05), (b) item #5 (r = -.26, p = .05), and (c) item #6 (r = -.28, p = .04). However, when these items were entered into a forward stepwise multiple regression equation, only 8% of the coping variance was due to item #6 and only 14% of the coping variance was due to all three items.

Summary of Findings

An initial inspection of the data for skewness and for the presence of outliers found three variables with outliers. After the removal of these outliers, all of the variables have nearly normal distributions. Therefore, parametric procedures were deemed appropriate for the statistical analyses of this study.

Pearson product moment correlations between the predictor and criterion variables provided partial support for only one hypothesis. No relationship was found between stress and coping or hardiness and coping. Because of the moderately high negative correlation of hardiness and stress, the finding that the interaction of these two constructs had no relationship to maternal coping efficacy is an expected result. Finally, the components of commitment and control were not found to have a different relationship to coping than did the hardiness composite. However, an unexpected finding was the small but significant negative relationship of challenge and coping. Although the relationship of challenge with coping does support the theory that the components exert differential effects from that of the hardiness

composite score, the negative relationship of challenge with coping does not support the theory that mothers who demonstrate high coping efficacy would also experience high levels of hardiness and its components.

After performing student t-tests on group differences, lower and higher income mothers were found to have no significant differences in their levels of coping efficacy. Additional student t-tests found that mothers with different levels of maternal coping efficacy did not differ in terms of their levels of hardiness, stress, or challenge.

CHAPTER V

DISCUSSION AND IMPLICATIONS

Overview

This study represents an initial investigation into preventive health variables that may predict effective coping in families with a cognitively impaired family member. Specifically, hardiness and its components of control, commitment, and challenge and perceived stress were studied in relationship to the coping efficacy of mid-life mothers during the critical period of adolescence in their cognitively impaired children. Discussion of the results of the statistical analyses is presented in the first part of this chapter. Other areas addressed include the limitations of the study and the theoretical and professional implications. The conclusion contains recommendations for future research.

Discussion of Hypotheses

Perceived Stress Scale

The normal distribution of perceived stress scores suggest that mothers of cognitively adolescents perceive themselves as experiencing varying levels of stress. However, consistent with many other research studies, mean stress scores show that these mothers experience higher overall perceived stress than other groups who are not mothers of cognitively impaired children.

It was hypothesized that levels of maternal perceived stress have a negative relationship to coping efficacy. That is, high maternal stress may lead to decreased coping efficacy and vice versa. The fact that no relationship was found between stress and coping efficacy does not support the hypothesized relationship between these two variables. This lack of a significant relationship between stress and coping underscores the complexity of the relationship between these variables. Common sense, itself, would seem to support some sort of connection between the two constructs. One explanation is that these mothers, while experiencing relatively high levels of stress,

are experiencing various levels of coping efficacy related to some other factors. If perceived stress is not a part of this whole phenomenon, then what is? Unfortunately, no other research studies could be found that compared the PSS with the PCS. Consequently, equivalent comparisons and conclusions cannot be made.

Hardiness and Its Components

The hypothesized positive relationship of hardiness and coping efficacy was not supported. Only one other study was found that specifically used the PVS with a coping inventory. Carver et al. (1989) did find a small but significant relationship between the PVS and active coping (r = .20, p < .01). There may be several reasons for the variability in the findings of the Carver et al. study and this one. First, the samples studied were quite diverse in that the sample studied by Carver and his colleagues was comprised of college students, who are different in a number of ways from the mid-life mothers of this study. Second, the number of subjects in this research (N = 55) is much smaller than the Carver et al. study (N = 162). Third, the use of different coping inventories as criterion

variables may account for some of the differences in the results. If future research replicates the findings of the Carver et al. study, then the use of coping inventories other than the PCS must be considered by researchers in the field of cognitive impairments.

The hypothesized significant interaction of hardiness and stress (i.e., H X S) with coping was not supported. This lack of a significant relationship between hardiness X stress and coping has been supported in prior research. Roth et al. (1989), Hull et al. (1987), Wiebe and McCallum (1986), and Topf (1989) found that hardiness does not change the relationship of stress with the selected criterion variable. Just as many studies, however, have found hardiness to change the effects of stress. These equivocal findings on the relationship of hardiness X stress on a criterion variable represent one of the major inconsistencies of hardiness research.

The fourth hypothesis concerning the differential relationships of the hardiness components of control, commitment, and challenge as compared to the hardiness composite was only partially supportive. The

components of control and commitment and the hardiness composite were not significantly related to maternal coping efficacy. However, the findings of a small, significant negative relationship between the challenge component and coping and the lack of a relationship between stress and challenge support the theory that hardiness is a multidimensional concept.

Prior research into the multidimensional theory of hardiness has shown confusing and diverse results in regard to the challenge component. Hull et al. (1987) found the challenge component to be less precisely measured than the other two. In a later study, Hull, Van Treuren, and Propsom (1988) found the challenge component to yield results opposite of those predicted, much as the results of this study. As with most of the hardiness research, findings on the challenge component are equivocal. Contrada (1989) found that the effects of hardiness on stress were most attributable to the challenge component. Challenge was also determined to be strongly associated with social support in a study by Ganellen and Blaney (1984). Pollock (1986)

ascertained that challenge was significantly related to social support (r = .39, p < .05) and intrapsychic function (r = .55, p < .05) in rheumatoid arthritics and to intrapsychic function in diabetics (r = .62, p < .01).

The differences found in prior research on the challenge component may stem from the diverse inventories used to measure the construct, from the heterogeneous samples studied, or from the many different statistical methodologies. It is difficult to determine the source of the confusion until researchers start replicating existing studies.

It is feasible that there are logical explanations for the challenge component's unique relationship with the PCS. However, the significant correlation between challenge and maternal coping may simply be a result of chance. Another explanation for this relationship may be the fact that nothing in these mothers' previous experiences prepared them for the changes that occur over time with the diagnosis of cognitive impairment in their children. Mothers of cognitively impaired adolescents have experienced the ultimate change, having to raise a child with multiple limitations and

problems when a normal child was expected. Future change may then be viewed as unwanted and unwelcomed by these mothers. Therefore, change is avoided and stability is sought. Antonovsky (1987) also questions the utility of considering change rather than stability as a normal part of life. As a matter of fact, prior research has shown that structure and consistency help support and reinforce routine and decrease behavior problems in cognitively impaired children. The desire to avoid change may explain the finding that as challenge decreases, coping efficacy increases.

On the other hand, mothers who were high in challenge but low in coping efficacy may experience ongoing conflict between their desires to lead exciting changeable lives and the limits placed on these desires by the presence of their cognitively impaired adolescents. As a result of extensive animal research into psychological factors in stress that may lead to disease, Weiss (1972) found that relevant feedback (i.e., relief from shock) following a bar press response is the most important concept in differentiating between animals who develop ulcers from those who do not. Specifically, it was found that no

relief from shock after pressing the bar caused severe ulceration in laboratory animals. Perhaps the results of Weiss' study can be generalized to mothers of cognitively impaired adolescents. These adolescents are not capable of participating in a reciprocal mother-child relationship, thereby short circuiting the expected joys and rewards of parenting for these mothers. The lack of positive consequences for parenting behavior may result in decreased maternal coping efficacy.

Research specifically on the challenge component has also shown variable results between genders, as well as within the same gender across different studies. In a study by Ganellen and Blaney (1984), challenge scores of 83 undergraduate women were found to be significantly correlated with social support. Allred and Smith (1989) found that challenge was unrelated to any criterion measure in a study of 84 male undergraduates. However, in a study of 68 male undergraduate students, Contrada (1989) found that the stress-dampening effects of hardiness were mainly due to the challenge component. It is difficult to sort out any trend in these data due to the many different

inventories used to measure challenge and the variable subject populations.

A review of past research of hardiness in general also shows variable findings in regard to gender. Kobasa's studies in hardiness involved male subjects in high management positions (Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Kobasa, Maddi, & Zola, 1983). More recent hardiness research has studied women and found that "the personality characteristics that constitute hardiness in men may not be the same characteristics that compose it in women" (Schmied & Lawler, 1986, p. 1221). However, Rhodewalt & Zone (1989) did not find gender differences in their later hardiness research. Further emphasis on exploration of gender differences in hardiness research is warranted.

One possible gender difference with respect to hardiness is that women may have a different way of demonstrating hardiness or challenge, specifically, from that of men. One researcher (Sandra Thomas, personal communication, October, 1991) contends that women's value system with its traditional emphasis on home and stability rather than on the challenges of the workplace may lead to a different style of coping from

that of men. The different value system held by women might help to explain the differences in the directionality of relationships between challenge and coping for women in this study versus the directionality of the relationship between challenge and various criterion variables found for male subjects in Kobasa's research. Future research that studies female executives or research that utilizes new hardiness inventories based on women's values may clarify existing inconsistencies in this research.

Other interesting results of this study concern the component of control. Even though control was found to have no relationship to coping in this study, other research has found the opposite to be true. For example, Carver et al. (1989) found a small but significant positive correlation between coping and control (r = .21, p < .01). In this study, the control component was found to have a moderately significant negative relationship to stress (r = -.42, p < .05). It does appear from these results that control is a factor in maternal perceived stress but not necessarily in coping efficacy. Again, the results on control, though not specifically included in this study as a

hypothesis, do tend to confirm the multidimensional aspect of hardiness as well as underscoring the complexities of the relationships involved between hardiness and its components, stress, and coping.

Parental Coping Scale, Factor I

As the criterion variable in this study, maternal coping efficacy as measured by Factor I of the Parental Coping Scale has already been discussed in relationship to the stated hypotheses. More general consideration of this variable is warranted because of its lack of expected relationships to any of the predictor variables. For one thing, the almost normal distribution of coping efficacy scores does show that some mothers perceive themselves as coping better than others. Obviously, hardiness and its components as measured by the PVS are not significant predictors of this variability in maternal coping efficacy. What then does account for the fact that some of these mothers cope better than others? It is already evident that studying coping efficacy in mothers of cognitively impaired children is a complex,. multidimensional process. Future research must now consider other

constructs as possible factors in maternal coping or consider the use of other hardiness inventories in order to build on this beginning research into the role of preventive health variables in the coping efficacy of these families.

Limitations

One major limitation of this study involves the characteristics and size of the sample. While the nature of the criteria for inclusion precludes large samples (i.e., mothers of cognitively impaired adolescents in Knox and Anderson County with a total of approximately 133), the 55 completed inventories constitute only 51% of the potential sample. The differences between the mothers who chose to participate and those who declined are unknown. Additionally, the fact that the results of this study are based on findings from data gathered on mothers of students enrolled in the Knox County high schools' Least Restrictive Environment (LRE) programs and mothers of cognitively impaired students in Anderson County means that the results can only be generalized

to mothers of cognitively impaired adolescents in similar programs and areas.

Other factors that may create bias include the high overall educational and income levels of the respondents. This may be a crucial difference between participants and nonparticipants. Prior research has shown that higher socioeconomic families have higher marital adjustment (Donovan, 1988), more general resources available for their children (Brotherson et al., 1988), and are the ones who often answer mailed questionnaires. On the other hand, Weber and Stoneman (1986) state that the poor, nonwhite people with limited education and single parent status were the last to participate in research inquiries. The skewed demographic characteristics of education and income in this sample affect the representativeness of the results and, therefore, their generalizability. Caution must be used in interpreting the results of this study in light of these sampling problems.

Another principal limitation of this study is the weakness inherent in the nature of the survey-type approach to collecting data. It is quite possible that face-to-face distribution of the inventories may have

yielded a higher response rate than that of the mailed approach utilized in this study. Face-to-face contact with the subjects may also decrease levels of anger that were expressed by several nonrespondents after initial mailing of the research project. Even more important is the probable acquisition of a much wider range of knowledge about these mothers with the use of an interview format rather than the survey format.

A third limitation of this study involves its cross-sectional correlational format, which means that causation cannot be inferred from the results. Investigation into the lives of these mothers at one point in time does not allow for comparison of developmental crises that have been found to exist in these families. Many more questions about these mothers will be answered with the use of longitudinal research that focuses on critical periods of the life span of cognitively impaired adolescents and their families. Longitudinal research is also the only way to identify the strategies used for progressive adaptation to long-term stressors.

A fourth limitation involves the use of Factor I, Cognitive Restructuring of the PCS as the criterion

variable. First of all, this research project utilized only one of the seven subscales of the PCS. Different results on maternal coping efficacy might have been obtained had the entire scale with its wider scope of assessment been utilized. Secondly, Factor I items mix personal choice actions with realistic limitations in the real life situations of these mothers. For example, it is probable that a percentage of these mothers would not be able to rest or take a vacation (Item #4) or try something new (Item #5) due to the inherent difficulties of their situation. Their inability to partake of these behaviors is then a result of caregiving demands rather than personal choice.

An additional limitation is the lack of comparative normative data for the predictor and criterion variables that creates problems in establishing the meaningfulness of this study's normative data. For example, the original normative data on the PVS could not be obtained. In addition, the Carver et al. (1989) study was the only one that specifically used the PVS and the only one for which the normative data were available to this researcher.

Even so, the data on this study were obtained from college-aged students who have limited comparative value to mid-life mothers. It is, therefore, difficult to find meaning in the hardiness composite mean found in this study. This same lack of comparative data is true for the PSS and PCS as well.

Another limitation of this research is the lack of assessment of the total family unit. Even though this research chose to study only mothers, it is important that preventive mental health constructs be investigated in the families and extended families of the cognitively impaired individual. Prior research has already shown that fathers experience a different adjustment to the presence of a cognitively impaired individual than that of mothers (Damrosch & Perry, 1985). Donovan (1988) found that stressors for these families change over time. For example, when the cognitively impaired child is young, relational and communication problems are the major stressors. As the child ages, though, behavior problems become the major stressors. It is, therefore, evident that inquiry into one member of these families at one point in time does not address the complex and diverse characteristics of

the other members and their reactions to the long-term stressor of cognitive impairment within the family system.

Theoretical Implications

Theoretical implications based on the results of this study are limited. Although the study provides some support for the notion that hardiness is a multidimensional concept, the question must be raised as to the specific sources of the differences between the hardiness composite and its components. Are the differences real or are they a result of small sample size, methodological problems with the PVS, chance, etc.? Because it is difficult to synthesize the results of prior hardiness research due to the diversity of instruments and designs, the generalizability of this body of research from one population to another or from one study to another is questionable.

This research does support findings from past research showing that mothers of cognitively impaired children perceive themselves as being stressed. Findings of this study also support the theory that

mothers cope with this stress at different levels. Because no clear evidence supports the role of hardiness in this variability of maternal coping efficacy, questions must then be asked as to the role of other preventive mental health attributes in relationship to this coping efficacy. It is also possible that other tools developed to measure hardiness may yield different results from that of the PVS.

Professional Implications

The findings of this research support that stress is experienced by mothers of cognitively impaired individuals. The next step is to help professionals gain an understanding of this stress experience and the unique problems it creates for these mothers (Beckman-Bell, 1981). In addition, all persons in this society, professionals and nonprofessionals alike, must support legislation that funds respite care for these families. Research has unequivocally shown that respite care is "helpful in improving family relations, increasing social activities, and alleviating physical and

emotional strains" (Joyce, Singer, & Isralowitz, 1983, p. 155).

The fact that there are mothers who are not coping as well as others with their children's cognitive impairments creates a need for continued research that will identify factors that clarify the sources of the differences between effective and noneffective coping strategies. Professionals must be willing to take an active role in supporting and participating in this type of research.

In this age of health care cost containment and an ever increasing demand for scant existing resources, it is critical that health care professionals support a coordinated team effort with parents. A team effort is the only effective means of developing mutual goals and gaining an understanding of the needs of cognitively impaired individuals and their families so that the maximization of their potential is reached. Most important, this team effort must include the ongoing education and training of communities to accept people with differences (Nelson, 1978).

Recommendations for Future Research

There is a critical need for researchers in the field of mental retardation to explore those constructs that may have a significant relationship with the coping efficacy of cognitively impaired individuals and their families. This is a new field of research and one that is greatly needed. Only when these variables are identified can effective programs be developed to help these families meet the demands of their situations. Learning more about the role of preventive mental health variables will also serve as a guide for future research in this area.

A second need for future research concerns the different instruments that are currently being used to measure hardiness and its components. The diversity of methodological issues with the current and prior hardiness research points to the need for improving and standardizing instrumentation in future research in this area. Partone, Ursano, Wright, and Ingraham (1989) have already developed a modified version of the Maddi and Kobasa (1979) instrument in an attempt to address some of the methodological problems (e.g., the use of negative indicators). The PVS also attempts to

deal with the problem of using negative indicators to define constructs. Research must continue to make a concerted effort to continue improving instrumentation and then replicating studies so that results can be more readily generalized.

Further validation of the multidimensional nature of maternal coping with cognitively impaired children needs to be another focus of future research. So far, researchers have determined that religiosity (Friedrich et al., 1985), parental beliefs (Frey et al., 1989), and the degree of unmet need in the family system (Dunst et al., 1988) are some of the factors in this multidimensional coping process. The complexity of this coping process, however, is not fully understood.

The area of gender differences in parental coping must be explored in future research. Initial research has shown gender differences in coping with the long-term stressors of cognitive impairment, and other research has shown some gender differences in hardiness measures. Further research to replicate and then validate the existence of gender differences is essential to future development of intervention programs.

Longitudinal studies on families with cognitively impaired family members as well as studies on low income, minority, and single parent families are greatly needed. Life-span research is especially relevant for these families, because prior research has established the existence of significant differences during times of crises for these families at various developmental stages of the cognitively impaired child. Research related to socioeconomic levels, marital status, and minorities is troublesome due to the difficulty accessing these populations and their reluctance to participate in what may be viewed by them as frivolous professional games compared to the task of just living on a day-by-day basis. However, until these populations are somehow accessed, the generalizability and applicability of results of preventive mental health research will be limited.

It is disturbing that one issue coming out of this study is the apparent reluctance of some mothers and organizations to participate in the research process. Although the section of this study dealing with response rates did underscore the multidimensional nature of nonparticipation, it is not easy to accept

the fact that research having the potential to help so many is given such a low priority. I see research being viewed as a hassle rather than a means of helping. It is a sad commentary that so many would just rather be left alone than take part in a potentially helpful task. As mentioned earlier, one answer may lie in the development of professional and parent teams that work to educate communities and other parents on the importance of the research process for continued funding of existing programs and funding of research and programs yet to be conceptualized.

Research regarding families with a cognitively impaired individual faces some formidable problems. The multidimensional nature of maternal coping and the complexities of family relationships complicate this research task. Researchers in the field of preventive mental health are also hampered by the paucity of effective measuring tools and ongoing difficulty accessing targeted populations.

It must be remembered that society supports the theory that cognitively impaired individuals deserve to reach their highest potential and that this highest potential can best be achieved in the least restrictive

environment. Research in this area is of the greatest importance in helping families and professionals find the best possible means of helping themselves and, therefore, helping these cognitively impaired individuals fulfill their human potential.

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APPENDICES

APPENDIX A

Table 1

Percentage Distribution of Sociodemographic Variables

Variable		N		%
Age				
32 - 38		11		20
39 - 45		21		39
46 - 52		16		30
53 - 59		6		11
	TOTAL	54[a]	TOTAL	100%
Marital Status				
Never Married		1		2
Married		43		78
Divorced		10		18
Widowed		1		2
	TOTAL	55	TOTAL	100%
Educational Level				
Less than high school		7		13
High School Graduate		31		56
College graduate		17		31
	TOTAL	55	TOTAL	100%

Table 1 (continued)

Variable		N		%
Income				
Below $6,000		7		13
$ 6,000 - $12,999		6		11
$13,000 - $24,999		8		15
$25,000 - $39,999		12		22
Above $40,000		21		39
	TOTAL	54[a]	TOTAL	100%
Employment Status				
Unemployed		17		31
Employed part-time		23		42
Employed full-time		15		27
	TOTAL	54[a]	TOTAL	100%

[a]Missing data

Table 2

Means, Medians, Standard Deviations, Variances, and Ranges of Predictor and Criterion Variables

Variable	N	Mean	Median	SD	Var.	Range
Perceived Stress	54[a]	27.61	27	9.06	82.12	7-46
Hardiness Composite	53[b]	101.80	102	13.17	173.61	70-133
Control	55	36.02	38	6.02	36.31	22-48
Commitment	52[b]	35.98	36	5.08	25.90	25-45
Challenge	55	27.81	28	6.14	37.70	12-41
Parental Coping	54[b]	27.81	28	7.60	57.81	7-50

[a]Missing data

[b]Represents removal of outliers from original data set

Table 3

Skewness and Kurtosis Values for Predictor and Criterion Variables

Variable	N	Skewness	Kurtosis
Perceived Stress	54[a]	-.03	-.45
Hardiness Composite	53[b]	.07	.56
Control	55	-.53	-.007
Commitment	52[b]	.03	-.64
Challenge	55	-.04	-.01
Parental Coping	54[b]	-.27	1.48

[a]Missing data

[b]Outliers removed from original data set

Table 4

Intercorrelation Matrix for Predictor and Criterion Variables

Scale	1 Perceived Stress Scale	2 Hardiness Composite	3 Control	4 Commitment	5 Challenge	6 Parental Coping Scale	7 Hardiness X Stress
1. Perceived Stress Scale	-						
2. Hardiness Composite	-.42**	-					
3. Control	-.42**	.67**	-				
4. Commitment	-.43**	.75**	.67**	-			
5. Challenge	-.14	.72**	.43**	.41**	-		
6. Parental Coping Scale	.04	-.08	.01	.006	-.28*	-	
7. Hardiness Composite X Stress	.87**	.04	-.03	-.04	.22	.04	-

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

Table 5

Student t-tests for Comparing Income and Maternal Coping Efficacy

	Group					
	Group #1 ($6000-$39,000) n = 28		Group #2 (above $40,000) n = 20			
Variable	x	SD	x	SD	t	p
Coping	27.17	7.42	27.35	5.14	-.09	NS[a]

[a]Nonsignificant at $p < .05$

Table 6

Comparison of Higher and Lower Maternal Coping Efficacy and Hardiness Using Student t-test

	Group					
	Group #1 (< = 28) n = 28		Group #2 (> 28) n = 26			
Variable	x	SD	x	SD	t	p
Hardiness	102.5	20.31	99.61	15.72	.58	NS[a]

[a]Nonsignificant at p <.05

Table 7

Comparison of Higher and Lower Maternal Coping Efficacy and Hardiness Using Student t-test

	Group					
	Group #1 (< 28) n = 28		Group #2(> =28) n = 29			
Variable	x	SD	x	SD	t	p
Hardiness	101.08	16.08	99.06	15.71	.46	NS[a]

[a]Nonsignificant at p <.05

APPENDIX B

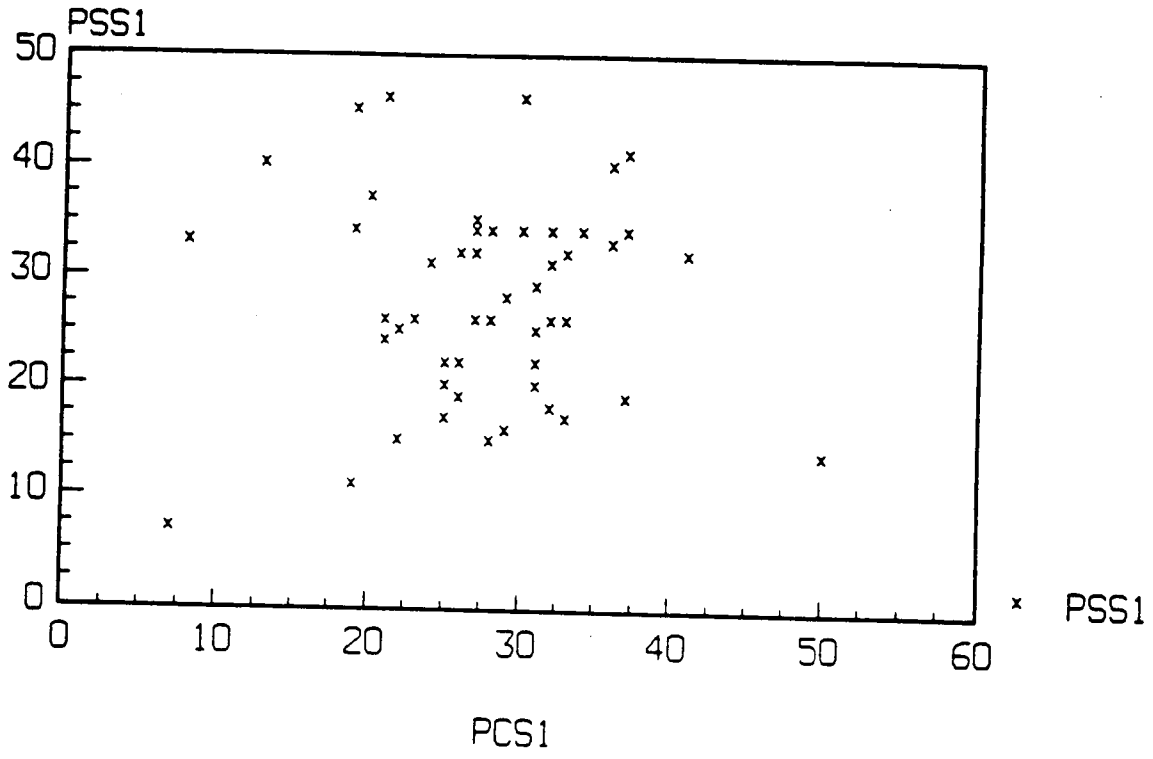

Figure 1

Scatter Plot of Scores on Parental Coping Scale and Perceived Stress Scale

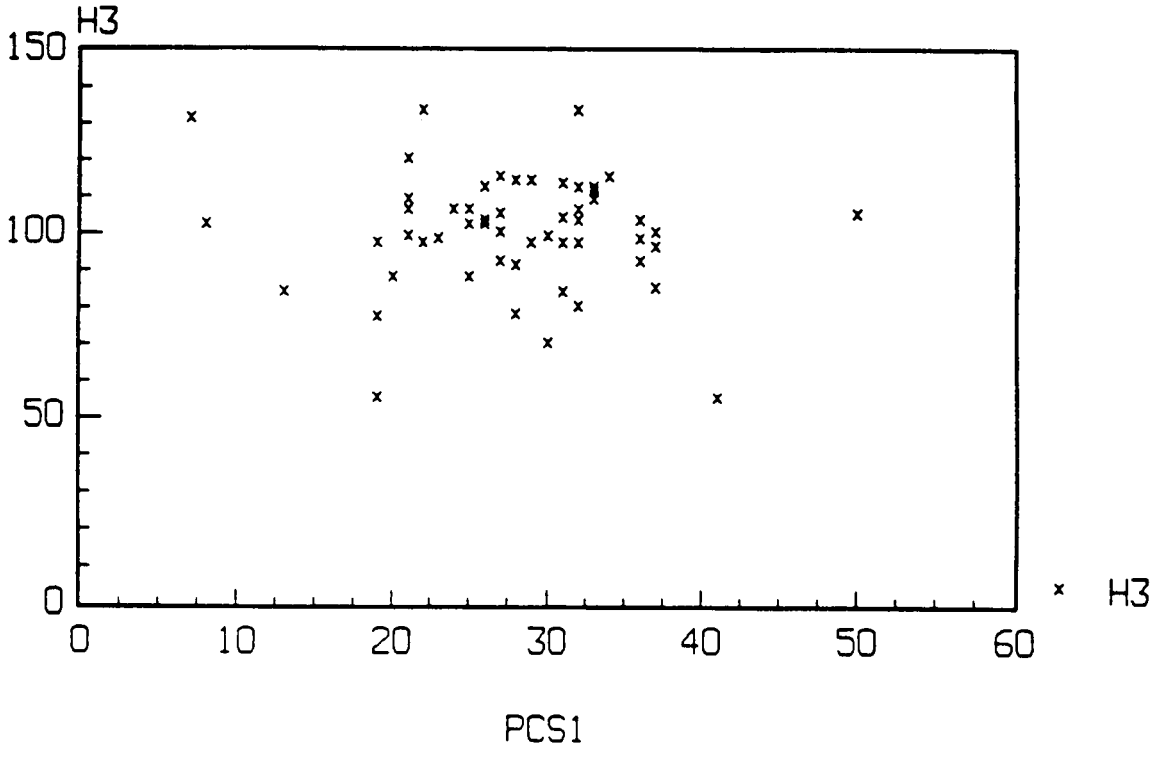

Figure 2

Scatter Plot of Parental Coping Scores and Hardiness Composite Scores

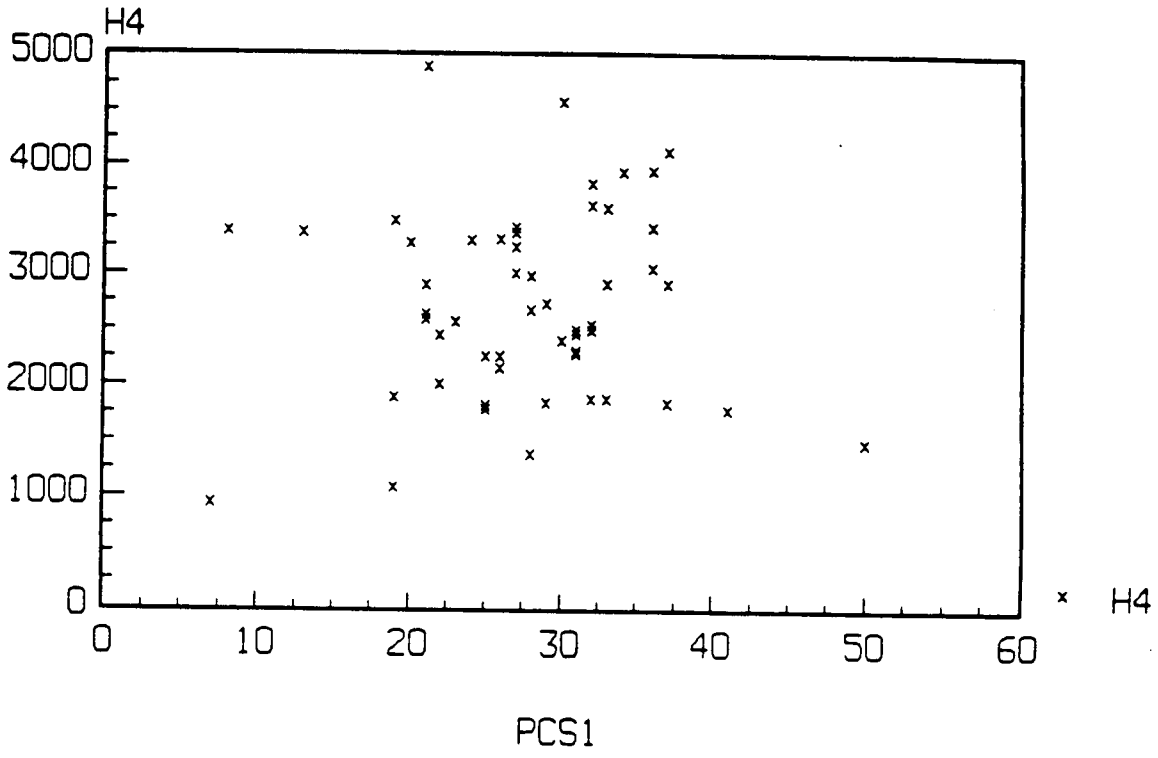

Figure 3

Scatter Plot of Parental Coping Scores and Hardiness X Stress Scores

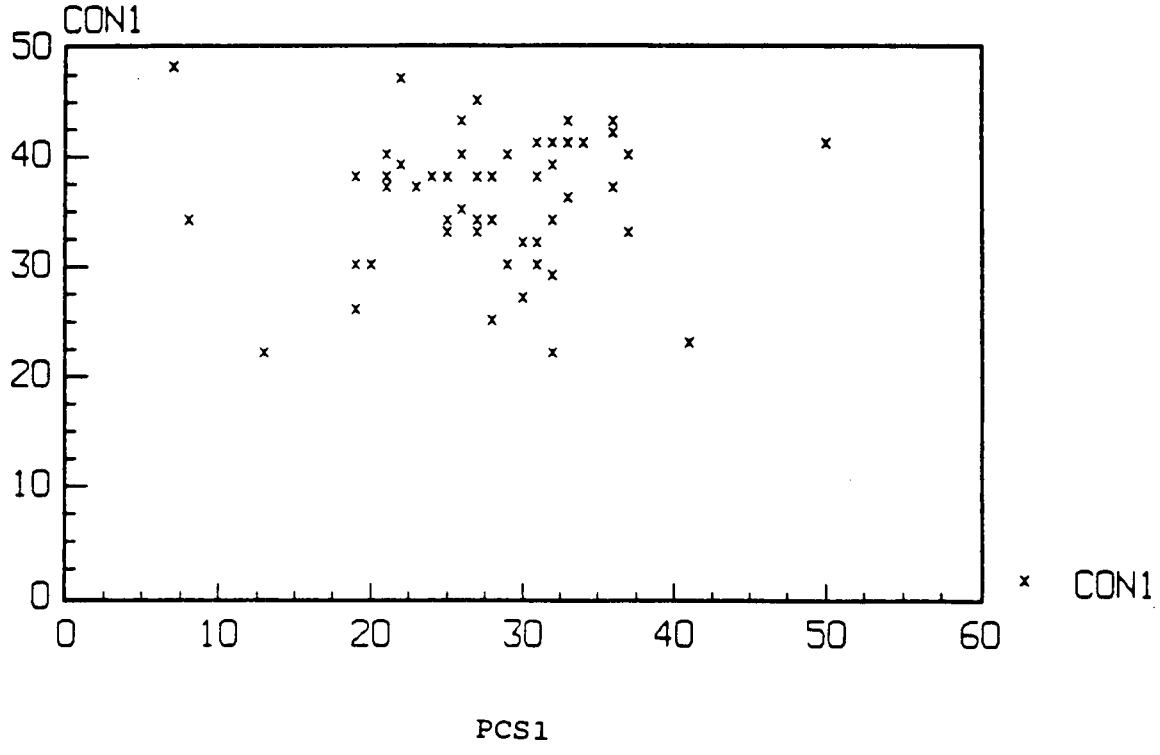

Figure 4

Scatter Plot of Parental Coping Scores and Control Scores

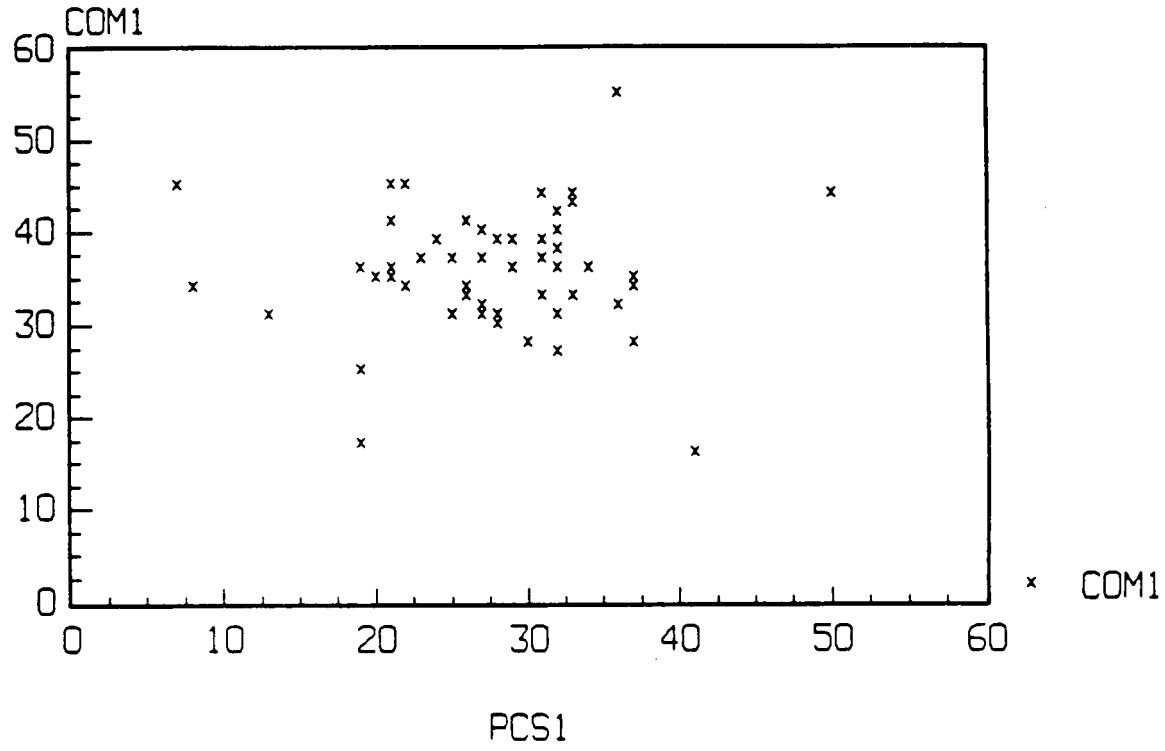

Figure 5

Scatter Plot of Parental Coping Scores and Commitment Scores

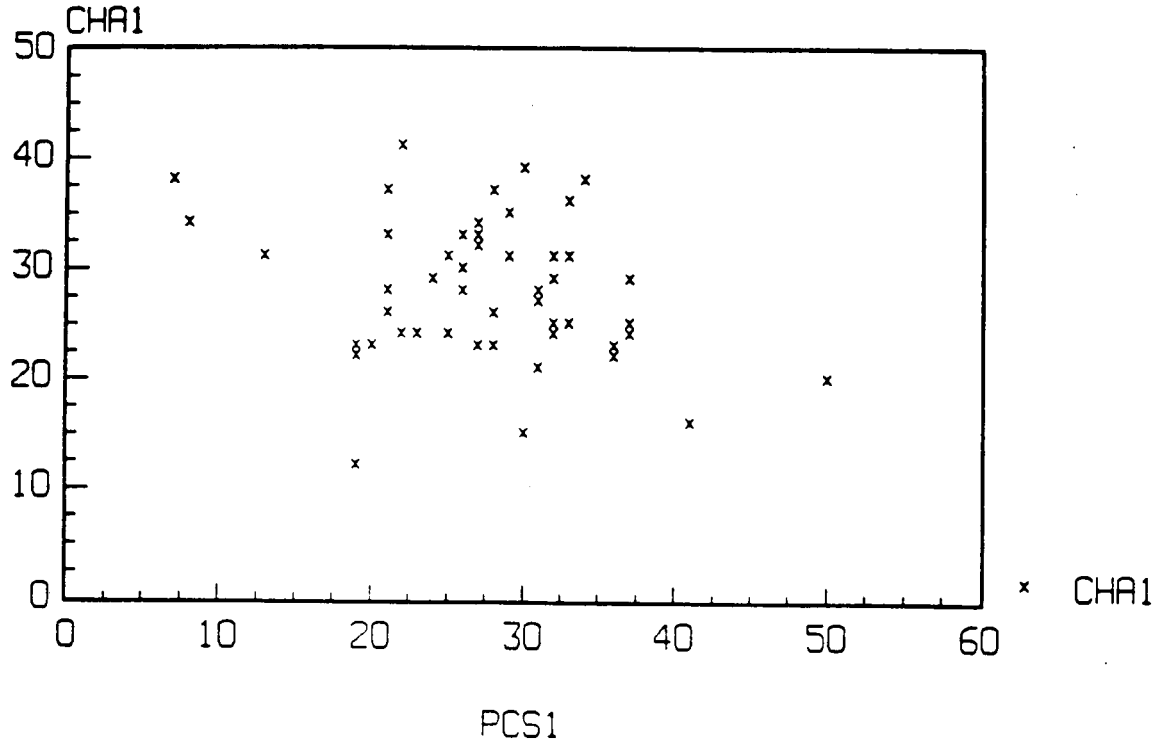

Figure 6

Scatter Plot of Parental Coping Scores and Challenge Scores

APPENDIX C

103 Peach Road
Oak Ridge, TN 37830

May 24, 1991

Dear Mother:

You will find enclosed a cover letter explaining my research and some forms that I am asking you to complete. Once you have completed these forms, would you please answer the following questions?

1. How long did it take you to complete all the forms?

_____
Was this amount of time too short?____too long?____just right?___

2. Did the cover letter answer any questions you might have had about the purpose of the packet given to you?
Yes ___ No ___
If no, what would improve this cover letter?

3. Were the instructions on the forms easy to understand? Yes___ No ___ If no, what would improve the instructions?

4. Were the statements in the forms easy to understand?
Yes____ No ____ If no, what would improve the statements in question?

If you have any additional comments, would you please write them on the back of the form? I would very much appreciate your mailing this page and the completed forms to me in the enclosed self-addressed stamped envelope as soon as possible.

APPENDIX C (continued)

Thank you for your valuable assistance in completing this pilot project. I will send you the results of the final research project when it is completed. If you have any questions, please feel free to contact me at 483-0775.

Sincerely,

Carol K. Witherington

APPENDIX D

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question, choose from the following alternatives:

0 never
1 almost never
2 sometimes
3 fairly often
4 very often

____ 1. In the last month, how often have you been upset because of something that happened unexpectedly?
____ 2. In the last month, how often have you felt that you were unable to control the important things in your life?
____ 3. In the last month, how often have you felt nervous and "stressed"?
____ 4. In the last month, how often have you dealt successfully with irritating life's hassles?
____ 5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
____ 6. In the last month, how often have you felt confident about your ability to handle your personal problems?
____ 7. In the last month, how often have you felt that things were going your way?

____ 8. In the last month, how often have you found that you could not cope with all the things that you had to do?

____ 9. In the last month, how often have you been able to control irritations in your life?

____10. In the last month, how often have you felt that you were on top of things?

____11. In the last month, how often have you been angered because of things that happened that were outside of your control?

____12. In the last month, how often have you found yourself thinking about things you have to accomplish?

____13. In the last month, how often have you been able to control the way you spend your time?

____14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

APPENDIX E

Items Comprising the Control Component

Below are some items that you may agree or disagree with. Please indicate how you feel about each one by circling a number from 0 to 3 in the space provided. A zero indicates that you feel the statement is not at all true; circling a three means that you feel the item is completely true.

As you will see, many of the items are worded very strongly. This is to help you decide the extent to which you agree or disagree.

Please read all the items carefully. Be sure to answer all on the basis of the way you feel now. Don't spend too much time on any one item.

0 - Not at all true
1 - A little true
2 - Quite a bit true
3 - Completely true

Personal Views Survey

Item 1. Most of the time, my bosses or supervisors will listen to what I have to say.

Item 2. Planning ahead can help avoid most future problems.

Item 3. I usually feel that I can change what might happen tomorrow by what I do today.

Item 4.* No matter how hard I try, my efforts will accomplish nothing.

Item 5.* I feel that it's almost impossible to change my spouse's mind about something.

Item 6.* When you marry and have children you have lost your freedom of choice.

Item 7.* I believe most of what happens in life is just meant to happen.

Item 8.* Most of the time it is just doesn't pay to try harder, since things never turn out right anyway.

Item 9. When I make plans I'm certain I can make them work.

Item 10. When performing a difficult task at home, I know when I need to ask for help.

Item 11.* I find it's usually very hard to change a friend's mind about something.

Item 12.* When I make a mistake, there's very little I can do to make things right again.

Item 13.* One of the best ways to handle most problems is just not to think about them.

Item 14.* I believe that most athletes are just born good at sports.

Item 15.* When other people get angry at me, it's usually for no good reason.

Item 16.* I feel that if someone tries to hurt me, there's usually not much I can do to try and stop him.

Item 17.* When I'm reprimanded at work/home, it usually seems unjustified.

* Scoring will be reversed. Refer to scoring key.

Items Comprising the Commitment Component

Item 1. I often wake up eager to take up my life where it left of the day before.

Item 2.* I find it difficult to imagine getting excited about life responsibilities.

Item 3.* Most people who work for a living are just manipulated by their bosses.

Item 4. No matter how hard you work, you never really seem to reach you goals.

Item 5. It doesn't matter if you work hard since only others profit by it anyway.

Item 6.* The most exciting thing for me is my own fantasies.

Item 7. I really look forward to my work.

Item 8. It's exciting for me to learn something about myself.

Item 9.* Thinking of yourself as a free person just makes you feel frustrated and unhappy.

Item 10.* I feel no need to try to do my best at work/home since it makes no difference anyway.

Item 11.* Most of my life gets wasted doing things that don't mean anything.

Item 12.* Lots of time, I don't really know my own mind.

Item 13.* Ordinary work is just too boring to be worth doing.

Item 14.* I find it hard to believe people who tell me that the work they do is of value to society.

Appendix D (continued)

Item 15.* I think people believe in individuality only to impress others.

Item 16.* Politicians run our lives.

Items Comprising the Challenge Component

Item 1. I like a lot of variety in my life.

Item 2.* I feel uncomfortable if I have to make any changes in my everyday schedule.

Item 3.* No matter what you do, the "tried and true" ways are always the best.

Item 4.* A person whose mind seldom changes can usually be depended upon to have reliable judgement.

Item 5.* I don't like conversations when others are confused about what they mean to say.

Item 6.* I won't answer a person's questions until I am very clear as to what he is asking.

Item 7. It doesn't bother me to step aside for a while from something I'm involved in, if I'm asked to do something else.

Item 8. I enjoy being with people who are unpredictable.

Item 9.* It bothers me when something unexpected interrupts my daily routine.

Item 10.* I don't like things to be uncertain or unpredictable.

Item 11.* People who do their best should get full financial support from society.

Item 12.* I have no use for theories that are not closely tied to the facts.

Item 13.* Changes in routine bother me.

Item 14.* Most days just aren't very exciting for me.

Item 15.* I want to be sure someone will take care of me when I get old.

PVS Scoring Key

Control	Commitment	Challenge
1	1	1
2	2*	2*
3	3*	3*
4*	4	4*
5*	5	5*
6*	6*	6*
7*	7	7
8*	8	8
9	9*	9*
10	10*	10*
12*	11*	11*
13*	12*	12*
14*	13*	13*
15*	14*	14*
16*	15*	15*
17*	16*	
18*		15 questions
17 questions	16 questions	

Hardiness Composite	0 - 144
Control Composite	0 - 51
Commitment Composite	0 - 48
Challenge Composite	0 - 45

Directions for scoring key.

The scoring for all items marked by an asterisk (*) should be reversed. That is 0 becomes 3, 1 become 2, 2 becomes 1, and 3 becomes 0.

To get component scores, reverse scoring on starred items then sum the items of each component. Hardiness component equals the sums of control plus commitment plus challenge.

APPENDIX F

Parental Coping Scale, Factor I

Shown below are things that parents sometimes do in reaction to the stress that may be involved with being the parent of a child with mental retardation. Below are thirteen ways that people react to stress. In the past week, how often did you react in each way because of having a mentally retarded child.

0 = Never
1 = Rarely
2 = Sometimes
3 = Frequently
4 = Most of the time

During the past week how often have you:

1.	Concentrated on something good that could come out of the whole thing.	0 1 2 3 4
2.	Felt better after praying.	0 1 2 3 4
3.	Reminded yourself that things could be worse.	0 1 2 3 4
4.	Got away from it for awhile; tried to rest or take a vacation.	0 1 2 3 4
5.	Did something totally new that you never would have done if this hadn't happened.	0 1 2 3 4
6.	Turned to work or other things to take you mind off the problem.	0 1 2 3 4
7.	Felt like you changed or grew as a person in a good way.	0 1 2 3 4
8.	Remembered (or tried to remember) times when your life was more difficult.	0 1 2 3 4

9.	Felt worse after praying.	0 1 2 3 4
10.	Rediscovered what is important in life.	0 1 2 3 4
11.	Tried to find meaning in the situation.	0 1 2 3 4
12.	Found new faith or some truth about life.	0 1 2 3 4
13.	Thought about people who were worse off than you.	0 1 2 3 4

APPENDIX G

The following questions are designed to give me some basic information on persons taking this survey. Please circle the number corresponding to the answer most descriptive of you, or fill in the blank. Please answer all questions. Thank you.

1. What is your age? _____

2. What is your marital status?

    1. never married
    2. married
    3. divorced/separated
    4. widowed

3. What is your educational level?

    1. less than high school
    2. high school graduate or GED
    3. college graduate

4. What is your annual income (if married, include spouse's income)

    1. below $6,000
    2. $6,000 - $12,999
    3. &13,000 - $24,999
    4. $25,000 - $39,999
    5. Above $40,000

5. What is your employment status?

    1. unemployed
    2. unemployed due to temporary lay-off
    3. employed part-time
    4. employed full-time

6. Are you the _____ for the mentally retarded teenager?

    1. natural or birth mother
    2. adoptive mother
    3. foster mother
    4. relative with full-time responsibility

APPENDIX H

APPENDIX I

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

College of Education

Department of Educational and Counseling Psychology

Dear Parent:

I am a graduate student at the University of Tennessee, Knoxville, and a mother of two mentally retarded teenagers. I am very much aware of the situations with which we have to deal on a day-to-day basis. I am conducting my doctoral research on what features help mothers cope with mentally retarded teenagers. I will share the results of my research with you, and I hope to use this information to develop programs to help mothers such as yourself.

If you agree to take part in this study, please fill out and return the forms within the next two weeks. I have included a self-addressed, stamped envelope for you to use. It should take you about thirty to forty-five minutes to fill out the forms. If you do not want to take part, will you please return the blank forms in the envelope provided?

I want to assure you that only I and my professor will have access to your name and address. Once the study is completed, your name and address will be destroyed.

Please know that you can choose to take part in this study or not. It is totally voluntary. The return of your completed forms will serve as your informed consent. I assume that you are the legal parent/guardian of the student in the LRE or CDC program. A letter describing the results of the study will be mailed to all mothers who have returned the completed forms.

I will be happy to answer any questions you may have. Please leave a message for me at 974-5131 or write to me, in care of the University of Tennessee, Knoxville, 108 Claxton Education Building, Knoxville, Tennessee, 37996. Thank you for taking the time to take part in this study.

Sincerely,

Carol K. Witherington

[illegible] Claxton, Knoxville, Tennessee 37996-3400 (615) 974-5131

APPENDIX J

108 Claxton Education Building
University of Tennessee Knoxville
Knoxville, Tennessee 37996

June 19, 1991

Dear Parent:

About two weeks ago I mailed you a set of forms to fill out. These forms concern my research on mothers of mentally retarded adolescents. I am interested in finding out how mothers cope with this situation. I think the findings of this research will have great value as a basis for future programs and services to help mentally retarded individuals and their families.

I would very much appreciate your helping me with this important research by completing these forms and mailing them to me in the self-addressed envelope provided. If the forms have been lost, please call me at 974-4151 and leave your name and phone number. I will get in touch with you about sending another set of forms.

Thank you very much for your help with this project.

Sincerely,

Carol Witherington
Ph.D. Student

VITA

Carol Kraemer Witherington was born in Denver, Colorado, on April 19, 1948. At the age of seven, her family moved to Knoxville, Tennessee where she has lived most of her adult life. She graduated from West High School in 1966 and from the University of Tennessee's College of Nursing in Memphis, Tennessee in 1971. She was married in 1969 and had a daughter in 1973 and another daughter in 1977.

Most of Carol's professional career has been in the field of psychiatric mental health nursing. She was a staff nurse for several years in inpatient psychiatric units before leaving to work full-time as a surgical assistant in an oral surgeon's office. After her divorce in 1981, she returned to school in 1982, obtaining a Master of Science in Nursing degree in 1984. From 1985 to 1990, Carol worked for Lakeshore Mental Health Institute as a clinical specialist. In Spring, 1991, Carol was appointed to the faculty at the University of Tennessee Knoxville, College of Nursing. She returned to graduate school in 1987 to begin work on a Ph.D. in Educational and Counseling Psychology. In December, 1991, she received the Doctor of Philosophy degree in Education with an emphasis in preventive mental health.

Carol is certified as a Clinical Specialist in Adult Psychiatric Mental Health Nursing by the American Nurses' Association. In addition, she is a member of Sigma Theta Tau, the international nursing honor society.

Carol is a member of the American Nurses' Association and the Tennessee Nurses' Association. She is also currently serving on the board of directors of both the Anderson County Association of Retarded Citizens and the Emory Valley Center--two nonprofit organizations that serve exceptional citizens in Anderson and surrounding counties. She is an active member of the United States Humane Society and the Anderson County Humane Society and serves as a foster owner of animals waiting for permanent homes through the Network Offering Animals Help (NOAH's). She is also an active supporter of Special Olympic activities and serves as a volunteer mother during many of these events.