FAMILY HEALTH IN THE FAMILIES OF THE YOUNG CHRONICALLY MENTALLY ILL

by

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CHAPTER ONE

Introduction

It has been estimated that there are approximately 2.5 million chronically mentally ill persons in the United States. The majority of these individuals reside in the community while the remaining are institutionalized (Krauss, 1989). While these numbers are somewhat difficult to ascertain with precision due to the wide dispersement of these individuals into various living and treatment settings, it is clear that chronic mental illness affects a significant number of people in our society.

Recently, it has become apparent that a new chronic psychiatric population is emerging. This population consists of young adults between the ages of 18 and 35 who are seriously impaired in their ability to function socially and psychologically (Wilk, 1988). These young adults have psychiatric diagnoses such as schizophrenia, affective disorders and personality disorders (Pepper, 1981). Chafetz and Barnes (1989) pointed out that demographic trends have contributed to the emergence of this new chronic psychiatric population. As the "baby boom" generation has come of age, there has been an increasing prevalence rate for mental disorders that begin in early adulthood - specifically schizophrenia and bipolar disorders (Chafetz & Barnes, 1989). These young adults do not present as chronically mentally ill in the typical sense as they have only periodic and infrequent contact with the mental health system and, in contrast with older psychiatric clients, have spent little time in the hospital (Pepper, 1981). Their mental illness is, however, clearly of a chronic nature as it results in significant functional disability.

This new generation of psychiatric clients has been indirectly affected by the deinstitutionalization movement that began in the
1960's. This movement was designed to provide more humane and less restrictive care for the mentally ill by shifting the focus of care from large state mental hospitals to community sites (Kane, 1984). Deinstitutionalization was grounded in the belief that, all things being equal, people fare better out in the community than in a restrictive institutional setting. Regrettably, all things have not been equal, and the fundamental support services and resources that were provided by the institution, such as food, clothing, and shelter, have not always been available to the chronically mentally ill in their home communities (Chafetz & Barnes, 1989). In addition, the community treatment alternatives have failed to keep pace with the growing needs of the chronically mentally ill. Another facet of this problem stems from the fact that as the cost of mental health care continues to rise, these young people are frequently underemployed and consequently underinsured. In addition, the ill young adult is often not eligible for mental health services under the parental insurance policy. Thus, these young chronic clients, unable to meet their basic needs or obtain adequate services, are dependent on their families for care.

Clearly then, the impact of a chronic mental illness is not limited to the affected individual. The family of the affected person will certainly be touched as the illness unfolds. Lefley (1987a) suggested that the impact on the family may, in fact, be significant. This prediction was based on her findings that more than one-third of the young adults with long-term mental illness lived with their families and, of those that did not, a high percentage were in on-going contact with the family (Lefley, 1987a). Thus, these families were not isolated from the day-to-day struggles of their ill member. Given that the course of a chronic mental illness may be prolonged and variable; it may place significant strain on the family unit. In addition,
relatives of this person will be challenged in a variety of ways as they attempt to deal with the tragic realities of a chronic mental illness and the accompanying caregiving responsibilities. Lefley (1987a) charged that many families took on this awesome caregiving role "not in lieu of, but in lack of, acceptable community alternatives" (p.1064).

Gerace (1988) asserted that the policy changes that led to deinstitutionalization of the mentally ill were made without consideration of the burden that would be imposed on the families who would now be attending to the needs of the mentally ill. It is generally agreed that the families of the young chronically mentally ill who are called upon to provide care for their loved one have a profoundly difficult task (Hatfield & Lefley, 1987). Goldman (1982) echoed this theme when he said that the families of the young chronically mentally ill have a very heavy burden and face numerous difficulties in caring for their chronically ill member. The chronic stress that these families lived with has been clearly identified in the literature (Baker, 1989; Lefley, 1987a). Much of that stress was due to the significant demands that the young chronically mentally ill member made on family resources such as time, energy, and finances (Baker, 1989; Lefley, 1987a; Willis, 1982). Several authors also spoke of the severe emotional and social strains that were placed on the family when this member was symptomatic (Lamb & Oliphant, 1978; Lefley, 1987a; Willis, 1982). Further, families experienced a profound sense of loss around the limitations that the chronic mental illness placed on the potential of the young person (Baker, 1989; Lefley, 1987a; Pringle & Pyke-Lees, 1982; Raymond et al, 1975; Rose et al, 1985; Willis, 1982). Families struggled with bitterness, resentment; feelings of hopelessness, and a sense of being trapped as they
attempted to care for their loved one (Baker, 1989; Kreisman & Joy, 1974).

The necessary investment in the care of the chronically ill family member can also have a negative impact on other family relationships (Kreisman & Joy, 1974; Lamb & Oliphant, 1978; Lefley, 1987a). The social stigma that is still attached to mental illness made for additional difficulties for such families (Baker, 1989; Gerace, 1988; Kreisman & Joy, 1974; Lefley, 1987a). Finally, the very system that should provide support and assistance to the families of the mentally ill - namely the mental health care system - was perceived as unhelpful, unresponsive, hostile at times, and as a source of stress (Holden & Levine, 1982; Lefley, 1987a; Lefley, 1987b).

The literature also gave some indication that responses to a relative's mental illness and outcomes related to the presence of such a member within the family unit vary over time (Terkelsen, 1987). This variation may be due to several factors including changes in the manifestations of illness, the degree of social and occupational disability accompanying the illness, hospitalizations, contact with professionals, a medication regime, or to other events occurring within the family unit that are unrelated to the mental illness. Terkelsen (1987) suggested that, in fact, responding to and coming to terms with the mental illness of a family member is a longitudinal process that actually encompasses ten different phases. The family begins by ignoring what is coming, proceeds to the first shock of recognition, becomes locked in a stalemate within the family unit, attempts to contain the implications of the illness, transforms the affected family member to official patienthood, searches for causes, searches for treatment, experiences the collapse of optimism, surrenders the dream; and finally attempts to pick up the pieces (Terkelsen, 1987). Overall,
the process that a family goes through in coming to terms with the reality of a chronic mental illness of a member is lengthy and painful.

It is apparent, then, that the families of the young chronically mentally ill struggle with deeply human problems that arise as a consequence of chronic mental illness in a loved one. These families live, on a day to day basis, with a tragedy and suffer ongoing anguish as a result of it. All of this occurs at a time when they expected to be moving away from extensive involvement with child rearing activities. In light of the realities of chronic mental illness, and as much of the responsibility for care of these persons has shifted to their families, there must be a concern for what happens to these family units. There is clearly a potential for a decreased level of health for the family members as well as the entire family unit. Hatfield and Lefley (1987) shared this concern in that they suggested that the quality of life and the well-being of all the members of these families were priorities.

On the other hand, there were those that suggested that not all families caring for a chronically mentally ill member experienced difficulties. Some of these families identified very few problems and perceived their ill member to be only mildly burdensome (Crotty & Kulys, 1986). Further, Wilk (1988) found that families with a chronically mentally ill young adult living in the family home were actually more cohesive than those with such a member living outside the family home. This research would suggest, then, that these families are not at a significant risk for decreased health.

Given these varied patterns of family reaction to the chronic mental illness of a family member, it is imperative that there be a greater understanding of the experience of and the impact on a family caring for a chronically mentally ill member. This issue has received

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minimal attention over the years. The families of chronically mentally ill persons have been largely overlooked and taken for granted by the mental health system and, as a consequence, mental health professionals do not have a clear understanding of the realities of their situation (Hatfield & Lefley, 1987). It is likely that there are multiple factors that determine a family's response to the mental illness of a member.

The attempt at a greater understanding of family reactions to the chronic mental illness of a relative is appropriately undertaken by the discipline of nursing. Nursing seeks to address itself to the human responses, of both clients and their families, to actual or potential health problems (ANA, 1980). These responses may be of an emotional, physical, behavioral, social, or spiritual nature. Individuals may be responding to their own actual or potential health problems while families may be responding to the health problems of one of their members. Such a focus recognizes the interaction and interdependence of members of a family unit. Illness in one member will inevitably affect the family of that person. In turn, then, the family unit has the potential for an altered level of health as a result of the difficulties associated with an illness of one of its members. Therefore, nursing's disciplinary focus provides a good fit with the study of the families of the young chronically mentally ill.

The Problem

The discipline of nursing is seeking to create a unique body of knowledge that will guide its professional endeavors with persons responding to health problems. This distinct body of knowledge will constitute the science of nursing. The science of nursing should be comprised of theory that has been empirically tested and research that is conceptually based. This will lead to the development of
appropriate intervention strategies for clients with distinct health care needs. An assessment of the body of knowledge pertaining to the families of the young chronically mentally ill revealed that much work is yet required in order to get to the point of providing theory based and empirically verified nursing care that will enhance their health.

A review of the literature pertaining to the families of the young chronically mentally ill indicated that the initial work in the area was done by disciplines other than nursing. Nursing has addressed itself to this population only in the recent years. While nursing has apparently attempted to build on the work of other disciplines with this population, it has not successfully defined its unique perspective of the problem. Perhaps this was due to the fact that much of the nursing literature to date has made little or no reference to a nursing conceptual framework that served as the basis for its work. Thus, there is a need for studies of these families that proceed from an identified nursing theoretical vantage point.

While there is a growing body of literature relating to the families of the young chronically mentally ill, much of it is anecdotal in nature. There are a limited number of research studies in this area. Those that do exist contain conceptual and methodological limitations. In addition, many of the existing studies are descriptive or correlational. Only recently have attempts been made to identify variables that might predict outcomes. Consequently, further investigation is needed to expand this limited research-based literature, improve its quality by addressing methodological and conceptual limitations, and continue the effort to raise the level of knowledge available. Therefore, further research on the families of the young chronically mentally ill is necessary to fill several current gaps in the existing knowledge base.
As was noted previously, there is indication that the responses of families to the experience of having a chronically mentally ill member vary. To date, there is no satisfactory explanation of these differing responses. It is imperative that a greater understanding of this variation be developed as this could lead to more positive outcomes for this population. Such enhanced understanding can be accomplished by exploring the factors that contribute to or detract from family health in families attempting to cope with the stress of a member's chronic mental illness. The research based literature provided initial direction in terms of pertinent factors that might be related to family health within these families.

Purpose

The intent of this nursing research study was to contribute to the science of nursing. It has done so by providing empirical verification of a middle-range theory of family health in the families of the young chronically mentally ill.

Specifically, this nursing study was concerned with the relationship between family stressors, family coping, family perception of the client's level of health, time since diagnosis of mental illness, and family health in the families of the young chronically mentally ill. The actual focus of this investigation was on the impact of each of these factors on the outcome of family health. The aim of the study was to determine whether or not these factors predict as well as influence family health.

Theoretical Framework

The need for generating a unique body of knowledge that is specific to the discipline of nursing has been recognized since the time of Florence Nightingale (1859). This distinct body of knowledge constitutes the science of nursing and serves to guide the practice,
research, and education of the discipline. The science of nursing addresses the human responses, of both clients and their family members, to illness (ANA, 1980). The construction of such a body of knowledge entails the delineation of meta-theory, grand nursing theories, middle-range theories, and practice theories (Walker & Avant, 1988). While the discipline has several grand theories or conceptual frameworks that address the metaparadigm concepts of person, health, environment, and nursing (Fawcett, 1984), there is insufficient development of middle-range theories. Several decades ago, Jacox (1974) began calling specifically for the development of middle range theories of nursing. More recently, Meleis (1985) has endorsed the development of such middle range theories as appropriate given the fact that nursing has now identified and broadly agreed upon the boundaries of nursing knowledge and nursing domain concepts. It appears, then, as though there is support for the position that theory development at the middle-range level is important for the advancement of the discipline of nursing.

Middle-range theories are those that identify specific aspects of a phenomenon to be studied as well as contain theory abstractions that are close enough to reality to be incorporated into propositions that can be empirically tested (Merton, 1967; Fawcett & Downs, 1992). These theories are necessarily more specific to practice and research problems. Middle-range theories can be constructed by means of several different theory development strategies (Chinn & Jacobs, 1983; Meleis, 1985; Walker & Avant, 1988). One such approach, namely deduction, is used herein to develop a theory of family health in the families of the young chronically mentally ill from King's Open Systems Model. Both the grand theory and the theory development effort will be discussed in turn.
King (1968, 1971, 1981, 1990, 1992) has developed and refined a conceptual framework for nursing. This conceptual framework was seen as the most applicable to the designated population and theory development effort. King (1968, 1971, 1981, 1990, 1992) made several basic assumptions about persons, health, environment, and nursing and thus addressed the metaparadigm of the discipline of nursing (Fawcett, 1984). King's development of the metaparadigm concept of person was, perhaps, the most complete. The human being was seen as a unique total system which was open and interacting freely with the environment. The person was further described in terms of three dynamic and interacting systems - personal, interpersonal, and social systems (See diagram in Appendix A). These systems referred to the individual, groups, and society respectively and each was described in terms of relevant concepts (King, 1981, 1992). For example, the nurse must have an understanding of self, body image, perception, learning, growth and development, personal space, and time in order to understand the personal system (King, 1981; King, 1992). Similarly, the concepts that King (1981, 1992) viewed as essential to the interpersonal system were role, communication, interaction, transaction, interpersonal relations, and stress. King (personal communication, July 12, 1990) indicated that perhaps her concept of stress should be changed to stressors. This proposed change has not yet been reflected in the literature. Finally, the nurse intervening at the level of the social system must take into account the concepts of organization, power, authority, status, and decision-making (King, 1981, 1992). While each of these concepts was designated as being applicable to a particular system, King (1992) indicated that the concepts were arbitrarily placed in one of the three systems. Further, since she advocated an open systems model the concepts were not restricted to a particular system but
rather can be used interchangeably. These interacting systems constitute the essence of King’s model.

Recently, King (1992) has suggested that the concept of coping could be added to her conceptualization. Her most recent publication, that discussed the conceptual framework, (King, 1992) did not specify which of the three systems this concept should be placed under. In a previous conversation, Dr. King (personal communication, July 12, 1990) suggested that coping might pertain to either the personal or interpersonal systems. Given her statement regarding the open systems nature of her conceptual framework and the arbitrary placement of concepts under a particular system, the placement of the concept of coping is not a great concern.

In light of the theory that will be deduced from this framework, certain of the above concepts will be defined. The first of these is perception. Perception can be simply understood as each individual’s representation of reality (King, 1981). More specifically:

Perception is a process of organizing, interpreting, and transforming information from sense data and memory. It is a process of human transactions with the environment. It gives meaning to one’s experience, represents one’s image of reality, and influences one’s behavior (King, 1981, p. 24).

King (1981) suggested that the nurse must always be aware of the client’s perception of the presenting health care situation. In fact, nurses and clients need to verify perceptions in order to effectively plan care to achieve goals. This is particularly so when nurses deal with families and their health (King, 1983). King (1981) was clear about the fact that perception is an essential concept in her framework.
Time was defined by King (1981) as the "duration between one event and another as uniquely experienced by each human being" (p. 45). She identified several characteristics of time as well (King, 1981). Time was seen as unidirectional and measurable. It was also universal in that it is inherent in all life processes. Time was relational in the sense that successive events follow one another and are related. Finally, time was subjective as it varies with one's perception of events. The nurse's responsibility is to recognize the potential impact of time on health (King, 1981).

King (1981) viewed stress as an essential component of life. She asserted that stress is both negative and positive, constructive and destructive. Stress assists persons in achievement as well as continuously wearing them down. King (1981) spoke of stress as "the energy response of an individual to persons, objects, and events called stressors" (p. 98). Her most formal definition stated that:

Stress is a dynamic state whereby a human being interacts with the environment to maintain balance for growth, development, and performance, which involves an exchange of energy and information between the person and the environment for regulation and control of stressors (King, 1981, p. 98).

It was clear that in her discussion of stress, King (1981) repeatedly refers to stressors. Stressors were, apparently, that which cause stress. As mentioned previously, they can present in the form of persons, objects, or events (King, 1981). At one point, King (1981) indicated that stressors can be categorized as physical, environmental, chemical, physiological, emotional, and social. Stressors were also that which the individual needs to adjust to in order to maintain health (King, 1981). King (1981) was explicit in her expectation that a responsibility of the nurse was to reduce stressors for the client as well as the family. The nurse must be able to identify client...
stressors and then intervene to mediate their effect on the client. King (1981) suggested that there are pertinent nursing interventions that can be used to alleviate the impact of stressors.

King (personal communication, July 12, 1990) has recently indicated that she believes that the concept of stress in her conceptual framework should be replaced by the concept of stressor. King’s rationale for this lay in her belief that if nurses can identify client stressors then they can teach appropriate coping strategies. It should be noted that this suggested modification from stress to stressor has not yet been reflected in the literature.

Another recent change in King’s conceptual framework pertains to the concept of coping. King (1992) suggested that this concept be added to the conceptual framework. As previously indicated, it is unclear as to whether this concept pertains to the personal or interpersonal systems. In addition, the specific definition of the concept has not been set forth to date. Very recently, King (personal communication, June 21, 1993) confirmed the addition of coping to the conceptual framework, but did not offer a definition. In her earlier works, King (1981, 1983) simply stated that nurses were to help individuals and families cope with stressors in their lives. By way of example, King (1983) suggested that nurses might be involved in assisting families to cope with situational or maturational crises, deal with conflict, negotiate rapid change, or deal with illness of a member. Perhaps the best direction at present comes from King’s statement (personal communication, July 12, 1990) that her interest in and development of this concept would be influenced by the work of Lazarus. Lazarus defined coping as:

...the constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person (Lazarus & Folkman, 1984, p.141).
From this definition it is obvious that coping was viewed as an ongoing process and that it did not necessarily imply notions of success or mastery over the confronting demands. Coping was further described as either problem-focused or emotion-focused coping (Lazarus & Folkman, 1984; Monat & Lazarus, 1985). Problem-focused coping was directed at managing or altering the problem causing the distress while emotion-focused coping was directed at regulating the emotional response to the problem. Thus, it is presumed that the definition of the concept of coping that King would incorporate into her conceptual framework would resemble that which was explicated in these recent works of Lazarus.

The nurse may intervene at any one of the previously described system levels in an attempt to maintain health. King (1981, 1990) asserted that the focus of nursing was the care of human beings, be they individuals, groups, or society, for the purpose of assisting them to maintain their health. Further, King (1981, 1990) stated that the explicit goal of her entire conceptual framework was health. King provided two distinct definitions of health. The first of these was the most detailed and stated:

Health is defined as dynamic life experiences of a human being, which implies continuous adjustment to stressors in the internal and external environment through optimum use of one's resources to achieve maximum potential for daily living (King, 1981, p. 5).

In her second definition of health, King indicated that health was "an ability to function in social roles" (King, 1981, p. 143). These definitions, taken together, provided a fairly comprehensive sense of how she views health. The first definition spoke to the process of attaining health while the latter definition identified the outcome criteria with which a determination of the presence of health can be made.
Since the previously defined concepts from King's framework will be used to deduce a theory of family health in the families of the young chronically mentally ill, a word should be said about how this framework addressed families. While King's focus was on individuals as the conceptual framework was developed, the family has consistently been identified as an important and appropriate system for nurses to address. The family was identified as a social system possessing the same characteristics as other such systems (King, 1981). Special mention was made of the fact that within the context of the family, individuals made their debut into their first social group. They subsequently learned ways of meeting their basic needs through interactions as members of the group called family. In King's major work (1981), the family's functions were identified as transmission of culture and socialization.

King (1983) has since been asked to apply her theory specifically to families. King began by referring, as she had in her earlier work, to the family as a social system. In this sense, the family "is seen as a group of interacting individuals .... bound together by a common purpose" (King, 1983, p. 179). The family was further described as a basic structural and functional unit in society that helps children grow to adulthood. Although the structure of this unit differs from one culture to another, several factors were consistently associated with the family. These factors included organization, age differences, power, status, authority, and decision-making (King, 1983). It should be noted that these factors, with the exception of age differences, were simply the characteristics that King (1981) had set forth for social systems.

Having defined and described the characteristics of the family in this way, King (1983, p. 180), at another point, indicated that she was
going to deal with the family as a small group called an interpersonal system. In addition, King saw her theory of goal attainment (King, 1981), which was derived from the interpersonal system of her conceptual framework, as readily applicable to families. Thus, one is left with some confusion as to how the family should be conceptualized according to King.

In seeking to clarify some of these issues, this writer spoke to Dr. King. She indicated, first of all, that her conceptual framework was definitely applicable to families (King, personal communication, July 12, 1990). In addition, King suggested that the family can be conceptualized as either a social system or an interpersonal system. Further, King stated that given the open systems nature of her framework, any of the concepts of the conceptual framework could be applied to the family unit. In other words, concepts from the personal, interpersonal, and social systems might be applicable to the family. This position has since been articulated in the literature (King, 1992).

Toward a Middle-range Theory of Family Health in the Families of the Young Chronically Mentally Ill

This middle-range theory was developed using a deductive approach. Deduction is a process of formulating a theory from another theory or hypothesis (Walker & Avant, 1988). The original theory is typically broader and more comprehensive and resembles a general law (Walker & Avant, 1988). The new theory would be deductively constructed by logically extending an established theory or conceptual framework (Chinn & Jacobs, 1983). The original theory is established in the sense that it is assumed to be true (Jacox, 1974). Thus, deduction proceeds by utilizing a previously existing and established theory as a basis for a new theoretical endeavor. The new theory, created by
deduction, should be clearly derived from and related to the original theory.

The middle-range theory regarding family health in the families of the young chronically mentally ill was deduced from King's conceptual framework. King's more general grand theory was logically extended to address more specifically a particular population and unit of analysis. This writer chose to conceptualize the family as an interpersonal system, although selected concepts from the personal system were utilized as well. King's concepts were arranged into new propositions that suggested a relationship between several factors and family health.

Theory

Family stressors, family coping, family perception of client's level of health, and time since diagnosis of mental illness affect family health.

Assumptions

1. All families have the potential of a member developing a chronic mental illness.
2. All families prior to the onset of a member's chronic mental illness possess a degree of family health.
3. All families with a member diagnosed with a chronic mental illness have the potential to experience an altered level of family health.

Propositions

1. The level of family stressors is inversely related to family health.
2. The family's ability to cope is directly related to family health.
3. The family's perception of the level of client health
is directly related to family health.

4. The length of time since diagnosis of mental illness is inversely related to family health.

A model of the middle range theory of Family Health in the Families of the Young Chronically Mentally Ill is found in Figure 1.

Explication of the Derivation of the Middle-range Theory of Family Health

The concepts utilized in this theory of family health can be traced directly back to King's (1981, 1992) conceptual framework. Table 1 shows this clearly.

While King does not place health in one of her systems, this concept is clearly identified as the goal of nursing and thus as the goal of her conceptual framework for nursing (King 1981, 1983, 1990, 1992). Specifically, the discipline of nursing is about the task of helping "individuals and groups attain, maintain, and restore health" (King, 1981, p. 13). If individuals and groups are to be assisted toward health, the nurse must understand their complex dynamics in terms of personal, interpersonal, and social systems (King, 1981, 1992). If one is to understand these systems, one must be cognizant of the relevant concepts. King made this link when she asserted that knowledge of the concepts pertaining to these systems was essential for nurses working with individuals and families to maintain their health (1981, 1983, 1992). Given that, it seems reasonable to deduce relationships between several of these concepts and family health in a middle-range theory.

The assumptions of this middle-range theory are logical extensions of King's conceptual framework. The first assumption asserts that all families have the potential of a member developing a chronic mental illness. This assumption is deduced from King's statement that
FIGURE 1
Model of the Middle-Range Theory of Family Health in the Families of the Young Chronically Mentally Ill

Family Stressors

Family Coping

Family Health

Family Perception of Client's Level of Health

Time Since Diagnosis of Mental Illness
<table>
<thead>
<tr>
<th>PERSONAL SYSTEMS</th>
<th>INTERPERSONAL SYSTEMS</th>
<th>SOCIAL SYSTEMS</th>
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<tr>
<td>Self</td>
<td>Role</td>
<td>Organization</td>
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<tr>
<td>Body Image</td>
<td>Communication</td>
<td>Power</td>
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<tr>
<td>Perception*</td>
<td>Interaction</td>
<td>Authority</td>
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<td>Learning</td>
<td>Transaction</td>
<td>Status</td>
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<tr>
<td>Growth and Development</td>
<td>Interpersonal Relations</td>
<td>Decision Making</td>
</tr>
<tr>
<td>Personal Space</td>
<td>Stress/Stressors*+</td>
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<td>Time*</td>
<td>Coping*</td>
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<td>Coping*</td>
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*Concept utilized in middle-range theory of family health
+Proposed modification of King's conceptual framework
(King, personal communication, July 12, 1990)
"illness may strike people at any age and in any socioeconomic group" (King, 1981, p. 4). The second assumption suggests that prior to the onset of a member’s mental illness, all families possess a degree of family health. This assumption stems from King’s (1981, 1983, 1990) discussion of levels of health that individuals and families possess rather than health as an all or nothing phenomenon. The third, and final, assumption indicates that all families with a member diagnosed with a chronic mental illness have the potential to experience an altered level of family health. This assumption relates to King’s (1981, 1983, 1990) definition of health which suggested that individuals and families must adjust to stressors (i.e. a chronic mental illness) on an ongoing basis. Since this adjustment is continuous and dynamic it seems plausible that this process might lead to an alteration in the level of health that the family possesses.

In a similar manner, the propositions of this middle-range theory can be traced directly back to the work of King. Proposition #1 suggests an inverse relationship between family stressors and family health. In her 1981 work, King asserted that "increase(s) in stress are potential predictors of subsequent illness or disease" (p. 98). Likewise, King (1983) suggested that "too many stressors in the family environment ... may precipitate a crisis" (p. 182). Presumably, a crisis could lead to a lesser degree of family health for a period of time.

Proposition #2 sets forth a direct relationship between family coping and family health. King (1983) asserted that when a family is unable to cope with an event or health problem, they will often enter the health care system and request assistance from health professionals. King (1981, 1983) spoke repeatedly about the role of the nurse, as a health care professional, in assisting individuals and
families to cope with events/stressors. Given that the goal of all of nursing's endeavors is to assist individuals and families to maintain health (King, 1981, 1983, 1990, 1992), one can conclude that enhancement of a family's coping skills would lead to a greater degree of health. The converse could also be deduced. Thus, proposition #2 is an appropriate extension of King's conceptual framework.

Proposition #3 proposes a direct relationship between the family's perception of the client's level of health and family health. King (1983) indicated that "the family's perception of an individual member's health state, disability, illness, and incapacity is important to assess through nurse-family interactions" (p. 181). The literature pertaining to the families of the young chronically mentally ill also supported the significance of the family's perception of the client's level of functioning and related it directly to family burden (Coyne et al, 1987; Creer et al, 1982; Doll, 1976; Fadden et al, 1987; Gibbons et al, 1984; Grad & Sainsbury, 1963; Gubman et al, 1987; Holden & Lewine, 1982; Hooley et al, 1987; Lefley, 1987c; Noh & Avison, 1988; Runions & Prudo, 1983; Thompson & Doll, 1982). A presumption was then made that family burden and family health are related to one another in an inverse manner. Given that, proposition #3 was deduced using both King's conceptual framework and the existing literature on these families.

The final proposition in this middle-range theory addresses the relationship between the time since diagnosis of the mental illness and family health. Proposition #4 suggests an inverse relationship between these two concepts. King (1983) suggested that time would influence behavior in family situations. The literature related to the families of the young chronically mentally ill suggested that as time passed there was an increase in the distress and burden experienced by the
families (Grad & Sainsbury, 1963; Hoenig & Hamilton, 1966; Lefley, 1987a; Noh & Turner, 1987; Seymour & Dawson, 1986). It is from these two sources, then, that proposition #4 was deduced.

Thus, the theoretical framework for this study is a middle-range theory that was deduced from King's Open Systems Model. It is now necessary to seek empirical validation for this newly constructed theory. This nursing research study will attempt to generate this evidence.
CHAPTER TWO
Review of the Literature

Introduction

This review of the literature will initially examine the state of the science of family health research. Following that, an overview of a related body of literature, that of families coping with a member who has Alzheimer’s disease, will be provided. Finally, the studies that have been done to date with the families of the chronically mentally ill will be reviewed. This body of literature will be examined in terms of how it relates to the variables of interest in this study and its limitations will be identified.

State of the Science of Family Health Research

The study of families has long been undertaken by disciplines other than nursing. These disciplines have produced research on the family that subsequently led to the creation of a unique body of knowledge and a science of families. Hill (1981) provided an overview of this body of knowledge and noted an increased quality and quantity of family research during the period from 1950 to 1980. He also identified the trends evident in family science and research during this same period which included the following areas of inquiry: the interface between family and social networks, family exchanges with the workplace, family interaction with health care delivery systems, a life-span orientation toward family development, research on newly defined social problems, studies recognizing cultural pluralism in America, and research looking at the impact of public and private policies on families (Hill, 1981). At this same time, there was also an increasing number of studies that addressed the relationships between health, the family, and the individual (Murphy, 1986).
In a decade review of the 1980's, Berardo (1990) identified twenty-one major topics addressed by family research studies. Included in this list was the area of the family and health. Ross et al (1990) conducted the specific decade review of studies related to family and health. According to these authors, this body of literature spoke to the question: "How does the family affect the health of its adult members?" (Ross et al, 1990, p. 1059). The family studies of the 1980's sought to answer that question by examining four factors, including marriage, parenthood, women's employment, and family social status, and their relationship to individual health outcomes. The research identified basic patterns and attempted to explain them. For example, this group of studies found that married persons were in better health than nonmarried persons, but parents did not experience a greater degree of health than nonparents. In addition, women's employment and high family socioeconomic status were generally related to more positive physical and psychological health outcomes. The basic explanations for these results centered around economic well-being and social support. The suggestion was made that the family and health research of the 1990's should address the impact of the family on one's sense of control as this may be an important link to health. (Ross et al, 1990)

While the family and health studies from disciplines outside of nursing provide some interesting and useful information, it is clear that they do not address the concept of family health per se. Obviously, studies on family and health differ greatly from studies on family health. Studies of family health would speak to the health of the collective or the family unit. Such a perspective may be most appropriately taken by the discipline of nursing in that its phenomenon of interest is the health of individuals and families.
While the discipline of nursing has been caring for the needs of families for years in clinical practice, theoretical and research endeavors in this area have lagged far behind. Much of the reason for this lag can be traced to a lack of conceptual clarity. Specifically, nursing has for many years proposed to deliver family-centered care or care directed to individuals in the context of their family units (Whall, 1986). Over a decade ago, however, the American Nurses Association spoke of the family unit as the recipient of care (ANA, 1980). Thus, two scenarios are suggested - the family-as-context and the family-as-client.

The conceptual confusion associated with these two possible methods of viewing the family became particularly evident when there was explicit discussion of the metaparadigm of nursing and the family. Nursing’s metaparadigm (Fawcett, 1984), which identified person, health, environment, and nursing as the concepts of interest to the discipline, has generally been interpreted as referring primarily to individuals and their health care needs. When the issue of the family as a focus of nursing’s attention has been raised, there was confusion as to whether it actually fit in the metaparadigm (Murphy, 1986). If it did, should the family be conceptualized as "person" or as "environment" within this metaparadigm (Murphy, 1986)?

Gilliss (1989) asserted that ideally nursing care would be offered to both the client within a family unit and to a family unit as client. However, she was equally as clear that, in terms of the conceptual development of the field of family nursing, the family-as-client perspective must be taken (Gilliss, 1991).

Gilliss (1991) suggested that another challenge facing the subspecialty of family nursing is theoretical in nature. The development of theories specific to family nursing is a pressing need.
At least two positions are in existence regarding how to develop or use theory in family nursing. The first of these was articulated by Fawcett and Whall (1990; Whall & Fawcett, 1991) when they asserted that either existing or new nursing theories should be used to conceptualize family nursing and should serve as the basis for theory-testing work in this field. They suggested that it was inappropriate to use or test sociological theories of family behavior in nursing science. Examples of the approach articulated by Fawcett and Whall can be found in the nursing literature (Clements & Roberts, 1983; Fawcett et al, 1986; Fawcett & York, 1986; Frey, 1989; Friedemann, 1989a, Friedemann, 1989b; Whall & Fawcett, 1991).

The second approach to theory development in the area of family nursing was articulated by Mercer (1989). She proposed a contrasting view, from that of Fawcett and Whall, in that she believed that, while some adaptations may be necessary, the social science theories of family merited our review and use. Gilliss (1991) took this position one step further by drawing on Meleis’ (1985) ideas of primitive and derived concepts. Primitive concepts were introduced in a theory as new and defined within the theory. Derived concepts come from outside the theory and take on a new meaning within the theory they are placed into. Gilliss (1991) suggested that the introduction of primitive or derived concepts into existing social science theories of the family will result in applications that are unique to the discipline of nursing and can, in fact, further the development of a theory of family nursing.

Research regarding family phenomena is beginning to become more prevalent within nursing’s literature as well. While family nursing research once focused upon individuals and their relationships to specific family variables (Murphy, 1986), there is now evidence of
studies that deal with the family as a unit or a whole. This type of research is, no doubt, a result of the previously identified discussions within the discipline related to the concept of family nursing and its theoretical development. In addition, a focus on the health of the family as a whole has been assisted by the discussions of nurse researchers regarding the appropriate unit of analysis in family nursing research (Barnard, 1984; Gilliss, 1983; Gilliss, 1991; Moriarty, 1990; Uphold & Strickland, 1989). These nurse researchers suggested that it is essential to recognize that if one's conceptual unit of interest is the family then one's empirical data should be reflective of the entire family unit. Research related to this area of inquiry has also progressed as a result of the development of instruments, within the discipline, that are reflective of family functioning and family health (Caldwell, 1988; Feetham, 1982; Friedemann, 1989b; Friedemann, 1991; Rawlins et al, 1990). While some of these instruments are limited by their psychometric data or their focus on a specific population, they, nevertheless, represent progress related to studying the family from a perspective that is unique to the discipline of nursing.

Recognizing a need for greater understanding of family phenomena in health and illness, a small group of family nurse researchers convened for the first time in the Fall of 1984. Out of this meeting came an agenda containing five foci for future family nursing research endeavors: (a) theoretical perspectives on the family, (b) natural transitions and the family, (c) health and the family, (d) illness and the family, and (e) health policy and the family (Murphy, 1986). Several recent publications have documented significant scholarly activity and research in these areas (Bell et al, 1990; Gilliss et al, 1989; Whall & Fawcett, 1991). Thus, there is evidence
that nursing, whose disciplinary concern is health, is moving beyond a singular focus on the health of individuals toward dealing with family units and their collective health.

Overview of Literature Pertaining to Families Coping with a Member Who has Alzheimer's Disease

The families caring for a member with Alzheimer's disease share some commonalities with the families of the young chronically mentally ill. Each group of families is dealing with an illness that is robbing them of the relative that they had come to know and love. Wasow (1985), in comparing the two situations, suggested that Alzheimer's disease represented the loss of the individual's past while schizophrenia represented the loss of the person's future. These illnesses have devastating symptoms and are chronic in nature. While the age of the affected person and the presentation of Alzheimer's disease is different than schizophrenia or a bipolar disorder, it still seems reasonable to assume that knowledge can be gained by examining the literature pertaining to the families of these individuals. Since both groups of families are engaged in ongoing caregiving that is extremely challenging, it is possible that an enhanced understanding of this phenomenon might emerge by viewing it in a broader context. Lefley (1987a) concurred with this position in that she noted that the experiences of aging parents caring for young adult children with schizophrenia are far closer to those of aging children caring for Alzheimer's patients than they are to those of caretakers living with persons with any other type of disability.

While the Alzheimer's patient is obviously the primary victim of this disease, family caregivers of these persons have been designated as the "hidden" victims (Zarit et al, 1985). This disease has been described as the most socially disruptive ailment due to the
potentially severe burden that it might place on families (Brody, 1981). In a comprehensive decade review of Alzheimer’s disease and family caregiving, Kuhlman et al (1991) concurred with this position in that they indicated that the burden of care most often fell on the family and these family caregivers were, indeed, overburdened. This family burden was characterized as multifaceted in that it affected the physical, psychologic, emotional, social, and financial wellbeing of family members caring for the demented older adult (Given et al, 1988). The specific reactions of family caregivers and their feelings of burden may be determined, however, by complex interactions between aspects of prior role relationships between caregiver and patient, patient characteristics, existing role relationships of the caregiver, and the resources available in the caregiving environment (Given et al, 1988).

Several studies have been conducted that appear to be in accordance with the model proposed by Given et al (1988). These studies sought to determine which, of a variety of possible factors, influenced outcomes in the family caregivers of Alzheimer’s patients. Robinson (1989) conducted a study of wife caregivers to husbands with irreversible memory impairment, which was caused by Alzheimer’s disease in 62% of the cases in this study. She found that these caregivers had a level of depression that reflected a need for professional intervention and that 27% of the total variance in this depression could be accounted for by caregiver health and attitude toward asking for help (Robinson, 1989). In another study of impaired elderly, it was found that 44-48% of the variance in family caregiver psychological distress or depression (p<.000) could be explained by mental impairment of the elder, years of caregiving, and satisfaction with support (Baillie et al, 1988). The relationship between subjective burden and
coping strategies of family caregivers to Alzheimer's patients was explored by Pratt et al. (1985). Burden scores were significantly related to the caregivers' health status in that caregivers rating their current health as excellent or good had significantly lower burden scores than did those who rated their health as fair or poor ($F(3,233) = 9.23$). In addition, burden scores were related to several coping strategies including: confidence in problem-solving ($r=-.18$, $p<.01$), reframing problems ($r=-.15$, $p<.05$), passivity ($r=.26$, $p<.01$), spiritual support ($r=-.25$, $p<.01$), and reliance upon extended family ($r=-.16$, $p<.01$) (Pratt et al., 1985). Finally, Collins et al. (1991) explored the knowledge and use of community resources among family caregivers of Alzheimer's disease patients. They found a significant positive relationship between the level of caregiver depression and the number of community services the caregiver lacked knowledge about ($r=.28$, $p<.05$). Conversely, family caregivers who believed services were available, even if they did not utilize them, were less depressed ($r=-.29$, $p<.05$). Thus, there appeared to be emerging support for various caregiver factors, client factors, and coping strategies as mediators of the burden experienced by families who have a member with Alzheimer's disease.

Qualitative methodologies have also been utilized to study the experience of families caring for a member with Alzheimer's disease. Wilson (1989) used a constant comparative method to generate a grounded theory that explicated the process of family caregiving for a relative with Alzheimer's dementia. She found that much of this experience involves coping with negative choices wherein all possible alternatives are undesirable. Wilson (1989) captured this experience in a process, entitled "Surviving on the Brink", that included the stages of (1) Taking it on, (2) Going through it, and (3) Turning it over. "Taking
it on" involved assuming the caregiving responsibilities for a demented loved one in addition to prior responsibilities. This stage entailed a drastic life-style change. "Going through it" involved dealing with an ongoing sequence of problems created by the demands of caring for the ill relative. The final stage of "turning it over" encompassed the gradual and considered process of giving up control and turning over the caregiving role to others.

Gubrium (1988) conducted a qualitative analysis of the family responsibility and caregiving in Alzheimer's disease. He presented data that illustrated how the interpretation of familial factors, such as social comparison, issue contingency, family history, and kinship priority, shaped the meaning of responsibility in caregiving (Gubrim, 1988). Specifically, he found that the interpretation of responsibility toward the Alzheimer's patient was based on social comparisons rather than kinship. Issue contingency or an "it depends" quality was operative in the caregivers' evaluation of available support. In addition, the third factor of family history explicated how traditional family understandings affected the assignment of member responsibility. Finally, the kinship priority factor dealt with the question of whether one was an adult child to one's parents first or a parent to one's children before all. This determination was significant in shaping the meaning of responsibility related to a demented parent.

In summary, it is apparent from this overview of the Alzheimer's literature that burden and difficulties seem to be recurrent themes for these family caregivers. It is encouraging to note, however, that strides are being made in regard to understanding what might contribute to the difficulties of the families of Alzheimer's patients. It should be noted that while this literature provides some useful background to the study of the families of the
young chronically mentally ill, certain significant variables may be unique to the Alzheimer's families. Given the difference in the age of the affected family member and consequently the age of the family caregiver, it seems reasonable to assume that health of the caregiver might not emerge as a significant variable quite as frequently within the families of the young chronically mentally ill. In addition, there might be unique grief issues related to the youthfulness of the ill member in the population of interest. Nevertheless, this literature has provided a useful perspective on the impact of family caregiving.

Review of the Literature Pertaining to the Families of the Chronically Mentally Ill

The research based literature examining the experiences of the families of the chronically mentally ill indicated that the earliest studies on the subject were done in the mid 1950's (Clausen & Yarrow, 1955). The topic has been further explored in subsequent decades up to the present time. This body of literature will be reviewed in terms of the major study variables and the relationships of interest in this nursing research project. A critique of the existing literature will also be presented.

Family Health

None of the research studies contained within this body of literature used the variable of family health. Rather, the majority spoke of family burden as the entity of interest. Early research on this topic found that the impact of mental illness was felt across many areas of family life including leisure, income, children, family health, and relationships with extended family, friends, and neighbors (Clausen & Yarrow, 1955; Grad & Sainsbury, 1968). Because the multifaceted impact of a mental illness often necessitated that family members put their needs and wishes after those of the client, the
phenomenon was labeled burden (Maurin & Boyd, 1990). Subsequently, family burden was further differentiated into subjective and objective burden (Hoenig & Hamilton, 1966) - a distinction that has been used quite consistently throughout the literature up to the present time. The work of Hoenig and Hamilton (1966) indicated that objective burden could be conceptualized as those observable, concrete costs to the family, such as disruption to the household routine and financial loss, which were the result of a chronic mental illness. Subjective burden, on the other hand, constituted the family members' personal appraisals of the situation and the extent to which they felt they were carrying a burden as a result of the mental illness of their relative.

While it was recognized that the concepts of family burden and family health were not equivalent, it was assumed that the family burden studies would, nonetheless, provide useful information. It seemed logical to assume that families who were severely burdened by the mental illness of a loved one might be compromised in their attempts to maintain an acceptable level of family health. In this way, the level of family burden might be viewed as an inverse indicator of family health. Thus, these studies were reviewed in an attempt to gain perspective on family health within the families of the chronically mentally ill.

The literature provided a great deal of evidence of the burden and hardship that these families endure. The majority of the families studied did acknowledge feeling burdened by the chronic mental illness of a member (Coyne et al, 1987; Fadden et al, 1987; Francell et al, 1988; Gibbons et al, 1984; Grad & Sainsbury, 1963; Gubman et al, 1987; Noh & Avison, 1988; Noh & Turner, 1987; Pai & Kapur, 1982; Thompson & Doll, 1982). Lefley (1987c) sought to explore the experience of burden with mental health professionals who had a chronically mentally ill
family member and compare it with similar samples of lay persons. It was presumed that these individuals had a greater level of knowledge and expertise related to mental illness that might mediate the perception of burden. Interestingly, however, Lefley's (1987c) findings indicated that, like their nonclinical counterparts, mental health professionals and their families suffered significant burden related to their ill loved one. These studies represent research that was conducted in the United States, Canada, Great Britain, and India. Thus, there appeared to be a fairly consistent pattern related to the perception of family burden in the United States as well as internationally.

Several of the studies elaborated on the nature of the burden experienced by these families. Family members reported tension, stress, anxiety, resentment, depression with accompanying feelings of hopelessness and powerlessness, a sense of entrapment, a disruption in their family life and relationships, financial difficulties, physical ill health, restrictions in social and leisure activities, and an overall decrease in the quality of life as a result of having a chronically mentally ill member (Doll, 1976; Fadden et al, 1987; Gibbons et al, 1984; Hatfield, 1978; Holden & Lewine, 1982; Lefley, 1987c; Seymour & Dawson, 1986). It seems reasonable to assume that the health of families acknowledging burdens such as these may be at risk.

Two exceptions to this pattern were found. The first of these was in the work of Crotty and Kulys (1986). Their study included 56 client respondents diagnosed with schizophrenia and 56 significant others identified as such by the client respondents. The client sample was drawn from an outpatient community mental health facility in the Mid-West and was 96% white. The authors used instruments that had adequate reliability data but no mention was made of validity. Their
findings indicated that 20% of family respondents found their chronically mentally ill member to be "not at all burdensome", 75% reported that the member was "mildly burdensome", and only 5% indicated that this member was "fairly burdensome". In addition, there was a relationship between the burden experienced by the families and the presence of a confidant and social supports for the client ($r=-.31$, $p=.009$).

The study by Wilk (1988) also gave a different perspective. She conducted a study with parents of 93 seriously mentally ill young adults who were affiliated with the Alliance for the Mentally Ill in a Mid-western state. Wilk utilized the Family Environment Scale (Moos, 1981) to compare the family environments of those families who had a chronically mentally ill young adult living in the home and those who had an ill young adult living outside the family home. The FES scores were similar for all families, except for scores on the cohesion subscale, which were significantly higher for families where the mentally ill young adult lived at home. Cohesion is generally considered to be a positive aspect of family functioning and the work of Wilk (1988) indicated that having a mentally ill member in the home did not have an adverse affect on it. Thus, there was evidence of some variation in this pattern of family burden within the families of the chronically mentally ill.

Family Health and Family Perception of Client’s Level of Health

This review of the literature suggested several factors that might be related to the experience of family burden. While expressed in a variety of ways, a large number of the studies spoke to a relationship between the family’s perception of the client’s level of health and the burden experienced by the family. The client’s impaired functioning or symptomatology were found to be associated with greater
levels of family burden (Coyne et al, 1987; Creer et al, 1982; Doll, 1976; Fadden et al, 1987; Gibbons et al, 1984; Grad & Sainsbury, 1963; Gubman et al, 1987; Holden & Levine, 1982; Hooley et al, 1987; Lefley, 1987c; Noh & Avison, 1988; Runions & Prudo, 1983; Thompson & Doll, 1982). Several of these studies differentiated further regarding which specific symptoms were problematic or burdensome to the families. These studies categorized client behaviors into negative and positive manifestations of their mental illness. Negative symptoms referred to the absence of normal functions (i.e. withdrawal, lack of proper hygiene, apathy) while positive symptoms referred to the unusual or florid symptoms (i.e. hallucinations, delusions). The families of the chronically mentally ill generally found the negative symptoms of their loved one's illness to be most burdensome (Coyne et al, 1987; Fadden et al, 1987; Hooley et al, 1987; Runions & Prudo, 1983). Thus, there appeared to be strong support for a relationship between family burden, which will be interpreted as an inverse indication of family health, and client symptomatology.

Family Health and Time Since Diagnosis

Similarly, there was some support for a relationship between the time since diagnosis of the mental illness and the family's experience of burden. Several studies suggested that the impact of the mental illness is cumulative in that as the length of the illness increased the family reported a greater degree of burden (Grad & Sainsbury, 1963; Hoenig & Hamilton, 1966; Lefley, 1987a; Seymour & Davson, 1986). A study by Noh and Turner (1987) looked at the variables of time, residence of client, and family distress. They found that the longer a person with schizophrenia was maintained at home the greater the risk of elevated levels of family distress among significant others. One study suggested an inverse relationship
between these two variables. Gibbons et al (1984) interviewed 166 family supporters of persons with schizophrenia, drawn from a geographically defined area, and found that the distress and burden experienced by these families was less as time passed. Specifically, 75% of the clients who had been ill for less than a year caused moderate or severe strain to their supporters compared with only 46% of those who had been ill for more than five years. So, the literature provided support for a relationship between these variables but there was some discrepancy regarding the nature of that relationship. Clearly the strongest support was for a positive relationship between time since diagnosis of the mental illness and family burden.

**Family Health and Family Stressors**

Few studies in the literature regarding the families of the chronically mentally ill explicitly addressed family stressors and their relationship to family burden. Lefley (1987a) supported this assessment when she stated that there were numerous issues around caring for persons with chronic mental illnesses that have received scant attention in the literature on stressful life events. Three studies did report specific family stressors experienced as a result of the mental illness of a loved one (Chafetz & Barnes, 1989; Fadden et al, 1987; Lefley, 1987c). These studies showed that families experienced financial, marital, legal, employment, housing, and illness-related stressors as well as interpersonal conflict within the family unit. One study (Noh & Avison, 1988) found stressful life events to be a significant predictor of family burden.

**Family Health and Family Coping**

Several studies discussed the phenomenon of family coping with regard to the chronic mental illness of a relative. It was interesting to note that the majority of the studies that explored this concept
were qualitative in nature where most of the studies in this body of literature, to date, have been quantitative in nature. Fadden et al (1987) identified several cognitive coping strategies, such as wishing the situation would go away, looking for a silver lining, or hoping for a cure some day, as those most frequently used by spouses of persons with an affective disorder. Obtaining specific information regarding the mental illness and strategies for managing client behavior emerged as very important coping strategies as well (Lefley, 1987c; Norbeck et al, 1991). The consistency between these findings is of interest in that the study by Lefley (1987c) dealt with families of mental health professionals with a mentally ill member while the study by Norbeck et al (1991) had lay subjects. Norbeck et al (1991) also found that family caregivers of the mentally ill felt that help in locating resources and the availability of backup care assistance were significant to their ability to cope. Chafetz and Barnes (1989) identified a pattern of coping in families with mentally ill young adults that included turning to other family members and close confidants for support first and then seeking support from "experienced others" or peers with psychiatrically disabled family members. Chesla (1989) noted parents of children with schizophrenia attempting to avoid conflict or confrontation with the ill child as a way of providing care and coping. A review of these studies suggests that the families of the chronically mentally ill utilize cognitive as well as behavioral strategies to cope with the difficult realities of their loved one's illness.

Tessler et al (1987) undertook a qualitative study to determine a possible sequence of stages a family might proceed through as they came to terms with the reality of having a loved one with a chronic mental illness. They identified nine stages including: (1) initial
awareness of the problem; (2) denial of the mental illness; (3) labeling; (4) faith in mental health professionals; (5) recurrent crises; (6) recognition of chronicity; (7) loss of faith in professionals; (8) belief in the family's expertise; and (9) worrying about the future. Throughout these stages various coping strategies were evident. This study reinforced the importance of coping to the families of the mentally ill and also suggested that their methods of coping may change over time. Unfortunately, the study was limited by an inadequate description of its qualitative methodology.

Thus, these studies provided a description of the coping mechanisms that are most frequently employed by these families. While no attempt was made to document a relationship between family coping and family burden, the significance of the concept of family coping does seem apparent given the number of studies that have explored it in the families of the chronically mentally ill.

One study did provide evidence of a relationship between coping strategies and family burden in these families (Noh & Avison, 1988). This study found that mastery, the confidence that individuals have in their ability to manage the outcomes of life circumstances, was able to reduce family burden. In addition, mastery proved to be a significant predictor of burden in the multiple regression analysis conducted by Noh and Avison.

Thus, the body of literature pertaining to the families of the chronically mentally ill did speak to each of the major study variables. In addition, it provided initial support for relationships between the major study variables and the outcome of family health.

Intervention Studies with the Families of the Chronically Mentally Ill
Recently the literature pertaining to the families of the chronically mentally ill has come to include studies which have documented the impact of various types of interventions on family outcomes. Previous intervention studies with this population have focused on the intervention's impact on the patient, especially on the patient's recidivism rate, rather than on the family (Abramowitz & Coursey, 1989). While these sorts of studies continue, a more recently noted trend was to focus on the intervention's impact on the family members. Further, this group of studies viewed the families of the mentally ill as similar to families dealing with other disabling diseases (Hill & Balk, 1987). The behaviors of the families caring for chronically mentally ill members were seen as efforts to solve very complex problems that taxed their adaptive abilities. Family problems that developed were viewed as normal reactions, not as signs of family pathology or dysfunction. These studies focused on the strengths, adaptive qualities, and coping skills of the families and not on their influence in causing or exacerbating the illness of their loved one (Abramowitz & Coursey, 1989).

The interventions that have been utilized, to date, with the families of the families of the chronically mentally ill can be classified as educational, supportive, or a combination of both. Educational interventions, which provided information regarding such topics as mental illness, symptoms, causes, treatment, role of the family, and resources available to the family, have been found to be effective in producing more positive family outcomes (Hill & Balk, 1987; Kane et al, 1990; Smith & Birchwood, 1987). Specifically, Hill and Balk (1987) found a significant, negative relationship between the number of sessions of the educational program attended and stress specific to the mentally ill family member ($r=-.92$, $p<.005$).
Similarly, a reduction in the level of anxiety for family members was achieved through attendance at the program sessions ($r = -0.62, p < 0.05$). It should be noted that this study involved only 20 subjects who voluntarily attended the educational group sessions. Similar results were reported by Smith and Birchwood (1987) whose educational intervention initially led to considerable knowledge gains and to a reduction in relatives' reported stress symptoms and fear of the patient. At a six month follow-up, the knowledge gains were maintained and relatives' perceptions of family burden were significantly reduced from the initial assessment (Smith & Birchwood, 1987). This study was also limited by its sample size in that it included only 23 families and 40 family members. Kane et al (1990) compared the family outcomes for an education and a support group intervention and found that the level of depression for the family members was differentially lowered in the psychoeducational group over the support group. This sample was comprised of 37 families whose ill relatives were receiving services at a state psychiatric treatment unit. Abramovitz and Coursey (1989) utilized an intervention that had both an educational and a supportive component and found that participating family members reported significantly reduced anxiety and personal distress and significantly more active coping behaviors such as increased use of community resources and better management of home life with their ill member. This study involved a nonprobability study of 48 families, 24 in the experimental group and 24 in the control group, drawn from community mental health centers in the eastern United States. Zastowny et al (1992) compared behavioral and supportive family treatment programs to determine their effect on client and family outcomes. The family outcomes of each program were similar and positive. The interventions led to a reduction in family conflict ($F(2,43) = 73.22, p < 0.01$),
improvements in families awareness of community resources ($F(2,43) = 22.19, p<.01$), and general lessening of global family burden ($F(2,43) = 3.60, p<.05$). The sample in this study consisted of 30 families.

Thus, these intervention studies clearly show promise related to impacting family outcomes in the families of the chronically mentally ill. They are somewhat limited by methodological issues, however. It is also possible that they are somewhat premature as there has been little work done in the area of identifying which variables are most predictive of desired family outcomes. Nevertheless, these studies are an exciting contribution to this body of literature.

Critique of the Existing Literature

Conceptual Framework

The available research studies share a common conceptual limitation. Only three of the studies (Abramowitz & Coursey, 1989; Noh & Avison, 1988; Noh & Turner, 1987) proceeded from an identified conceptual framework. The others did not specify a theoretical basis for their work. Such an omission serves to increase the gap between theory and research which inevitably hinders efforts at intervention.

Sample

The samples utilized in the quantitative studies present some methodological concerns. First of all, the vast majority of these samples were nonprobability samples. The exceptions were found in the work of Smith & Birchwood (1987) and Thompson & Doll (1982) who reported using random samples. Several of the samples were drawn exclusively from self-help groups (Hatfield, 1978; Holden & Lewine, 1982; Runions & Prudo, 1983; Wilk, 1988). Only two of the studies (Abramowitz & Coursey, 1989; Doll, 1976) reported significant ethnic diversity in the sample while the others either did not mention the ethnic composition of the sample or acknowledged that it was
predominantly white. Further, many of the samples were comprised of predominantly female relatives of the chronically mentally ill person (Abramowitz & Coursey, 1989; Clausen & Yarrow, 1955; Doll, 1976; Francell et al, 1988; Gibbons et al, 1984; Hatfield, 1978; Holden & Levine, 1982; Kane et al, 1990; Lefley, 1987c; Thompson & Doll, 1982; Wilk, 1988).

This observation leads to another methodological concern around the unit of analysis. While the conceptual unit of interest in most of these studies was the family, the empirical unit of analysis was the individual in all but five cases. These exceptions were seen in the work of Crotty and Kuly's (1986) where a client-significant other dyad was used (n=56); in the research by Smith and Birchwood (1987) in which 74% (n=23) of the families were two-respondent families; in the study conducted by Kane et al (1990) where 32% (n=37) of the families had two family members participating; and in the studies by Wilk (1988) and Zastowny et al (1992) where approximately 33% (n=93) and 57% (n=30) respectively of the sample was comprised of parental dyads.

Finally, none of the studies reported the use of a power analysis to assist in determining the necessary sample size to detect significant relationships. In fact, sample size in several of the studies was notably small (Clausen & Yarrow, 1955; Fadden et al, 1987; Hill & Balk, 1987; Kane et al, 1990; Seymour & Dawson, 1986; Smith & Birchwood, 1987; Zastowny et al, 1992). It should be acknowledged that four of these studies, with a particularly small sample size, were intervention studies in which a family's participation involved several hours over a period of weeks. The difficulty in obtaining large numbers of families, with a chronically mentally ill member, who are willing to make such a time commitment is recognized but, nevertheless,
the results of such studies need to be approached with caution given the sample size.

Design


Psychometrics of Instruments

A final methodological limitation of several of the quantitative studies lies in the inadequacy of the psychometric data on the instruments that were utilized. Many of the studies make no mention of the reliability or validity of the instruments used to measure the pertinent variables (Clausen & Yarrow, 1955; Crotty & Kulys, 1986; Doll, 1976; Fadden et al, 1987; Grad & Sainsbury, 1963; Gubman et al, 1987; Hatfield, 1978; Hoenig & Hamilton, 1966; Holden & Levine, 1982; Runions & Prudo, 1983). Some of the studies provided incomplete psychometric data on the instruments used (Abramowitz & Coursey, 1989; Creer et al, 1982; Hill & Balk, 1987; Lefley, 1987c; Noh & Avison, 1988; Noh & Turner; Seymour & Dawson, 1986; Smith &
Birchwood, 1987; Thompson & Doll, 1982; Zastowny et al, 1992). In these cases, the incompleteness often pertained to a lack of psychometric data on a newly designed, a modified, or an unestablished instrument. Six studies appeared to have utilized instruments with recognized reliability and validity (Coyne et al, 1987; Gibbons et al, 1984; Hooley et al, 1987; Kane et al, 1990; Pai & Kapur, 1982; Wilk, 1988). Thus, there is reason for concern about the confidence that can be placed in the results of many of the studies that constitute the body of literature pertaining to the families of the chronically mentally ill.

Qualitative Studies

The qualitative studies that were contained within this body of literature will be briefly critiqued as well. There were two major areas of concern with these studies. First of all, only one of the studies clearly identified its qualitative methodology Chesla (1989) indicated that she utilized a hermeneutical approach in her research. The other studies either did not identify a specific qualitative methodology at all (Chafetz & Barnes, 1989; Tessler et al, 1987) or were unclear about their method (Norbeck et al, 1991). None of the studies spoke to the use of qualitative criteria, such as credibility, confirmability, meaning-in-context, recurrent patterning, saturation, or transferability, (Leininger, 1991) to ensure the quality of the research. Thus, while these qualitative studies provided very useful information, particularly with regard to the coping strategies employed by the families of the young chronically mentally ill, caution should be exercised in regard to their findings.

Summary

Clearly, the existing research pertaining to the families of the young chronically mentally ill provides a starting point for
understanding this vulnerable population. It is apparent, however, that additional research is needed to expand the scope of this body of literature as well as to address its gaps and limitations.

An attempt was made, in designing this research study, to avoid some of the limitations that were apparent in the existing quantitative research. This study proceeded directly from King's (1968, 1971, 1981) broad theory of nursing. A middle range theory development effort was made to provide more specific direction for the study. The result was a study that clearly addressed a phenomenon of concern to the discipline of nursing—namely family health—so as to expand the science of nursing while attempting to assist a population at risk.

In addition, efforts were made to strengthen the methods of this study given the current state of the body of literature pertaining to the families of the chronically mentally ill. While a nonprobability sampling design was used, the sample was not drawn exclusively from self-help groups. Attempts were made to increase the ethnic diversity of the sample and a family dyad was the identified unit of analysis whenever possible. A power analysis was conducted to determine the appropriate sample size.
CHAPTER THREE
Methodology

Hypotheses

The hypotheses that directed this investigation of family health in the families of the young chronically mentally ill were as follows:

1. The level of family stressors is inversely related to family health.
2. The family’s ability to cope is positively related to family health.
3. The family’s perception of the level of client health is positively related to family health.
4. The length of time since diagnosis of mental illness is inversely related to family health.
5. A significant portion of the variance in family health in the families of the young chronically mentally ill will be accounted for by: (a) family stressors, (b) family coping, (c) family perception of client’s level of health, and (d) time since diagnosis of mental illness.

It should be noted that each of the specified independent variables had its origin in the conceptual framework as well as the existing literature pertaining to the families of the chronically mentally ill. The hypothesized relationships among these variables can be summarized by the previously presented diagram found in Figure 1.

Research Questions

The research questions that were explored in this investigation were as follows:

1. What are the characteristics of the young chronically mentally
ill and their families?

2. What are the relationships among the predictor variables: (a) family stressors, (b) family coping, (c) family perception of client's level of health, and (d) time since diagnosis of mental illness?

Theoretical and Operational Definitions of Variables

There are five concepts that were theoretically and operationally defined. These terms included: family stressors, family coping, time since diagnosis of mental illness, family perception of client's level of health, and family health.

Family stressors were theoretically defined as persons, objects or events that have the potential to cause stress (King, 1981) for the family unit. The operational definition of family stressors was the score obtained on the Family Inventory of Life Events and Changes Scale (FILE) (McCubbin et al, 1982).

Family coping was theoretically defined as "the constantly changing cognitive and behavioral efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources" (Lazarus & Folkman, 1984, p. 141) of the family. The operational definition of this term was the score obtained on the Family Crisis Oriented Personal Scales (F-COPES) (McCubbin et al, 1982).

Time since diagnosis of mental illness was theoretically defined as the duration of the mental illness from the time the family was first told that their member was mentally ill to the present. This term was operationally defined as the number of months from the time the family was first told of their member's mental illness to the present.
Family perception of client’s level of health was theoretically defined as the family’s sense of the client’s ability to function and conduct the business of living in terms of one’s personal, social, and familial responsibilities. This concept was operationally defined as the score obtained on the Progress Evaluation Scales (PES) (Ihilevich et al., 1981).

Family health was theoretically defined as the ability of the family unit to adjust to stressors and to function in their social roles (Frey, 1987; Frey, 1989). While King (1981, 1983) does not give an explicit definition of family health, the proposed definition was deemed to be consistent with the definitions that she sets forth related to health of the individual. This concept was operationally defined as the scores on the Family Adaptability and Cohesion Evaluation Scales (FACES) III (Olson, Portner, & Lavee, 1985), the Family APGAR (Smilkstein, Ashworth & Montano, 1982) as well as the score on the conflict subscale of the Family Environment Scale (FES) (Moos & Moos, 1981).

Table 2 summarizes the conceptual-theoretical-empirical indicator structure for the study.

Design

The design used in this study was that of a cross sectional correlational survey design. The correlational nature of the design allowed the researcher to relate numerous variables to one another. In this way, relationships between several variables and an outcome of interest could be detected. In addition, possible relationships between the independent variables could be uncovered (Woods & Catanzaro, 1988). Given that, this design was clearly appropriate to address the hypotheses and research questions that were posed. The cross sectional nature of this design allowed one to measure the
<table>
<thead>
<tr>
<th>Conceptual Framework Concepts:</th>
<th>Stress</th>
<th>Coping</th>
<th>Time</th>
<th>Perception</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory Concepts:</td>
<td>Family Stressors</td>
<td>Family Coping</td>
<td>Time Since Diagnosis of Mental Illness</td>
<td>Family Perception of Client's Level of Health</td>
<td>Family Health</td>
</tr>
<tr>
<td>Empirical Indicators:</td>
<td>FILE</td>
<td>F-COPES</td>
<td>Number of months from time first informed of diagnosis</td>
<td>PES</td>
<td>a. Family APGAR, b. FACES III Cohesion, c. FACES III Adaptability, d. FES - Conflict</td>
</tr>
</tbody>
</table>

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presumed cause and effect simultaneously (Larzelere & Klein, 1987). So, the family’s level of health and the antecedent conditions that might have affected their health during the course of the mental illness were assessed at the same point in time. The cross sectional design is widely accepted as shown by the fact that it has been used in the vast majority of family studies to date. This is obviously due to its practicality in an era of scarce resources (Larzelere & Klein, 1987). For these reasons, then, the cross sectional correlational survey design was selected.

Sample

A major issue that surfaces in the family research literature, related to the selection of a sample, is that of the appropriate unit of analysis (Barnard, 1984; Gilliss, 1983; Gilliss, 1991; Larzelere & Klein, 1987; Miller et al., 1982; Moriarty, 1990; Schumm et al., 1985; Uphold and Strickland, 1989). While the conceptual unit of interest is clearly the family, the presenting question concerns how one actually gathers data that is reflective of a family unit. Four possible units of analysis that have been proposed including individuals, dyads, nuclear families, and extended families (Hodgson & Lewis, 1979). Traditionally, however, most family research has relied exclusively on data collected from one family member, typically the mother (Bokemeier & Monroe, 1983). This has been identified as a potentially problematic situation as it is unclear as to whether that individual’s perception of the family situation is equivalent to the family’s perception of its circumstances.

The notion of collecting data from multiple family members has been espoused more frequently in recent years by those commenting on the methodology of family studies. The advantages of such an approach have been identified in terms of the improvement of the theory that
would emerge from such studies, increased reliability, enhanced ability to assess measurement validity, and greater insight into family function (Miller et al, 1982). In spite of these cited advantages, the following pattern has been noted in family studies: If intrafamily differences are of interest, then at least two sources of data within each family are obtained; but if interfamily differences are of focus of interest, then a single source of data is generally used (Larzelere & Klein, 1987). Thus, in spite of the stated advantages, many researchers continue to rely on limited data sources when studying families.

A possible explanation for this state of affairs, pertains to the difficulties associated with collecting data from multiple family members. The increased time and funds to collect data from several family members has been identified as a drawback (Schumm et al, 1985). In addition, the possibility of obtaining a complete data set is reduced as the refusal to participate or the lack of availability of just one family member renders that family's data set unusable. This could greatly reduce the overall percentage of useful family data (Schumm et al, 1985).

Another major concern when collecting data from several family members relates to data analysis. Schumm et al (1985) speak to the exponential increase in the complexity of data analysis that results when multiple family members respond to multiple variables. The situation becomes further complicated when the researcher tries to decide how to simultaneously use data from more than one family member. On the one hand, if there is consistency among the data obtained from several family members and each member's response set is viewed as an independent variable, there can be an instance of multicollinearity (Schumm et al, 1980; Miller et al, 1982; Schumm et al, 1985; Larzelere
Multicollinearity presents a difficulty for correlational techniques such as multiple regression and path analysis. Obviously, there are proposed techniques for dealing with this problem of multicollinearity. For example, the highly interrelated variables could be combined into a summary variable using a technique called LISREL, the multicollinearity problem can be ignored if it is less extreme, or all but one of the highly interrelated variables could be dropped from the analysis (Schumm et al, 1980; Miller et al, 1982; Schumm et al, 1985; Larzelere & Klein, 1987).

Given the situation where one did not desire to use each member's response set as an independent variable, but rather to create a composite family score, there are additional issues to be resolved. The most pressing question, in this instance, is how that composite would be constructed. While LISREL might be applicable if the responses were highly interrelated, this might not always be the case. Larzelere and Klein (1987) point out that one cannot assume that intermember data will be consistent. Spanier (1973), for example, demonstrated that correlations between husband and wife scores of marital adjustment have ranged from .04 to .88 with the norm being from .40 to .60. In spite of this, often a simple averaging of members' scores is employed to obtain a family score. This raises the question of whether an averaged score can accurately reflect the potentially disparate views of different family members. Thus, while there have been eloquent pleas from family scholars to broaden the sample from which family studies proceed, there is also an acknowledgement of the difficulties of such an undertaking.

It was recognized that the decision regarding the composition of the sample was critical as it has implications for data collection, data analysis, the overall strength of the study, and the
generalizability of the results. Having made a detailed consideration of the above information, a sampling approach was selected. A nonprobability sampling strategy was used in this study. The specific type of nonprobability sample was a convenience sample. This sampling strategy was seen as necessary given the array of difficulties inherent in recruiting families with a chronically mentally ill young adult into a research study. Some of these difficulties included the challenge of obtaining consent from a mentally ill individual prior to being able to contact his/her family, asking already burdened families to invest time and energy in a research study, and gaining trust with families who had had negative experiences with the mental health care system. Given these obstacles, a nonprobability sample was utilized.

The unit of analysis was a family dyad, whenever possible, so as to capitalize on the documented advantages of collecting data from multiple family members. In all cases this dyad was a parental dyad. Single parent families or those with only one person willing to participate were also included, however. This decision arose out of the presumption that a single parent or single informant family might have even greater needs than a family in which there was an additional invested person available. The difficulties encountered in data analysis when collecting data from more than one family member were handled in the following ways. A family composite score was constructed by averaging the individual scores. The various aspects of the analysis were then conducted with this one score representing the family data. In addition, the data from the individual family members were considered separately. For example, the individual data were grouped into categories representing gender, ethnic background, marital status, employment status, and relationship to the client and bivariante correlations and t-tests were performed. Further, discrepancy scores
were computed that enabled the researcher to identify intrafamily differences. Similarly, paired t-tests were computed to determine if there were significant intrafamily differences. It was posited that this approach to data collection and analysis with families took advantage of the strengths of data from family dyads and yet minimized the difficulties inherent in such an endeavor.

The population of interest was all families who had a young adult member with a chronic mental illness. The accessible population was: (1) families affiliated with one of several support groups throughout the state of Michigan or (2) families whose young adult member received mental health care services from either a county hospital, a private hospital, or a community mental health center located in Western Michigan.

Families who met the inclusion criteria were invited to participate in the study. The inclusion criteria were:

1. The family must have a young chronically mentally ill member.
2. The family informant(s) must be able to read, write, and speak English.
3. The young chronically mentally ill member was characterized by:
   a. A diagnosis of schizophrenia or bipolar disorder.
   b. An age between 18 and 40 years.

Both families whose young chronically mentally ill member lived in the family home and outside of it were included in the study.

A sample of 77 families was sought. This sample size was determined by means of a power analysis. The parameters of the power analysis were as follows: (a) significance level of .05, (b) power of
.80, and (c) a medium effect size for multiple regression (Bavry, 1987; Polit & Sherman, 1990).

The sample consisted of 82 families. Seventy-three percent of the families were one respondent families while the remaining 27% were two respondent families. The families were obtained from several sources. Fifty-five percent of the sample was drawn from clinical agencies, 43% were recruited from support groups, and the remaining 2% was obtained by means of snowballing. Sixty percent of the sample families lived in Western Michigan while the remaining 40% resided elsewhere in the state of Michigan or out of state. The modal family income (26%) was in the range of $40,000 to $59,999. Selected family demographic data is presented in Table 3.

The 82 families that participated in the study represented a 71% response rate from the clinical agencies and a 14% response rate from the support groups. The response rates were calculated on the basis of the number of questionnaires distributed and the actual number of questionnaires returned.

Sixty-eight percent of the family respondents were female while the remaining 32% were male. Eighty-seven percent of the respondents were white and 13% were of various ethnic minority groups. The vast majority, 81.5%, of the family respondents were married. The mean age of the family respondents was 56.16 (SD= 10.18) with a range of 22 to 76. The mean number of years of education was 15.32 (SD= 2.91) with a range of 8 to 23 years. Forty-eight percent of the respondents were employed outside the home and the remaining 54% were not. Seventy-three percent of the sample identified Protestant as their religious affiliation, 19% Catholic, 1% Jewish, and 7% reported no religious affiliation. Sixty percent of the family respondents indicated that they participated in religious activities regularly,
TABLE 3
DEMOGRAPHICS OF SAMPLE FAMILIES

<table>
<thead>
<tr>
<th>SOURCE OF FAMILIES</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Groups</td>
<td>35</td>
<td>43.0%</td>
</tr>
<tr>
<td>Clinical Agency</td>
<td>45</td>
<td>55.0%</td>
</tr>
<tr>
<td>Private Hospital</td>
<td>(31)</td>
<td></td>
</tr>
<tr>
<td>County Hospital</td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td>CMH Agency</td>
<td>(10)</td>
<td></td>
</tr>
<tr>
<td>Snowballing</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td></td>
<td>82</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GEOGRAPHICAL LOCATIONS</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Michigan</td>
<td>49</td>
<td>60.0%</td>
</tr>
<tr>
<td>Eastern Michigan</td>
<td>10</td>
<td>12.0%</td>
</tr>
<tr>
<td>Central Michigan</td>
<td>8</td>
<td>9.5%</td>
</tr>
<tr>
<td>Southern Michigan</td>
<td>8</td>
<td>9.5%</td>
</tr>
<tr>
<td>Northern Michigan</td>
<td>4</td>
<td>5.0%</td>
</tr>
<tr>
<td>Out of State</td>
<td>3</td>
<td>4.0%</td>
</tr>
<tr>
<td></td>
<td>82</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FAMILY INCOME</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,000 - 9,999</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td>$10,000 - 14,999</td>
<td>4</td>
<td>5.0%</td>
</tr>
<tr>
<td>$15,000 - 24,999</td>
<td>19</td>
<td>23.0%</td>
</tr>
<tr>
<td>$25,000 - 39,999</td>
<td>17</td>
<td>21.0%</td>
</tr>
<tr>
<td>$40,000 - 59,999</td>
<td>21</td>
<td>26.0%</td>
</tr>
<tr>
<td>$60,000 - Above</td>
<td>19</td>
<td>23.0%</td>
</tr>
<tr>
<td></td>
<td>82</td>
<td>100%</td>
</tr>
</tbody>
</table>
11.5% occasionally, 9.5% infrequently, and 19% indicated that they were inactive. Eighty-nine percent of the respondents were parents of the client, 5% were spouses, and 6% indicated that they were, indeed, the primary caretaker for the client but their relationship fell into the "other" category. Selected family respondent demographic data is presented in Table 4.

The clients within these family units were predominantly male. Seventy-three percent were men while 27% were women. The mean age of the clients was 28.98 (SD= 6.13) with a range of 17 to 42. The clients had been ill, on average, 8.62 years (SD= 6.41) with a range from 3 months to 25 years. The mean number of hospitalizations that these clients had had was 6.02 (SD =5.35) with a range from 0 to 25. Ninety-six percent of the clients were on a prescribed medication regime while 4% were not. Eighty-two percent of the families perceived that the client adhered to his/her medication regime while the remaining 18% perceived that the client did not. Ninety-three percent of these clients were seen on an ongoing basis by a case manager or therapist and 7% were not followed by a professional mental health care provider. Thirty-nine percent of the clients within these family units resided in the family home, 33% lived in a house or apartment other than the family home, 19.5% resided in a group home while the remaining 8.5% indicated that their ill relative had "other" living arrangements. Some of the "other" living arrangements included jail and low cost hotels.

In summary, the sample families were predominantly single respondent families from the Western Michigan area who were obtained from clinical agencies. Based on reported income, the majority of the families were middle class. Most of the family respondents were white; female, married, college educated, parents of the identified client.
### Table 4
**Demographics of Family Respondents**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td>Asian American</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Hispanic American</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td>Native American</td>
<td>4</td>
<td>4.0%</td>
</tr>
<tr>
<td>White</td>
<td>91</td>
<td>87.0%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>4.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married to Parent of Client</td>
<td>73</td>
<td>70.0%</td>
</tr>
<tr>
<td>Married - Not to Parent of Client</td>
<td>7</td>
<td>6.5%</td>
</tr>
<tr>
<td>Married to Client</td>
<td>5</td>
<td>5.0%</td>
</tr>
<tr>
<td>Separated / Divorced</td>
<td>11</td>
<td>10.5%</td>
</tr>
<tr>
<td>Widowed</td>
<td>6</td>
<td>6.0%</td>
</tr>
<tr>
<td>Single</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104</td>
<td>100%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed Outside Home</td>
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<tr>
<td>Not Employed Outside Home</td>
<td>56</td>
<td>54.0%</td>
</tr>
<tr>
<td>Disabled</td>
<td>(5)</td>
<td></td>
</tr>
<tr>
<td>Home and Family</td>
<td>(18)</td>
<td></td>
</tr>
<tr>
<td>Laid Off</td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>(27)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104</td>
<td>100%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship to Client</th>
<th>Frequency</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Mother</td>
<td>64</td>
<td>61.0%</td>
</tr>
<tr>
<td>Father</td>
<td>29</td>
<td>28.0%</td>
</tr>
<tr>
<td>Wife</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td>Husband</td>
<td>3</td>
<td>3.0%</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>6.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104</td>
<td>100%</td>
</tr>
</tbody>
</table>
In addition, they were predominantly Protestant and active in religious activities. The majority of the clients within these family units were male, on and adhering to a medication regime, and seen by a case manager. The clients had a mean age of approximately 29 years, had been ill an average of 8.62 years, and had been hospitalized 6 times during the course of their illness.

**Instruments**

There were several points of consideration related to the selection of instruments for this study. First, each was chosen for its conceptual congruence with the specified theoretical definition. In addition, recognizing that many of the previous studies of the families of the chronically mentally ill were limited by the inadequacy of the psychometric data on their measurement instruments, this constituted a major consideration in the selection of instruments for this study. The instruments used were seen as having adequate reliability and validity data. Finally, the selected instruments can be classified as survey measures. Survey measures are generally most suitable for capturing people's subjective reality including knowledge, attitudes, perceptions, expectations, self-concept, personality, evaluations of self and others, and meanings given to various actions (Harvey, 1983; Olson, 1977). Since the intent was to capture the family member's perception of, and meaning ascribed to, the stressors confronting them, the coping strategies used, the client's level of health, and the degree of family health present, this type of instrument was deemed appropriate.

There are two general limitations of these instruments that should be addressed. First of all, several of the instruments have a potential weakness in that they may be culturally biased. Only the Family Environment Scale (FES) (Moos & Moos, 1981) indicated that an
ethnic minority subsample had been included in the testing samples. The other instruments were presumably developed and tested exclusively on majority populations. A second area of concern relates to the gender composition of the testing samples. For example, one of the initial studies using the Family APGAR, done at a psychiatric outpatient center, had a sample comprised of over twice as many women as men (Smilkstein et al., 1982). Similarly, several of the initial studies on the F-COPES had samples that consisted of 2/3 women (McCubbin et al., 1981). Several of the instrument manuals (FACES III, FILE, F-COPES) acknowledge gender differences in terms of assessment of various aspects of family life. Given that, several of the authors suggest the use of discrepancy scores or provide separate sets of norms for men and women. The authors of the FES (Moos & Moos, 1981) asserted that there were few, if any, gender differences in perceptions of family social environments but this claim has been countered by Loveland-Cherry et al. (1989). While it is important to acknowledge these limitations at the outset, this situation can be viewed as a function of the current state of the science of family research. Family science instrumentation has not yet developed to a level of sophistication where issues of culture and gender are satisfactorily addressed. It should noted that the sample in this study is similar to the populations that these instruments were tested on, however, as the sample was predominately white and female.

**Family Inventory of Life Events and Changes Scale**

Family stressors was measured by the Family Inventory of Life Events and Changes Scale (FILE) (McCubbin et al., 1983) (See Appendix B). The FILE functions as an index of family stress and seeks to evaluate the pile-up of normative and nonnormative family stressors. It is comprised of nine subscales. The nine subscales assess the
following dimensions: intra-family strains, marital strains, pregnancy and childbearing strains, finance and business strains, work-family transitions and strains, illness and family "care" strains, losses, transitions "in and out", and legal stressors.

The FILE was selected as the instrument to measure family stressors as it was conceptually congruent with the theoretical definition of this concept. Given the various domains that the tool covered, it was clear that it did assess for persons, objects, or events that cause stress (King, 1981) for the family unit.

The overall reliability of the FILE, as calculated in previous studies, was .81 (McCubbin & Thompson, 1987). Test-retest reliability was calculated at a four to five week interval and was found to be .80 for the total scale (McCubbin & Thompson, 1987). There is evidence of construct validity provided by factor analysis. In addition, a total pile-up of family life stressors and strains was significantly and inversely correlated with measures of changes in the health status of children. Finally, the validity of the FILE was demonstrated by the fact that the pile-up of demands was correlated significantly, and in the hypothesized direction, with measures of family functioning such as family cohesion, independence of family members, family organization, and family conflict (McCubbin & Thompson, 1987).

The FILE has been used in a variety of different studies covering such diverse topics as families experiencing divorce (Plummer & Koch-Hattem, 1986), adolescent behavior problems (Calleja, 1989), a parent returning to school (Kausch, 1988), an adolescent pregnancy (Mays, 1987), the criminal commitment of a husband/father (Dresen, 1986), and the illness or handicap of a member (Patterson & McCubbin, 1983; Patterson, 1985; McCubbin, 1989; Bowen, 1990; Reeder, 1990; Benter, 1990; Hopkins, 1989; Artinian, 1988; Cauble, 1988; Lynch, 1987;
Bush, 1986; Gunn, 1986). Several of these studies found significant results with the FILE. For example, families with an anorectic (Hopkins, 1989) or an incarcerated member (Dresen, 1986) were found to experience more stress than the norm. In addition, family stressors, as measured by the FILE, were significantly related to adolescent behavior problems (Calleja, 1989). Further, the pile-up of family stressors was negatively related to perceived severity of divorce and also explained a portion of the variance in divorce adjustment for men (Plummer & Koch-Hattem, 1986). A statistically significant correlation was also found between the accumulation of family stressors and family support for adolescent mothers (Mays, 1987). Finally, in families with chronically ill children, the pile-up of family stressors negatively affected the health of the child (Patterson & McCubbin, 1983) and family functioning (Cauble, 1988). Thus, it seems clear that the FILE has been useful in documenting the level of stress experienced by certain types of families as well as in relating to specific individual and family outcomes.

The FILE can be scored in several different ways. The method selected for this study was that of the family-couple life events score (McCubbin & Thompson, 1987). In this scoring approach, the FILE was completed separately by each parent. A family-couple score was computed by examining the two completed instruments simultaneously, one item at a time. If either or both parents recorded yes on an item, the family-couple score was a yes and was given a score of one. This was done for each of the items. The items were then summed for each subscale and the total pile-up scale. A high score was indicative of a greater level of family stressors. This method of scoring the FILE was based on the assumption that partners may experience different family life events or strains by virtue of their own unique perspectives.
Nevertheless, each member's response should be treated as a valid indication of stressors and strains affecting the family unit (McCubbin & Thompson, 1987). Such a position is consistent with a systems theory approach in which it would be assumed that events or circumstances affecting an individual within a family unit will also affect the other family members to some degree. A systems theory approach is clearly consistent with King's conceptual framework as well. A Family-couple discrepancy score was also computed (McCubbin & Thompson, 1987). Each discrepancy (i.e. one member recorded yes and the other no) was given a score of one and summed for both the subscales and the total pile-up scale. This score gave an indication of the differences between parents' perceptions of stressors. The higher the score, the greater the degree of discrepancy present. Obviously, if the family was comprised of only one parent or only one parent was willing to participate, then the FILE score was computed from the input of that parent alone and compared with the family-couple scores from two parent families.

The Cronbach's alpha for the total FILE in this study was .89. The reliability of the subscales ranged from .31 for the Losses subscale to .77 for the Intrafamily Strains subscale. Table 5 lists the reliability coefficients for each of the nine subscales of the FILE as they were found to be in this study.

Family Crisis Oriented Personal Evaluation Scales

The measure of family coping was the Family Crisis Oriented Personal Evaluation Scales (F-COPES) (McCubbin et al, 1981) (See Appendix C). It was designed to identify problem-solving and behavioral strategies utilized by families in difficult situations. There are five subscales included within F-COPES that assess two underlying dimensions: internal family coping patterns and external
family coping patterns. Internal family coping is measured by the reframing and passive appraisal subscales. Reframing assesses the family's ability to redefine stressful events so as to make them more manageable. The passive appraisal subscale measures the family's ability to minimize reactivity and accept problematic situations. External family coping patterns are determined by means of the family's ability to acquire social support, seek spiritual support, and mobilize themselves to acquire and accept support. The acquiring social support scale taps the family's ability to actively engage in acquiring support from relatives, friends, neighbors, and extended family. Seeking spiritual support focuses on the family's ability to obtain spiritual support. Finally, the mobilizing family to acquire and accept help subscale deals with the family's ability to seek out and utilize community resources.

The F-COPES was selected as the measure of family coping because it was deemed to have a good fit with the theoretical definition of family coping. The F-COPES assesses various cognitive and behavioral efforts that the family might make to deal with demands that it is confronted with. According to the theoretical definition of family coping, the demands might be either internal or external and similarly the F-COPES taps external and internal strategies for dealing with them. Thus, the F-COPES was seen as an appropriate instrument to measure the variable of family coping.

The Cronbach's alpha for the overall F-COPES, as found in previous studies, was .86 (McCubbin & Thompson, 1987). The Cronbach's alpha for the individual scales ranged from .63 for passive appraisal to .83 for acquiring social support. The test-retest reliability was calculated at a four week interval and found to be .81 for the overall scale. The test-retest reliabilities for the individual subscales
ranged from .61 for reframing to .95 for seeking spiritual support. There was evidence of construct validity, derived from factor analysis, for the F-COPES (McCubbin et al, 1987).

The F-COPES has been used in a variety of studies including many that dealt with families experiencing an alteration in the health of a member. Significant results have been found with the F-COPES in several of these health related studies. For example, Omar (1989) found that the internal coping mechanisms of the F-COPES and moderate adaptability had a direct and positive effect on family life satisfaction for stepfamilies during pregnancy. In addition, Reider (1989) found that family coping strategies and two of the subscale strategies, seeking spiritual support and passive appraisal, were positively related to family adjustment in families dealing with the critical illness of a member. Similarly, Mears (1989) found that there was a significant correlation between the total coping skills score on the F-COPES and family adjustment in the family members of stroke victims. Coping did not have a significant level of predictability on the level of family adjustment in these families, however (Mears, 1989). In a study of burden and coping strategies of caregivers to Alzheimer’s patients, several of the internal as well as external coping strategies identified by the F-COPES were found to be significantly related to caregiver burden scores (Pratt et al, 1985). Thus, family coping, as measured by the F-COPES, has been found to be related to outcomes that are similar to those of interest in the proposed study.

The F-COPES contains thirty items that have five response options ranging from strongly disagree (1) to strongly agree (5). The scoring of the F-COPES was relatively easy. A sum score was obtained for each sub-scale and the total scale. This was derived by simply
summing the respondent’s score (1-5) for each of the items. There are four items (12, 17, 26, and 28) that had their scores reversed in order to maintain the proper weighting and direction for analysis and interpretation. (McCubbin & Thompson, 1987). In the case of more than one family respondent, a family mean score and family discrepancy scores was also calculated.

The internal consistency of the F-COPES, as measured by the Cronbach’s alpha, was .84 in this study. The Cronbach’s alpha for the individual scales ranged from .53 for Passive Appraisal to .87 for acquiring spiritual support. Table 5 lists the reliability coefficients for each of the subscales as they were calculated in this study.

Progress Evaluation Scales

The family’s perception of the client’s level of health was measured by a tool entitled the Progress Evaluation Scales (PES) (Ihilevich et al, 1981; Ihilevich & Gleser, 1982) (See Appendix D). The PES was designed for an adult psychiatric population and it focuses on client functioning. Specifically, it provides information about the client’s ability to carry out basic personal, social, and familial responsibilities. The PES has seven subscales that assess seven distinct underlying dimensions. The seven dimensions of the PES were chosen to represent the major areas in which health and psychopathology reveal themselves. They are intended to capture the level of healthy adaptive functioning that the client is engaged in rather than simply whether the client is experiencing a relief of symptoms (Ihilevich & Gleser, 1982).

The first subscale of the PES is that of family interaction and it measures the dimension of dependence-independence-interdependence in one’s relationships with other family members. The occupation subscale
taps a person's level of functioning in her/his primary occupational role including school, a job, or homemaking. The third subscale is entitled "Getting along with others" and assesses socialization or the person's ability to establish and maintain satisfying relationships outside of the family circle. The feelings and mood scale evaluates the level of affective modulation as indicated by the degree to which feelings are flexibly expressed and adaptively integrated into overall personality functioning. The use of free time scale assesses the degree to which sublimatory processes have satisfactorily evolved by indicating how free or constricted a person is in using inner and outer resources for play and enjoyment. The sixth subscale is named "Problems" and taps the coping capacity that the person can bring to bear on her/his daily problems. Finally, the attitude toward self scale evaluates the dimension of self-esteem in terms of the balance of negative and positive attitudes expressed about self (Ihilevich & Gleser, 1982). Each of the seven scales consists of five levels ranging from the most problematic to the healthiest level of functioning.

The PES had a good conceptual fit with the theoretical definition of the family's perception of the client's level of health. The PES assessed client functioning in various areas as well as the ability of the person to adapt. Such a focus was consistent with the previously stated definition and with King's (1981) discussion of health.

The PES, in previous studies, had an inter-rater reliability range of .49 to .86 on the various subscales with an overall median reliability of .65 (Ihilevich et al, 1981). The test-retest reliability at a two week interval ranges from .54 to .75 on the subscales with an overall median test-retest reliability of .68.
(Ihilevich et al., 1981). Construct validity studies revealed that the scales (a) differentiated between normal and client groups; (b) differentiated among groups with various levels of functioning; (c) were generally independent of demographic variables; (d) met criteria for convergent and discriminant validity on the basis of correlations between independent ratings of client and therapist; (e) measured different domains of behavior and experience as indicated by the low intercorrelations among them; and (f) were sensitive to changes in the client's ability to carry out personal, social, and familial responsibilities as indicated by the independent ratings of therapists and patients at the beginning, reevaluation, and termination of therapy (Ihilevich et al., 1981).

The PES subscales are leveled such that there are five items in each. For scoring purposes, the five items in each scale were assigned the numerical value of 1 to 5. One was keyed to the most pathological level of functioning (top item) and five to the healthiest level of functioning (bottom item in the column). Thus, the theoretical range of scores on the PES was from 7 to 35 (Ihilevich & Gleser, 1982). The higher the score the healthier the individual was seen to be by his/her family. A family mean score and a family discrepancy score was calculated for the two parent families.

The Cronbach's alpha for the PES was .81 in this study.

Family Adaptability and Cohesion Evaluation Scales III

Family health was measured, first of all, by the Family Adaptability and Cohesion Evaluation Scales (FACES) III (Olson, Portner & Lavee, 1985) (See Appendix E). FACES III is a self-report measure of family functioning that proceeds from a systems framework as well as from the Circumplex Model (Olson et al., 1983). Family functioning is
operationalized by FACES III to encompass the dimensions of family cohesion and family adaptability.

The Adaptability and Cohesion scales of the FACES III were chosen to operationalize family health as they capture the essence of the proposed theoretical definition. Family health was defined as the ability of the family to adjust to stressors and to function in their social roles (Frey, 1987; Frey, 1989). The FACES III subscales of Adaptability and Cohesion were intended to capture two essential aspects of family health. Adaptability deals with the extent to which the family unit is flexible and able to change in response to situational and developmental stress (Olson et al, 1983). Clearly this concept is analogous to "adjust(ing) to stressors" that was identified in the theoretical definition of family health proposed for this study. The FACES III Cohesion scale refers to the degree to which family members are separated from or connected to their family which is a result of the degree of emotional bonding that exists within the unit (Olson et al, 1983). While this concept is not directly addressed in the definition of family health, it is reasonable to assume that a family unit will not be well equipped to adjust to stressors or function without a level of cohesion. In fact, it is clear that without cohesion a family unit will not exist and certainly will not be able to engage in communal activities such as adjusting to stressors or functioning. Given this, it is possible to say that cohesion is essential to the family's ability to function and maintain its health. Finally, the theoretical definition of family health speaks specifically to functioning in social roles. The social roles of the family, according to King (1981, 1983), include socialization and transmission of culture. Socialization is defined as "a process whereby a person learns values, expected behaviors, rewards, and
sanctions" (King, 1981, p. 94) so as to be able to function in society or simply as "facilitation of growth in the young" (King, 1983, p. 179). Transmission of culture, while not defined explicitly by King (1981, 1983), apparently occurs during the process of socialization. It includes learning about the culture into which one was born in terms of its beliefs, attitudes, values, and customs. This learning is accomplished by observing patterns of human behaviors within the family unit (King, 1981, 1983). The social roles of the family, according to King, are obviously very broad and encompassing. The FACES III Cohesion and Adaptability scales assess the role of the family in transmitting culture throughout the items as they ask about the human behaviors that occur within the family unit which are reflective of its values, customs, attitudes, and beliefs. Further, FACES III Adaptability addresses the family's role as an agent of socialization specifically when it addresses discipline, rules, roles, and control. Thus, there appears to be a good conceptual fit between the theoretical definition of this term and the FACES III scales of Adaptability and Cohesion.

The FACES III Adaptability scale has ten items. The adaptability dimension has two items to address each of the subdimensions of leadership, control, and discipline as well as four items to address the combined concepts of roles and rules. The individual items of these subdimensions relate clearly and directly to the concept that they are intended to capture (i.e. Leadership - Item 6 Different persons act as leaders in our family. OR Discipline - Item 4 Children have a say in their discipline). The subdimensions effectively evaluate the ability of the family to change or alter its structure. Such a capability would be essential in the face of stress.
Thus, the subdimensions and their individual items are appropriate to assess the family's ability to function adaptively.

The cohesion dimension of FACES III has two items that address to each of the subdimensions of emotional bonding, supportiveness, family boundaries, time and friends, and interest in recreation. The subdimensions of emotional bonding, supportiveness, and family boundaries are concepts that are commonly understood as a part of family cohesion. Their items tap these concepts well. The subdimension label of "time and friends" is somewhat problematic in that it combines two seemingly different ideas. While the item related to "time" (Item 9 Family members like to spend free time with each other.) could perhaps be labeled in a more descriptive manner, it clearly deals with family cohesion. The "friends" aspect of this subdimension (Item 3 We approve of each other's friends.), however, has a somewhat questionable relationship to family cohesion. In a similar fashion, the label "interest in recreation" is problematic but the specific items do relate well to family cohesion.

The internal consistency of FACES III Cohesion and Adaptability, over previously conducted studies, was .77 and .62 respectively (Olson et al, 1985). Test-retest reliability was done at 4-5 weeks and was found to be .83 for the cohesion subscale and .80 for the adaptability subscale. Correlations of the subscales with social desirability were also computed and found to be: social desirability and adaptability $r=.00$ while social desirability and cohesion $r=.35$. The authors of the scales point out that since high cohesion is a characteristic that is embedded into our culture as an ideal for families it was not possible, nor desirable, to reduce the correlation between cohesion and social desirability to zero during the revisions of the FACES instrument. The correlation between the subscales of
FACES III was found to be $r = .03$ (Olson et al, 1985). The Cohesion and Adaptability scales have good face and content validity. In addition, there is evidence of construct validity provided by factor analysis. There is, however, a lack of evidence of concurrent validity (Olson et al, 1985).

FACES III has been sharply criticized in the literature for its assumption of a curvilinear relationship between the dimensions of cohesion and adaptability and healthy family functioning. This assumption suggests that too little or too much cohesion or adaptability is dysfunctional for the family system while a moderate amount of each is optimal for the family (Olson, et al, 1983). Research to date, attempting to establish the convergent validity of FACES III, has consistently indicated that cohesion and adaptability actually display a linear relationship with healthy family functioning (Beavers et al, 1985; Dickerson & Coyne, 1987; Green et al, 1985a; Green et al, 1985b; Miller et al, 1985; Perosa & Perosa, 1990; Pratt & Hansen, 1987; Walker et al, 1988). Green et al (1991a, 1991b) have agreed with the position that cohesion was a linear measure of family functioning but questioned the usefulness of adaptability as either a linear or curvilinear measure of family functioning. Olson (1991) acknowledged this considerable body of evidence and conceded that FACES III was, indeed, a linear measure such that high scores on cohesion and adaptability should be reconceptualized as being related to more functional family relationships. Conceptually a three dimensional version of the Circumplex Model, which FACES III proceeds from, has been introduced to incorporate this change (Olson, 1991).

The acknowledgement by Olson (1991) that FACES III is a linear measure of family functioning simplified the scoring of the subscales. Each of the subscales consists of ten items each. These items were
scored on a 5-point response scale that ranged from 1 (almost never) to 5 (almost always) in regard to the occurrence of a particular family behavior. The possible scores for each subscale ranged from 10 to 50. High scores on the subscales were interpreted as high levels of family health while low scores were seen as indicative of low levels of family health. Family mean scores and discrepancy scores were calculated for those families that had more than one informant participating in the study.

The FACES III Cohesion and Adaptability scales were deemed to be appropriate to the population that was studied in this research. The scales were intended to be administered to families across the life cycle (Olson et al, 1985). The fact that the families included in this sample had a young adult between the ages of 18 and 40, indicated that some of these families were actively parenting some children while launching others. The items of the Cohesion and Adaptability scales deal with this diversity nicely. For example, disciplinary (i.e. Item 10 Parent(s) and children discuss punishment together.) and household routine issues (i.e. Item 16 We shift household responsibilities from person to person.) that apply to families with younger children who are in residence in the family home are included. On the other hand, items that are applicable to families with older children who may not live at home are also evident (i.e. Item 13 When our family gets together for activities, everybody is present. OR Item 9 Family members like to spend free time with each other.). In addition, several of the subscale items are quite appropriate to families with young adult children in that they tap the level of participation, involvement, and consultation that these older children are included in (i.e. Item 2 In solving problems, the children’s suggestions are followed. OR Item 12 The children make the decisions in our family. OR Item 17 Family
members consult other family members on their decisions.). It should also be noted that the Cohesion and Adaptability scales have been used with clinical as well as nonclinical families. While the families of the young chronically mentally ill are not necessarily considered by this writer to be "clinical" families, the scales have been used with families who have a schizophrenic member (Clarke, 1984). Thus, the FACES III scales of Cohesion and Adaptability were applicable to the population of interest in terms of their sensitivity to the stage of family development and the unique challenges posed by a chronically mentally ill member.

The Cronbach's alpha for the Cohesion subscale was .79 in this study. The reliability coefficient for the Adaptability subscale was .73.

Family Environment Scale

The second measure of family health came from the conflict subscale of the Family Environment Scale (FES) (Moos & Moos, 1981) (See Appendix F). The total FES was developed within a social-ecological framework and focuses on interactions between families and their environments and the implications of these interactions for family functioning. Clearly this approach to family functioning is consistent with King's (1981, 1983) open systems model where individuals and families are continuously interacting with the environment. According to King (1981), these interactions with the environment influence one's adjustments to life and health.

The ten subscales of the FES assess three underlying domains including the relationship dimensions, the personal growth dimensions, and the system maintenance dimensions. The relationship dimensions are measured by the cohesion, expressiveness, and conflict subscales. The personal growth dimensions are assessed by the independence,
achievement orientation, intellectual-cultural orientation, active-recreational orientation, and moral-religious emphasis subscales. Finally, the system maintenance domain is measured by the organization and control subscales.

The entire FES scale has an internal consistency ranging from .61 to .78 for the ten subscales (Moos & Moos, 1981). Test re-test correlations for the individual subscales were reported to range from .68 to .86 after 2 months, .54 to .91 at four months, and .52 to .89 after twelve months (Moos & Moos, 1981). Moos (1990) asserted that the items have good content and face validity. He also indicated that there is an extensive body of research that supports the construct, concurrent, and predictive validity of the FES (Moos, 1990). It should be noted that these psychometric data have been called into question in the literature (Loveland-Cherry et al, 1989; Roosa & Beals, 1990a; Roosa & Beals, 1990b). The internal consistency of the subscales has been found to be lower (Loveland-Cherry et al, 1989; Roosa & Beals, 1990a) than reported by Moos and Moos (1981). In addition, the construct validity of the FES has been questioned as confirmatory factor analysis did not support the three dimensions into which the authors of the FES assert the ten subscales fall (Loveland-Cherry et al, 1989). Several of the variables did not load cleanly on one factor for mothers and fathers, however, all variables loaded strongly and cleanly on one and only one factor for children (Loveland-Cherry et al, 1989). The face validity of the FES has been questioned as well (Roosa & Beals, 1990a). Moos (1990) has countered some of these concerns by providing updated reliability data that are supportive of the original psychometric data that were provided for this instrument. In spite of these critiques of the FES, it is clear that it continues to be a widely used instrument (Touliatos et al, 1990).
The conflict subscale of the FES is the only section of this instrument that was used in this study. This subscale assesses the amount of openly expressed anger, aggression, and conflict among family members. It was selected for use in this study as it was deemed to have an important relationship to family health. The degree of conflict within a family unit can be seen as a representation of the degree of family health. It is logical to assume that families who are not able to adjust to stressors or able to function effectively in their social roles will exhibit higher levels of conflict. For example, a family having difficulty socializing its children in terms of teaching them expected behaviors may have more conflict than a family where this is not the case. In this sense, the FES conflict subscale was used as an indicator of family health.

The internal consistency of the conflict subscale, as originally reported, was .75 with two, four, and twelve month test-retest reliability of .85, .66, and .76 respectively (Moos & Moos, 1981). Roosa and Beals (1990a) reported internal consistency coefficients for the conflict subscale ranging from .61 to .75 across five different types of families. The Cronbach’s alpha for their entire sample (n=385 adults) on this subscale was .71 (Roosa & Beals, 1990). Moos (1990) provided an update on the reliability of the conflict subscale based on data obtained from different samples across time (n=3177). The range of internal consistencies reported was .72 to .78 with an average of .75 (Moos, 1990). The conflict subscale was not one of the subscales that Loveland-Cherry et al (1989) cautioned against using.

The total FES scale has 90 items that ask respondents to answer true or false to as to whether the item characterizes their family. The conflict subscale has 9 items. A response indicative of conflict; anger, or aggression was given a score of 1 and thus the range of
possible scores on the conflict subscale was 0-9. The scores on the conflict subscale were used to calculate a family average score and a family incongruence score in those families that had more than one member participating in the study.

The Cronbach's alpha for the FES Conflict subscale was .73 in this study.

**Family APGAR**

The final measure of family health was derived from the Family APGAR (Smilkstein, Ashworth & Montano, 1982) (See Appendix G). The development of this instrument was based on the premise that a family member's perception of family function could be assessed by the member's report of satisfaction with five parameters of family function. These five parameters include adaptation, partnership, growth, affection, and resolve.

The Family APGAR is conceptually congruent with the theoretical definition of family health. This is evident, first of all, in the fact that this instrument is designed to be a measure of family functioning. Since family health has been defined as the family's ability to adjust to stressors and to function in social roles (Frey, 1987; Frey, 1989), the overall intent of the scale is consistent with a major aspect of this theoretical definition. The specific parameters of family functioning, identified by the Family APGAR, are appropriate as well. Adaptation is obviously congruent with what King (1981, 1983) described as the ability to adjust to stressors. The growth parameter that is included in the Family APGAR relates specifically to one of the social roles of the family that King (1981; 1983) spoke of. The family, as a part of its social role, is involved in the socialization of its members or simply in the "facilitation of growth in the young" (King, 1983, p. 179). Along those same lines, it seems logical to
assume that a family unit could not effectively facilitate growth in the young without a level of affection within the family unit. The remaining parameters of the Family APGAR, partnership and resolve, relate to the family's role in socialization and transmission of culture, the second social role of the family according to King (1981, 1983). The existence of varying levels of these qualities within a family unit is indicative of the culture of the family that will be transmitted to its members. In addition, these parameters will aid in socialization as they teach skills that will be useful when one attempts to function in society. An assessment of members' satisfaction with each of these elements of family functioning is congruent with the definition as it seems plausible that high levels of dissatisfaction within the family unit would interfere with the family's continued functioning and its ability to adjust to stressors. Thus, there is a good conceptual fit between the Family APGAR and the theoretical definition of family health.

The Family APGAR, was found in previous studies, to have good internal consistency as indicated by a Cronbach's alpha of .86. The coefficient of test-retest reliability was .83 at a two week interval. There was evidence of construct validity for the Family APGAR in that its scores correlated with those of a previously validated instrument, the Pless-Satterwhite Family Function Index (Pless & Satterwhite, 1973), as well as with estimates of family function made by psychotherapists (Good et al, 1979). In addition, Family APGAR scores of married graduate students were found to be significantly higher than score of community mental health clinic patients (Good et al, 1979). Similarly, Smilkstein et al (1982) found that clients of a psychiatric outpatient program reported far lower satisfaction with family function than college student and medical center samples.
The Family APGAR allows for five possible responses ranging from "never" to "always". These responses were scored by assigning a numerical value of 0 to 4. Since the Family APGAR has only five items, the range of possible scores on this instrument was 0 - 20 (low to high satisfaction with family function). The scores on the Family APGAR were used to calculate a family average score and a family incongruence score for those families that had more than one member participating in the study.

The Cronbach's alpha for the Family APGAR in this study was .84.

Table 5 summarizes the reliability coefficients from previous studies as well as for the current study for each instrument used. An examination of Table 5 reveals a fair amount of similarity between the Cronbach's alphas in previous studies and those calculated in the present study. It is also apparent that several of the subscales have very low reliability coefficients. A decision was made to exclude any scales with a Cronbach's alpha below .60. Given that, the FILE Marital Strains, Pregnancy and Childbearing, Losses, Transitions "In and Out", and Legal subscales as well as the F-COPES Passive Appraisal subscale will not be considered in further data analysis.

Relationships Between Instruments Selected to Measure Family Health

Given that four distinct instruments were selected to measure the outcome variable of family health, it was deemed necessary to explore the relationships between these instruments as they functioned in this study. There were statistically significant correlations between each of the outcome measures. First of all, there was a significant, positive relationship between the FACES III Cohesion and and the Family APGAR (r=.54, p<.01). Similarly, there was significant, positive correlation between the FACES III Adaptability scale and the
<table>
<thead>
<tr>
<th>INSTRUMENTS</th>
<th>CRONBACH'S ALPHA</th>
<th>CRONBACH'S ALPHA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PREVIOUS STUDIES</td>
<td>CURRENT STUDY</td>
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<tr>
<td>FILE</td>
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<td>.89</td>
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<tr>
<td>Intrafamily Strains</td>
<td>.72</td>
<td>.77</td>
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<td>Marital Strains</td>
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<td>Pregnancy &amp; Childbearing</td>
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<tr>
<td>Finance and Business</td>
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<td>Work - Family Transitions</td>
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<td>Illness &amp; Family Care</td>
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<tr>
<td>Transitions &quot;In and Out&quot;</td>
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<td>.84</td>
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</tr>
<tr>
<td>PES</td>
<td>---</td>
<td>.81</td>
</tr>
<tr>
<td>FACES III</td>
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<td></td>
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<td>Cohesion</td>
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</tr>
<tr>
<td>Adaptability</td>
<td>.62</td>
<td>.73</td>
</tr>
<tr>
<td>FES Conflict Subscale</td>
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<td>.73</td>
</tr>
<tr>
<td>Family APGAR</td>
<td>d .86</td>
<td>.84</td>
</tr>
</tbody>
</table>

a McCubbin & Thompson (1987)  
b Olson et al (1985)          
c Moos (1990)                 

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Family APGAR \((r = .37, p < .01)\). The FACES III Cohesion scale and the FACES III Adaptability scale had a moderate, positive correlation as well \((r = .35, p < .01)\). Each of these instruments had significant, negative correlations with the FES Conflict subscale. The correlations between the FES Conflict scale and the Family APGAR, FACES III Cohesion, and FACES III Adaptability were \(-.40 \ (p < .01), -.37 \ (p < .01), \) and \(-.23 \ (p < .05)\) respectively. Table 6 summarizes these correlations.

The directionality of the correlations was as expected. The inverse relationships between the FES Conflict subscale and the other three measures of the dependent variable was predicted. The FES Conflict subscale approached family health in an indirect manner in that it was assumed that families whose health was comprised might exhibit higher levels of conflict and vice versa. The Family APGAR, FACES III Cohesion, and FACES III Adaptability, on the other hand, were directly measuring various aspects of family health within the family unit.

The fact that there were moderate, significant correlations between the instruments reinforced their selection for measurement of the dependent variable in this study. It was intended that each instrument was measuring a portion of the content domain of family health as it was theoretically defined in this study. The content domain of family health was viewed as being comprised of adaptability, cohesion, satisfaction, and conflict. The correlations appear to support the assumption that these aspects of family health were related but yet distinct elements of the content domain.

An additional question that might be raised regarding the four instruments used to measure family health relates to the potential for the creation of a Family Health Index. In light of these significant correlations, a combination of the four instruments into a single
**TABLE 6**  
**RELATIONSHIPS AMONG INSTRUMENTS USED TO MEASURE FAMILY HEALTH**

<table>
<thead>
<tr>
<th></th>
<th>Family APGAR</th>
<th>FACES III Cohesion</th>
<th>FACES III Adaptability</th>
<th>FES - Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family APGAR</td>
<td>-----</td>
<td>0.54**</td>
<td>0.37**</td>
<td>-0.40**</td>
</tr>
<tr>
<td>FACES III Cohesion</td>
<td>-----</td>
<td>0.35**</td>
<td></td>
<td>-0.37**</td>
</tr>
<tr>
<td>FACES III Adaptability</td>
<td>-----</td>
<td></td>
<td>-0.23**</td>
<td></td>
</tr>
<tr>
<td>FES - Conflict</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  **p < .01
composit measure of family health seems plausible. This course of action was not taken in this study but might well be beneficial in subsequent studies within this program of research.

Demographics

Finally, demographic data pertaining to the family unit, the individual family respondent(s), and the client was collected. (See Appendix H). These pieces of data enabled the researcher to describe the characteristics of the sample as well as to determine if any demographic items were related to the outcome of family health.

Human Subjects Considerations

This study was designed to protect the rights of the families who participated. Potential families were assured that their participation was voluntary. Families were also informed that they could withdraw from the study at any time without adverse consequences to them or their relative who might be receiving services from a clinical agency that was serving as a data collection site. Families were assured of confidentiality and anonymity. To this end, family identification codes were used. A family's completion of the set of questionnaires was interpreted as informed consent. In the case of one clinical agency, a separate informed consent form was required (See Appendix I).

Physical risk to subjects was considered minimal. The possible risk of psychological discomfort related to recalling and reflecting on the experiences of caring for a loved one with a chronic mental illness did exist.

The study was reviewed by the Wayne State University Human Investigation Committee and was found to be exempt under category 3 which spoke to research involving survey procedures. In addition, the study was reviewed and approved by the appropriate human subjects
committees in each of the clinical agencies that served as data collection sites.

Data Collection Procedure

The data collection procedure in this study involved several steps. In the case of the clinical agencies, initial contacts with prospective families were made by the agency staff. If a family indicated an interest, the researcher followed up with a telephone call and/or letter (See Appendix J). Families were mailed a packet of questionnaires along with a stamped envelop for return of the materials to the researcher. The packet included a written explanation of the purpose and requirements of the study and an assurance of confidentiality (See Appendix K). Subjects were also instructed to consider whatever group of individuals that they perceived to comprise their family when responding to questions about the family unit. They were told that this group should include the young chronically mentally ill person as well as any other members - relative or nonrelative, living in the family home or outside it - that they perceived to be a part of their family. In families where two persons were participating in the study, each was asked to complete the instruments independently. If a family did not return their questionnaires within approximately 3 weeks, a follow up letter was sent to encourage them to do so (See Appendix L).

In the case of the support groups, the researcher made personal contacts with the members. In some instances, the researcher was allowed to make a presentation at a meeting of the support group in which the nature of the study was described and an invitation to participate was extended. In other instances, the researcher attended state wide support group conferences and set up a display describing the study (See Appendix M). In this way, the researcher came into
contact with many families who were potential subjects for the study. There was an opportunity to talk with the families individually, to explain the purpose of the study, and to invite participation. If a family at either a support group meeting or at a state wide conference indicated an interest, they were given a packet of questionnaires and a stamped envelop for return of the materials to the researcher. The remainder of the process was identical to that described for the clinical agencies.

Data Analysis

The data analysis plan consisted of several steps. Each step, with the exception of selected demographic items on research question 1, involved the use of family mean scores for all two-respondent families. Thus, the analysis was based on the 82 families that were included in the sample. First then, bivariate correlations were used to address the first four stated hypotheses. The following correlations were calculated and analyzed to explore hypotheses 1-4: (a) family stressors and family health, (b) family coping and family health, (c) family perception of level of client’s health and family health, and (d) time since diagnosis of mental illness and family health.

The second step in the data analysis phase addressed hypothesis 5. Multiple correlation was used to determine if the cumulative influence of family stressors, family coping, time since diagnosis of mental illness, and family perception of client’s level of health was greater than the influence of any one of these factors alone on family health in the families of the young chronically mentally ill. As each independent variable was added, the increment was calculated and tested for significance.
Hierarchical multiple regression was used to analyze the data and investigate the fifth hypothesis as well. This multivariate statistical technique has been identified as promising in the area of family research (Miller et al., 1982). This is basically due to the fact that it will allow the researcher to separate spurious effects due to common correlation among independent variables from the direct effects of those independent variables (Schumm et al., 1980). In the case of this study, multiple regression allowed the researcher to predict the level of the dependent variable, family health in the families of the young chronically mentally ill, from the pure/direct influence of each of the four independent variables. The demographic variable of family income was entered into the regression equation initially so as to control for it. The order of entry of the major study variables into the multiple regression equation was as follows: a) family perception of client's level of health, (b) family stressors, (c) family coping, and (d) time since diagnosis of mental illness. This order was determined based on both the literature and the researcher's clinical judgment. Several of the previously cited studies indicated that the level of client functioning was a major factor that contributed to family burden (Coyne et al., 1987; Creer et al., 1982; Doll, 1976; Fadden et al., 1987; Gibbons et al., 1984; Grad & Sainsbury, 1963; Gubman et al., 1987; Holden & Lewine, 1982; Hooley et al., 1987; Lefley, 1987c; Noh & Avison, 1988; Runions & Prudo, 1983; Thompson & Doll, 1982). Thus, it was entered into the regression equation first. Each of the other variables was discussed in the literature but not with the frequency of the former. Given that, the researcher's clinical judgment was brought into play to order the remaining variables. This nurse's clinical experiences indicated that even the most resilient of families can become overwhelmed by various
types or sufficient number of stressors. Family coping strategies have been seen to play a definite role in mediating the effects of stressors on family outcomes. Finally, while the time since diagnosis of mental illness was thought to be significant, it was not judged to be as predictive as the previous variables.

In order to completely address hypothesis 5, stepwise multiple regression was utilized as well. This particular method of multiple regression allows the researcher to identify those variables that are the best predictors of the dependent variable. Each of the major study variables was entered into the stepwise multiple regression equation as well as any demographic variables that had significant zero order correlations with outcome variable of family health.

Since there was precedent for utilizing demographic data to predict outcomes in the families of the chronically mentally ill (Gubman et al, 1987; Noh & Avison, 1988; Noh & Turner, 1987), several of the demographic variables were entered into the stepwise multiple regression equations. Those variables that had significant zero order correlations with family health were age of client, family income, and age, gender, and marital status of family respondent. It should be noted that gender and marital status were dummy coded (Hays, 1988). Dummy codes allowed the researcher to take a dichotomous variable and assign a 0 or 1 systematically based on the presence or absence of the attribute. In this way, one is allowed to take a simple, dichotomous, nominal variable and mathematize it. In so doing, the variable is raised to an interval level for purposes of analysis. Once done, the variable can be entered into the regression analysis and treated as the other independent variables are. The remaining demographic variables (i.e. age of family respondent, family income, and age of client) required no further manipulation prior to being entered into the
regression equation given the existing level of measurement. Each
demographic variable was then assessed in terms of its ability to
predict the dependent variable.

Further data analysis involved descriptive statistics that were
used to analyze the demographic data that was collected. This allowed
the researcher to address research question 1 and make summary
statements about the characteristics of the clients and their families.
This initial step in the data analysis plan, though basic in nature,
has been endorsed as significant to family research (Miller et al,
1982).

The final research question was explored by means of bivariate
correlations. Specifically, correlations between each of the four
predictor variables were calculated and analyzed.

It should be noted that after having completed the bivariate
correlations, multiple correlations, and regression analysis with the
family mean scores, several statistical tests were run with the data
from the individual family members. For example, independent t-tests
and correlations by strata were conducted. These enabled the
researcher to determine if there were differences by gender, ethnicity,
marital status, or other demographics in terms of predicting the
outcome of family health. Further, the family discrepancy scores were
reviewed to determine the magnitude of the discrepancies within the
two-respondent families on all major study variables. This was an
attempt to determine if the observed differences were actually due to
differences between groups or might be the result of differences within
families. A more precise way of addressing this issue is with paired
t-tests. Thus, paired t-tests were conducted with the 22 two-
respondent families on all instruments used in the study.
CHAPTER 4

Results

This study was designed to explore the relationship between family stressors, family coping, family perception of the client's level of health, time since diagnosis of mental illness, and family health in the families of the young chronically mentally ill. Each of these concepts was derived from King's Open Systems Model (1981) and the literature pertaining to the families of the chronically mentally ill. These concepts were then formulated into a middle range theory of family health within the families of the young chronically mentally ill. This research attempted to provide empirical verification of this newly developed middle range theory.

Specifically, the investigation focused on explicating the impact of each of the four factors, family stressors, family coping, family perception of the client's level of health, and time since diagnosis of mental illness, on the outcome of family health. Data analysis sought to determine whether or not these factors were related to and could predict family health in this population. Five hypotheses and two research questions were formulated to direct the research. The results will be presented as they relate to each of the hypotheses and research questions.

Hypotheses

The first four hypotheses were addressed by means of bivariate correlations. The bivariate correlations were conducted with family mean scores, in the case of two-respondent families, so the correlations were based on 82 families. In addition, family discrepancy scores were calculated for each two-respondent family on each of the predictor variables. These discrepancy scores were then correlated with the outcome measures. Table 7 summarizes the
# TABLE 7
## CORRELATIONS WITH FAMILY HEALTH

<table>
<thead>
<tr>
<th></th>
<th>FAMILY HEALTH</th>
<th>FACES III Cohesion</th>
<th>FACES III Adaptability</th>
<th>FES Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Family APGAR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILE</td>
<td>-.42**</td>
<td>-.24*</td>
<td>---</td>
<td>.29**</td>
</tr>
<tr>
<td>Intrafamily</td>
<td>-.39**</td>
<td>-.33**</td>
<td>-.26*</td>
<td>.31**</td>
</tr>
<tr>
<td>Finance</td>
<td>-.37**</td>
<td>-.23*</td>
<td>---</td>
<td>.35**</td>
</tr>
<tr>
<td>Work</td>
<td>-.29**</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Illness</td>
<td>-.22*</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>F-COPES</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Mobilize</td>
<td>.37**</td>
<td>.25*</td>
<td>.22*</td>
<td>-.24*</td>
</tr>
<tr>
<td>PES</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Time Since Diagnosis</td>
<td>---</td>
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</table>

**Demographics**

<p>| | | | | |</p>
<table>
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<th></th>
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<tr>
<td>Age - Respondent</td>
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<td>.23*</td>
<td>---</td>
<td>-.32**</td>
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<td>Gender - Respondent</td>
<td>---</td>
<td>---</td>
<td>.24*</td>
<td>---</td>
</tr>
<tr>
<td>Marital Status - Respondent</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Family Income</td>
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<td>---</td>
<td>-.24*</td>
<td>---</td>
</tr>
<tr>
<td>Age - Client</td>
<td>---</td>
<td>.23*</td>
<td>---</td>
<td>-.29**</td>
</tr>
</tbody>
</table>

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

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significant correlations with family health.

**Hypothesis 1**

The first hypothesis stated: The level of family stressors is inversely related to family health. As shown in Table 7, there was, indeed, an inverse relationship between the FILE, which was used to measure family stressors, and most of the measures of family health. Specifically, there was a moderately strong, significant, negative relationship between the total FILE and the Family APGAR, as a measure of family health. In addition, all four of the FILE subscales that were included in the data analysis had significant negative correlations with the Family APGAR. When looking at the FACES III Cohesion scale, it is apparent that there were significant negative correlations between it and the total FILE, the Intrafamily Strains subscale, and the Finance and Business Strains subscale. The Adaptability scale of the FACES III was negatively correlated with only the Intrafamily Strains subscale of the FILE.

There were several significant, positive correlations between family stressors and the FES Conflict Subscale, as a measure of family health. The total FILE as well as the Intrafamily and the Finance and Business Strains subscales were positively correlated with the FES Conflict scale. It should be noted that these correlations were, indeed, positive while all others were negative. This was expected given that the FES Conflict scale was conceptualized as an inverse measure of family health. It was assumed that as family stressors increased, the level of conflict would increase as well.

An overall review of the correlation matrix between the FILE and the various measures of family health indicates that several of the FILE subscales were correlated repeatedly with measures of family health. The Intrafamily Strains subscale of the FILE, in particular,
was correlated with each of the measures of family health. In addition, the Finance and Business Strains subscale of the FILE was correlated with the Family APGAR, the FACES III Cohesion scale, and the FES Conflict scale.

**Hypothesis 2**

Hypothesis 2 stated: The family's ability to cope is positively related to family health. As Table 7 shows, there was some support for this hypothesis. One subscale of the F-COPES, namely the Mobilizing Family to Acquire and Accept Help subscale, was significantly and positively correlated with each of the measures of family health. The correlation with the FES Conflict scale was negative, as expected.

**Hypothesis 3**

Hypothesis 3 stated: The family's perception of the level of client health is positively related to family health. As Table 7 indicates there were no significant correlations between the PES and the various measures of family health.

**Hypothesis 4**

Hypothesis 4 stated: The length of time since diagnosis of mental illness is inversely related to family health. As indicated in Table 7, there were no significant correlations between the length of time since diagnosis of mental illness and the outcome of family health.

**Discrepancy Scores related to Hypotheses 1-4**

There were no significant correlations between any of the predictor variable discrepancy scores and the four measures of family health. It is possible that this was a result of insufficient power.

**Hypothesis 5**

Hypothesis 5 stated: A significant portion of the variance in family health in the families of the young chronically mentally ill
will be accounted for by: (a) family stressors, (b) family coping, (c) family perception of client's level of health, and (d) time since diagnosis of mental illness. This hypothesis was addressed by means of multiple correlation, hierarchical multiple regression, and stepwise multiple regression.

The hierarchical multiple regression equations were used to test the model of the middle range theory of family health in the families of the young chronically mentally ill. The order of variable entry was family income, family perception of the client's level of health, family stressors, family coping, and time since diagnosis of mental illness. The order of entry was based on the current literature as well as clinical experience. Family income was entered first so as to control for this variable in each equation.

Table 8 gives the results of the various hierarchical multiple regression equations. The model was most effective in predicting the outcome of family health as measured by the Family APGAR. Twenty-six percent of the variance in the Family APGAR was explained by the model specified variables. The FILE (Beta = -.40, p < .001) and the F-COPES subscale of Mobilizing the Family to Acquire and Accept Help (Beta = .31, p < .01) were significant predictors of the outcome.

Table 8 also shows the hierarchical regression equations involving FACES III Cohesion, FACES III Adaptability, and the FES Conflict scale as measures of family health. The model predicted 14% of the variance in the FACES III Cohesion scale with the FILE Intrafamily Strains subscale and the F-COPES Mobilize subscale acting as significant predictors. It predicted 13% of the variance in the FACES III Adaptability scale with Family Income, the FILE Intrafamily Strains subscale, and the F-COPES Mobilize scale all acting as significant predictors. Finally, the model predicted 16% of the

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### TABLE 8  
**HIERARCHICAL MULTIPLE REGRESSION-TESTING THE MODEL**

<table>
<thead>
<tr>
<th>DV</th>
<th>IV's</th>
<th>Beta</th>
<th>Adjusted $R^2$</th>
<th>$R^2$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family APGAR</td>
<td>Family Income</td>
<td>-0.04</td>
<td>-0.01</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>PES</td>
<td>-0.10</td>
<td>-0.01</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>FILE</td>
<td>-0.40***</td>
<td>0.18***</td>
<td>0.19***</td>
</tr>
<tr>
<td></td>
<td>F-COPES - Mobilize</td>
<td>0.31**</td>
<td>0.26***</td>
<td>0.08**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$F=7.98$  $p=.00$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* $p&lt;.05$ ** $p&lt;.01$ *** $p&lt;.001$</td>
<td></td>
</tr>
</tbody>
</table>

Note: Time Since Diagnosis was removed as the final step in the regression equation as it reduced the Adjusted $R^2$.

<table>
<thead>
<tr>
<th>DV</th>
<th>IV's</th>
<th>Beta</th>
<th>Adjusted $R^2$</th>
<th>$R^2$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACES III</td>
<td>Family Income</td>
<td>0.06</td>
<td>-0.01</td>
<td>---</td>
</tr>
<tr>
<td>Cohesion</td>
<td>PES</td>
<td>0.11</td>
<td>-0.01</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>FILE - Intrafamly</td>
<td>-0.29**</td>
<td>0.08*</td>
<td>0.09**</td>
</tr>
<tr>
<td></td>
<td>F-COPES - Mobilize</td>
<td>0.27*</td>
<td>0.14**</td>
<td>0.06*</td>
</tr>
<tr>
<td></td>
<td>Time Since Diagnosis</td>
<td>0.11</td>
<td>0.14**</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$F=3.58$  $p=.01$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* $p&lt;.05$ ** $p&lt;.01$ *** $p&lt;.001$</td>
<td></td>
</tr>
</tbody>
</table>

Note: Time Since Diagnosis was removed as the final step in the regression equation as it reduced the Adjusted $R^2$.

<table>
<thead>
<tr>
<th>DV</th>
<th>IV's</th>
<th>Beta</th>
<th>Adjusted $R^2$</th>
<th>$R^2$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACES III</td>
<td>Family Income</td>
<td>-0.23*</td>
<td>0.05*</td>
<td>---</td>
</tr>
<tr>
<td>Adaptability</td>
<td>PES</td>
<td>-0.05</td>
<td>0.04</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>FILE - Intrafamly</td>
<td>-0.24*</td>
<td>0.09*</td>
<td>0.05*</td>
</tr>
<tr>
<td></td>
<td>F-COPES - Mobilize</td>
<td>0.23*</td>
<td>0.13**</td>
<td>0.04*</td>
</tr>
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<td></td>
<td></td>
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<td>$F=3.99$  $p=.01$</td>
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<td></td>
<td></td>
<td></td>
<td>* $p&lt;.05$ ** $p&lt;.01$ *** $p&lt;.001$</td>
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</tbody>
</table>

Note: Time Since Diagnosis was removed as the final step in the regression equation as it reduced the Adjusted $R^2$.

<table>
<thead>
<tr>
<th>DV</th>
<th>IV's</th>
<th>Beta</th>
<th>Adjusted $R^2$</th>
<th>$R^2$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>FES Conflict</td>
<td>Family Income</td>
<td>0.14</td>
<td>0.02</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>PES</td>
<td>0.18</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>FILE - Intrafamly</td>
<td>0.33**</td>
<td>0.13**</td>
<td>0.10**</td>
</tr>
<tr>
<td></td>
<td>F-COPES - Mobilize</td>
<td>-0.20</td>
<td>0.16**</td>
<td>0.03</td>
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<td></td>
<td></td>
<td></td>
<td>$F=4.93$  $p=.00$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* $p&lt;.05$ ** $p&lt;.01$ *** $p&lt;.001$</td>
<td></td>
</tr>
</tbody>
</table>

Note: Time Since Diagnosis was removed as the final step in the regression equation as it reduced the Adjusted $R^2$.  

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variance in the PES Conflict subscale. In this case the significant predictor was the FILE Intrafamily Strains subscale. It should be noted that the final variable, time since diagnosis of mental illness, was removed from three of the hierarchical regression equations as it reduced the explained variance.

Stepwise multiple regression equations were used to address Hypothesis 5 as well. In constructing the stepwise multiple regression equations, each of the major study variables were entered as well as any of the demographic variables that had significant zero order correlations with the measures of family health. As Table 7 shows age, gender, and marital status of the respondent as well as family income and age of the client were significantly correlated with the various measures of family health. Thus, these variables were included in the appropriate stepwise multiple regression equations.

Table 9 outlines the results of the various stepwise multiple regression equations. Twenty-six percent of the variance in the Family APGAR was explained with the FILE and the F-COPES Mobilize subscale acting as significant predictors. The variables that did not enter into the equation were the PES, the time since diagnosis of the mental illness, and the age of the respondent.

As shown in Table 9, 24% of the variance in the FACES III Cohesion subscale was explained by the FILE Intrafamily Strains subscale, the marital status of the respondent, and the F-COPES Mobilize subscale. Marital status was dummy coded in such a way that the Beta coefficient indicated that those who were married tended to perceive a greater amount of cohesion within their family unit. Several variables did not enter into this equation including: the PES, time since time of diagnosis of mental illness, age of the respondent; and age of the client.
TABLE 9
STEPWISE MULTIPLE REGRESSION -
IDENTIFYING THE BEST PREDICTORS OF FAMILY HEALTH

<table>
<thead>
<tr>
<th>DV</th>
<th>IV'S</th>
<th>Beta</th>
<th>Adjusted R²</th>
<th>R² Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family APGAR</td>
<td>FILE</td>
<td>-.38***</td>
<td>.17***</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>F-COPES - Mobilize</td>
<td>.32**</td>
<td>.26***</td>
<td>.09**</td>
</tr>
</tbody>
</table>

F = 15.15 p = .00

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

Variables not in the Equation: PES, Time Since Diagnosis, Age of Respondent

<table>
<thead>
<tr>
<th>DV</th>
<th>IV'S</th>
<th>Beta</th>
<th>Adjusted R²</th>
<th>R² Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACES III</td>
<td>FILE - Intrafamily</td>
<td>-.39***</td>
<td>.10**</td>
<td>---</td>
</tr>
<tr>
<td>Cohesion</td>
<td>Marital Status of Respondent</td>
<td>.32**</td>
<td>.19***</td>
<td>.09**</td>
</tr>
<tr>
<td></td>
<td>F-COPES - Mobilize</td>
<td>.25*</td>
<td>.24***</td>
<td>.05*</td>
</tr>
</tbody>
</table>

F = 9.66 p = .00

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

Variables not in the Equation: Time Since Diagnosis, Age of Client, Age of Respondent, PES

<table>
<thead>
<tr>
<th>DV</th>
<th>IV'S</th>
<th>Beta</th>
<th>Adjusted R²</th>
<th>R² Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACES III</td>
<td>F-COPES - Mobilize</td>
<td>.29**</td>
<td>.07**</td>
<td>---</td>
</tr>
<tr>
<td>Adaptable</td>
<td>FILE - Intrafamily</td>
<td>-.21*</td>
<td>.12***</td>
<td>.05**</td>
</tr>
<tr>
<td></td>
<td>Family Income</td>
<td>-.20*</td>
<td>.15***</td>
<td>.03*</td>
</tr>
<tr>
<td></td>
<td>Gender of Respondent</td>
<td>.18*</td>
<td>.18***</td>
<td>.03*</td>
</tr>
</tbody>
</table>

F = 6.53 p = .00

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

Variables not in the Equation: Time Since Diagnosis, PES

<table>
<thead>
<tr>
<th>DV</th>
<th>IV'S</th>
<th>Beta</th>
<th>Adjusted R²</th>
<th>R² Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>FES Conflict</td>
<td>FILE - Intrafamily</td>
<td>.25*</td>
<td>.08**</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>F-COPES - Mobilize</td>
<td>-.23*</td>
<td>.13**</td>
<td>.05*</td>
</tr>
<tr>
<td></td>
<td>Age of Respondent</td>
<td>-.21*</td>
<td>.16***</td>
<td>.03*</td>
</tr>
</tbody>
</table>

F = 6.12 p = .00

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

Variables not in the Equation: PES, Time Since Diagnosis, Age of Client

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Table 9 also indicates that 18% of the variance in the FACES III Adaptability was explained by the F-COPES Mobilize subscale, the FILE Intrafamily Strains subscale, family income, and the demographic variable of gender of respondent. In regard to gender, the variable was dummy coded in such a way that the Beta coefficient indicated that males tended to perceive a greater degree of adaptability within the family unit. It is also interesting to note that the Beta associated with family income indicated that as family income increased, the family's adaptability decreased. The PES and time since diagnosis of mental illness did not enter into this regression equation in spite of their significant zero order correlations.

The final stepwise multiple regression equation shown in Table 9 involves the FES Conflict subscale as the measure of family health. In this equation, 16% of the variance was explained by the FILE Intrafamily Strains subscale, the F-COPES Mobilize subscale, and the age of the respondent. Those variables that did not enter into the regression equation were the PES, the time since diagnosis of mental illness, and the age of the client.

Research Questions 1 and 2

The research questions were addressed by means of descriptive statistics, t-tests, and bivariate correlations. The statistical analysis was conducted with family mean scores in the cases where there were two-respondent families. Tables 10 and 11 summarize the results.

Research Question 1

Research question 1 stated: What are the characteristics of the young chronically mentally ill and their families? The sample families, respondents, and clients were described in the previous chapter in regard to demographics as well as various factors specifically related to the chronic mental illness.
This research question was also addressed by comparing the scores of this sample of families of the young chronically mentally ill to normative scores provided on each of the instruments used to measure the major study variables. Table 10 provides a comparison of sample means and standard deviations to established norms on the various instruments. In addition, t-tests were performed to determine if there were statistically significant differences between this sample and the normative samples. It is evident from examination of this table that the families of the young chronically mentally ill reported more stressors than the normative sample. The difference between the two groups was statistically significant. There was also a significant difference in mean scores on the F-COPES. It appears as though the sample families relied more on the coping strategies identified in the F-COPES, such as passive appraisal, reframing, seeking social and spiritual support, and utilizing community resources, than did the normative sample. The scores on the PES were substantially and significantly different between the two groups which would be expected given the impact of a chronic mental illness on an individual's ability to function and conduct the business of living. Further, it is interesting to note that while the sample families did experience significantly less cohesion within their family units, they actually had a significantly greater degree of adaptability. Family APGAR scores were also significantly different between the two groups with sample families scoring lower on this measure of family health. This indicates that the sample families experienced a lower level of satisfaction with the functioning of their family unit than did the normative sample. Finally, there was a statistically significant difference between the sample families and the normative sample on the PES Conflict scale. In this case, the sample families reported
<table>
<thead>
<tr>
<th></th>
<th>NORMATIVE DATA</th>
<th></th>
<th>SAMPLE DATA</th>
<th></th>
<th></th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>t-value</td>
<td></td>
</tr>
<tr>
<td>FILE</td>
<td>*8.80</td>
<td>*5.87</td>
<td>11.18</td>
<td>8.41</td>
<td>3.85***</td>
<td></td>
</tr>
<tr>
<td>F-COPES</td>
<td>*93.34</td>
<td>*13.62</td>
<td>101.34</td>
<td>15.98</td>
<td>5.57***</td>
<td></td>
</tr>
<tr>
<td>PES</td>
<td>*31.59</td>
<td>*4.63</td>
<td>19.68</td>
<td>5.65</td>
<td>19.24**</td>
<td>*</td>
</tr>
<tr>
<td>FACES III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohesion</td>
<td>*39.80</td>
<td>*5.40</td>
<td>35.59</td>
<td>6.25</td>
<td>7.60***</td>
<td></td>
</tr>
<tr>
<td>Adaptability</td>
<td>*24.10</td>
<td>*4.70</td>
<td>25.93</td>
<td>5.83</td>
<td>3.78***</td>
<td></td>
</tr>
<tr>
<td>Family APGAR</td>
<td>*14.43</td>
<td>*3.76</td>
<td>13.21</td>
<td>3.35</td>
<td>3.02**</td>
<td></td>
</tr>
<tr>
<td>FES Conflict</td>
<td>*3.31</td>
<td>*1.85</td>
<td>2.67</td>
<td>2.26</td>
<td>3.25**</td>
<td></td>
</tr>
</tbody>
</table>

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

*McCubbin & Thompson (1987)
*Ihilevich & Gleser (1982)
*Olson, Portner & Lavve (1985)
*Smilkstein et al (1982)
*Moos & Moos (1981)
significantly less conflict than did the normative sample. Thus, the families of the young chronically mentally ill, included within this sample, were significantly different from the norm on all instruments used to measure the major study variables. They reported more stressors, utilized specified coping strategies more frequently, were less cohesive but more adaptable, experienced less conflict, reported a lower level of satisfaction with family functioning, and had a young adult member who functioned at a level significantly below the norm.

Research Question 2

Research question 2 stated: What are the relationships between the predictor variables: (a) family stressors, (b) family coping, (c) family perception of client's level of health, and (d) time since diagnosis of mental illness? Table 11 lists the bivariate correlations specified by this research question. It is apparent that there was a significant, negative relationship between the family perception of the client's level of health and family stressors as evidenced by the correlation between the PES and the FILE. It appears as though when the family perceived the client to possess a greater level of health they also perceived fewer overall family stressors. An additional significant, negative relationship was found between time since diagnosis of the mental illness and family stressors. Specifically, the correlation indicated that as time passed the family perceived fewer stressors within the family unit. There were no significant relationships between any of the remaining predictor variables.

It should be noted that these correlations between the predictor variables not only explicate the relationships between these variables but also can be used to detect the presence of multicollinearity. Multicollinearity exists when two or more predictor variables, intended for use in a correlational technique such as
TABLE 11
CORRELATIONS BETWEEN PREDICTOR VARIABLES

<table>
<thead>
<tr>
<th></th>
<th>FILE</th>
<th>F-COPES</th>
<th>PES</th>
<th>Time Since Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>FILE</td>
<td>-----</td>
<td>----</td>
<td>-.22*</td>
<td>-.31**</td>
</tr>
<tr>
<td>F-COPES</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>PES</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>Time Since Diagnosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05 **p<.01
multiple regression, are highly interrelated (Schumm et al., 1980; Miller et al., 1982; Schumm et al., 1985; Larzelere & Klein, 1987). A review of Table 11 indicates that while there were two significant relationships between these variables, they were not of sufficient magnitude to warrant concern about multicollinearity.

Additional Analysis

Once data analysis was completed with family mean scores, several statistical tests were run with the data from the individual family members. Independent t-tests and correlations by strata were conducted to determine if there were statistically significant differences between various subgroups within the overall sample. In addition, while the family discrepancy scores did not appear to indicate substantial differences within families, paired t-tests were run to ascertain if observed differences were actually between groups or if they might be due to differences within family units.

Independent t-tests

Table 12 provides the results of the independent t-tests. It is evident that there were statistically significant differences by gender, marital status, relationship to client, and client living arrangements. Given the fact that several of the subgroups were limited in size, the significant differences need to be approached with a degree of caution. Significant differences may give indication of where future research efforts should be directed. On the other hand, in instances of nonsignificance there is clearly the potential for Type II error given the very low power. Thus, the independent t-tests should be regarded as preliminary analyses that might provide direction in future research with the families of the young chronically mentally ill.

In regard to gender, women tended to perceive a significantly
# TABLE 12
## INDEPENDENT T-TESTS

### GENDER

<table>
<thead>
<tr>
<th>INSTRUMENTS</th>
<th>Females (n=71)</th>
<th>M</th>
<th>SD</th>
<th>Males (n=32)</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FILE</td>
<td></td>
<td>12.37</td>
<td>8.77</td>
<td>8.64</td>
<td>7.04</td>
<td></td>
<td>-2.14*</td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td>2.21</td>
<td>2.14</td>
<td>1.30</td>
<td>1.49</td>
<td></td>
<td>-2.50*</td>
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<tr>
<td>Work</td>
<td></td>
<td>2.35</td>
<td>2.21</td>
<td>1.33</td>
<td>1.65</td>
<td></td>
<td>-2.36*</td>
</tr>
<tr>
<td>F-COPES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiritual</td>
<td></td>
<td>14.10</td>
<td>4.43</td>
<td></td>
<td></td>
<td></td>
<td>-2.00*</td>
</tr>
</tbody>
</table>

### MARITAL STATUS

<table>
<thead>
<tr>
<th>INSTRUMENTS</th>
<th>Married (n=85)</th>
<th>M</th>
<th>SD</th>
<th>Not Married (n=19)</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACES III</td>
<td></td>
<td>36.28</td>
<td>5.81</td>
<td>32.47</td>
<td>7.28</td>
<td></td>
<td>-2.46*</td>
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</tbody>
</table>

### RELATIONSHIP TO CLIENT

<table>
<thead>
<tr>
<th>INSTRUMENTS</th>
<th>Parents (n=93)</th>
<th>M</th>
<th>SD</th>
<th>Spouse/other (n=11)</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-COPES</td>
<td></td>
<td>103.01</td>
<td>14.86</td>
<td>87.18</td>
<td>18.79</td>
<td></td>
<td>-3.25**</td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td>26.80</td>
<td>7.21</td>
<td>21.45</td>
<td>9.89</td>
<td></td>
<td>-2.23*</td>
</tr>
<tr>
<td>Spirit</td>
<td></td>
<td>13.84</td>
<td>4.56</td>
<td>10.36</td>
<td>5.56</td>
<td></td>
<td>-2.34*</td>
</tr>
<tr>
<td>Reframing</td>
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<td>28.51</td>
<td>4.67</td>
<td>25.00</td>
<td>6.91</td>
<td></td>
<td>-2.23*</td>
</tr>
</tbody>
</table>

### CLIENT LIVING ARRANGEMENTS

<table>
<thead>
<tr>
<th>INSTRUMENTS</th>
<th>Family Home (n=32)</th>
<th>M</th>
<th>SD</th>
<th>Outside Family Home (n=50)</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-COPES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobilize</td>
<td></td>
<td>14.16</td>
<td>3.74</td>
<td>15.70</td>
<td>2.96</td>
<td></td>
<td>2.08*</td>
</tr>
<tr>
<td>PES</td>
<td></td>
<td>21.66</td>
<td>6.50</td>
<td>18.42</td>
<td>4.68</td>
<td></td>
<td>-2.44*</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01

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greater number of family stressors than did men. This was particularly true in the areas of finance and business strains and work-family transitions and strains. Women also had significantly higher scores on the F-COPES subscale of Seeking Spiritual Support. They apparently viewed this as a more useful method of coping with problematic situations than did men.

There was one significant difference revealed on the independent t-tests related to marital status. Those respondents who were married reported a significantly greater amount of cohesion within their family units than those subjects who were not married.

When dividing the sample by their relationship to the client, several significant differences emerged. It is interesting to note that all of these differences pertained to family coping. The parents scored significantly higher on the total F-COPES as well as on three of its five subscales. Parents appeared to acquire social support, seek spiritual support, and utilize reframing more frequently than did spouses or other primary caretakers.

Finally, there were interesting differences between those families whose ill member resided in the family home and those families whose ill member resided some place other than the family home. Families whose ill member lived outside the family home scored significantly higher on the F-COPES subscale of Mobilizing to Acquire and Accept Help which deals with the family's ability to seek out and utilize community resources. Conversely, those families whose ill member resided with them in the family home reported that the client's level of health was significantly greater.

Independent t-tests were also performed by ethnic background and employment status of respondent as well as the source of family
involvement (clinical agency or support group). There were no significant values for these subgroups.

**Correlations by Strata**

Correlations by strata were conducted utilizing the variables that had yielded significant independent t-tests. In addition, in spite of the fact that no significant independent t-tests were found around ethnicity of the families, correlations by ethnic background were conducted to assess for possible emerging patterns. Tables found in Appendix N summarize the correlations by strata. Similar caution is needed in regard to the correlations by strata as the same subgroups of the overall sample, several of which were very limited in size, were utilized. Once again the results of this analysis should be regarded as preliminary and will need to be verified in future research.

**Paired t-tests**

As previously stated, paired t-tests were conducted to ensure that identified differences were actually due to differences between groups (i.e. families with the client living in the family home vs. families with the client living outside the family home; married vs. not married respondents) and not due to differences within families. While the family discrepancy scores on the two-respondent families did not suggest major differences within families, it was felt that paired t-tests would more adequately respond to this concern. Paired t-tests were run with the 22 two-respondent families on all measures of the independent and dependent variables. No significant values were found. It is, once again, possible that this finding was related to the small number of two-respondent families which may have resulted in insufficient power to detect significant relationships.

**Summary of Results**
In summary, the data analysis revealed several significant results. First of all, three of the five hypotheses were supported. Significant, positive correlations were found between family coping and the various measures of the outcome of family health. A negative correlation was found between family stressors and family health. Hypothesis 3, which asserted a positive relationship between the family perception of the client's level of health and family health, was not supported. Similarly, Hypothesis 4, which proposed an inverse relationship between time since diagnosis of mental illness and family health, was not supported. Further bivariate correlations indicated that there were significant correlations between several of the predictor variables as well. Specifically, there was an inverse relationship between the time since diagnosis of the mental illness and family stressors as well as between the family perception of the client's level of health and family stressors.

Multiple correlation indicated that 13-26% of the variance in family health was explained by the middle range theory. Hierarchical and stepwise multiple regression equations identified the major study variables of family stressors and family coping as well as the demographic variables of age, gender, and marital status of respondent as well as family income to be significant predictors of family health.

Two sample t-tests were conducted for the purpose of comparing the sample means to established norms on the various instruments utilized in this study. These t-tests revealed significant differences in that the sample families reported more stressors, relied more on specified coping strategies, were less cohesive but more adaptable, experienced less conflict, were less satisfied with the functioning of their family unit, and had a member who functioned at a level significantly below the norm.
Data analysis was employed to determine if there were statistically significant differences between various subgroups within the overall sample. Independent t-tests revealed significant differences by gender, marital status, relationship to client, and client living arrangements. Correlations by strata also revealed differing patterns among these subgroups as well as between ethnic groups. Paired t-tests indicated that there were no significant differences within families.
CHAPTER 5
Discussion and Summary

Discussion of the results of this study will be approached in the following manner. First of all, the study will be discussed in terms of what is viewed as its most important contribution to the discipline of nursing - namely its contribution to nursing theory. In addition, the implications of the study for future nursing research and practice will also be outlined. The strengths and limitations of the study will also be explored. Finally, future directions for this program of research will be discussed. The chapter will conclude with a summary of the research study, its results, and its implications.

Contribution of the Study to Nursing Theory

The need for knowledge that is specific to the discipline of nursing has been recognized since the time of Florence Nightingale (1859). It is this knowledge that will comprise the science of nursing. Developing the science of nursing entails the development of nursing theory. Several decades ago, nursing leaders, drawing from the work of Merton (1967), began calling specifically for the development of middle range theories of nursing (Jacox, 1974). Such theories consider a limited number of variables, have a particular substantive focus, focus on a limited set of relationships, are susceptible to empirical testing, and can be consolidated into broader theories (Meleis, 1985, Fawcett & Downs, 1992). The development of such middle range theories has more recently been endorsed as appropriate given the fact that nursing has now identified and broadly agreed upon the boundaries of nursing knowledge and nursing domain concepts (Meleis, 1985, Fawcett & Downs, 1992).

While the development of nursing theory is necessary to the establishment and expansion of the science of nursing, it is not
sufficient. It is imperative that the theory be empirically tested (Silva, 1986; Acton et al, 1991; Fawcett & Downs, 1992; Silva & Sorrell, 1992). It is only with such theory testing that the validity of the theory can be ascertained and appropriate modifications can be made.

This study began with a theory development effort and then proceeded to test the resultant middle range theory. A middle range theory of family health in the families of the young chronically mentally ill was deduced from the conceptual framework of King (1981). Selected concepts from this conceptual framework, namely stress/stressors, coping, perception, time, and health, were applied to this population. Specifically the middle range theory sought to assert a relationship between each of these concepts and the outcome of family health. The middle range theory of family health in the families of the young chronically mentally ill stated:

Family stressors, family coping, family perception of the client’s level of health, and time since diagnosis of the mental illness affect family health.

Three assumptions underlie the theory and four propositions were derived from it. Each of the assumptions and the propositions are logical extensions of and can be traced directly back to the work of King (1981).

The results of the research will be reviewed in terms of their implications for the proposed theory. The findings will be interpreted in light of King’s conceptual framework as well as the current literature pertaining to the families of the chronically mentally ill. With regard to the literature, it should be noted, once again, that none of the studies pertaining to the families of the chronically mentally ill utilized the outcome variable of family health. The vast
majority explored the dependent variable of family burden. While it is clearly recognized that family health and family burden are not equivalent concepts, it is, nevertheless, asserted that the family burden studies can provide a useful perspective. First of all, it seems logical to assume that families who are severely burdened by the mental illness of a loved one might be compromised in their attempts to maintain the health of their family units. In addition, the concept of family burden has been described in the literature as being comprised of both subjective and objective elements. Objective burden was defined as the observable, concrete cost of the mental illness to the family (Hoenig & Hamilton, 1966). Subjective burden entailed the family's appraisals of the situation and the extent to which they felt they were carrying a burden as a result of the mental illness of their relative (Hoenig & Hamilton, 1966). One might set forth the argument that these elements of family burden actually appear to be more analogous to illness-related family stressors than to family health. On the other hand, it could also be suggested that subjective burden, in particular, has a relationship to the definition of family health utilized in this study. The family's appraisal of the illness situation and the extent to which they feel they are carrying a burden as a result of the mental illness of their member might well be related to their ability to adjust to stressors and function in their social roles. A family will, undoubtedly, experience greater burden and a lesser level of family health if they are unable to adjust to illness-related stressors. Similarly, if the mental illness of their member negatively impacts the family's ability to function in their social roles, the family's appraisal of the situation will presumably tend to be more negative and indicative of burden. In these ways, the level of family burden might be viewed as an inverse indicator of family health.
Thus, while these two concepts are certainly not equivalent, it is believed that the family burden literature can provide a useful perspective on the results of this research study and so will be drawn upon in the discussion.

Proposition 1 was strongly supported by the data analysis. There were significant correlations between family stressors and family health in the sample families. The significant correlations involved each of the four instruments used to measure family health. The relationships were inverse, as specified in the proposition, with the exception of the relationship between family stressors and family health as measured by the FES Conflict scale. This positive relationship was also expected as the FES Conflict scale functioned as an inverse measure of family health.

Clearly, as families perceived increased numbers of stressors, their level of family health was negatively impacted. This finding is consistent with several of King's (1981) statements. For example, she stated that "increase(s) in stress are potential predictors of subsequent illness or disease" (King, 1981, p. 98). Similarly, King (1983) suggested that "too many stressors in the family environment ... may precipitate a crisis" (p. 182). Presumably, a crisis could lead to a lesser degree of family health for a period of time.

While the results of the data analysis were as proposed, the breadth and magnitude of the support for this proposition were somewhat surprising given the current literature. While three studies documented the presence of specific stressors for families with a chronically mentally ill member (Chafetz & Barnes, 1989; Fadden et al, 1987; Lefley, 1987c), only one study reported a positive relationship between family stressors and family burden (Noh & Avison, 1988). It seems reasonable to assume that this state of affairs is probably due
to a lack of prior investigation of this relationship with the families of the chronically mentally ill (Lefley, 1987a).

The relationship set forth by Proposition 1 appears to be an important one for this population that can be used to guide nursing care with these families. For these reasons, Proposition 1 was retained in the middle range theory of family health in the families of the young chronically mentally ill.

There was also support for Proposition 2 in the sample correlations. While the total F-COPES, which was used to measure family coping, was not significantly related to family health, one of its subscales was. The F-COPES subscale of Mobilizing the Family to Acquire and Accept Help, referring to the family's ability to seek out and utilize community resources, was positively correlated with the outcome of family health. The Mobilize subscale correlated with all four instruments used to measure family health. The correlations, with the exception of the one that pertained to the FES Conflict scale, were positive in nature as Proposition 2 had suggested. Thus, the data analysis provided validation for Proposition 2. The empirical data validated that a specific family coping strategy was, indeed, important in terms of enhancing family health in the families of the young chronically mentally ill.

The literature support for this proposition was sparse. While several studies described coping strategies utilized by these families (Chafetz & Barnes, 1989; Chesla, 1989; Fadden et al, 1987; Lefley, 1987c; Norbeck et al, 1991; Tessler et al, 1987), only one validated a relationship between coping and family burden. Noh and Avison (1988) found that a specific type of coping mechanism, namely mastery, was able to reduce family burden in the families of the chronically mentally ill. Mastery referred to the confidence that individuals
have in their ability to manage the outcomes of life circumstances (Noh & Avison, 1988). The results of this study were consistent with previous work to the extent that the use of specific family coping strategies were, once again, found to be related to a more positive family outcome in the families of the chronically mentally ill. It is also interesting to note that the F-COPES Mobilize subscale, which was found to have a significant positive relationship with family health, is analogous to the instrumental support category of "Resources" which Norbeck et al (1991) found to be very important to families with a young adult member with a chronic mental illness.

The empirical support for Proposition 2 was consistent with King's (1981) conceptual framework and her application of that framework to the family (King, 1983). King (1983) asserted that when family members are unable to cope with an event or health problem, they will generally enter the health care system and request assistance from health professionals. King (1981, 1983) spoke frequently about the role of the nurse, as a health care professional, in assisting individuals and families to cope with events/stressors. Given that the goal of all of nursing's endeavors, according to King (1981, 1983, 1990, 1992), is to assist individuals and families to maintain health, it appeared reasonable to assume that maximizing a family's coping skills would lead to a greater degree of health. Thus, a direct relationship between family coping and family health can easily be deduced from the work of King (1981, 1983, 1990, 1992).

The specific relationship between the F-COPES Mobilize subscale and the outcome of family health can be linked to King's conceptual framework as well. The F-COPES Mobilize subscale assessed the ability of families to seek out and utilize community resources. King's (1981,
1990) definition of health included resource utilization as a method to achieve and maintain health.

Proposition 2 received sufficient empirical support to be retained as a part of the middle range theory of family health in the families of the young chronically mentally ill. This proposition appears to be promising but will require further testing to explicate other coping strategies that enhance family health in the face of the chronic mental illness of a member.

Proposition 3 was not supported empirically. There were no significant correlations between the family’s perception of the client’s level of health and the outcome of family health.

This was a very surprising finding given the fact that this proposition appeared to have the strongest support from the existing family burden literature. In addition, the proposition appeared to be consistent with King’s (1983) work in that she indicated that "the family’s perception of an individual member’s health state, disability, illness, and incapacity is important to assess..." (p.18). Thus, the lack of empirical support for this proposition was puzzling.

Several potential explanations for this finding will be proposed. First, it was recognized that a possible source of difficulty related to Proposition 3 might be conceptual in nature. Given that, the conceptual framework of King was revisited in an attempt to further understand the dynamics of this nonsupport for the third proposition. In once again reviewing the work of King (1981, 1990) regarding the concept of health, it is apparent that she had made a distinction between health and illness. Health was discussed as a functional state in the life cycle and illness as an interference in the life cycle (1981, 1990). Further, King (1981) stated:

"Health is defined as dynamic life experiences of a human being, which implies continuous adjustment..."
to stressors in the internal and external environment through optimum use of one's resources to achieve maximum potential for daily living. Illness is defined as a deviation from normal, that is, an imbalance in a person's biological structure or in his psychological make-up, or a conflict in a person's social relationships." (p.5).

King (1981) also asserted that the factors that prevent illness are not necessarily identical with those that promote health. Finally, she stated that as valid methods of measurement continue to be developed, the current arbitrary distinction between health and illness will become more pronounced (King, 1981). Thus, a closer examination of the work of King (1981, 1990) seemed to suggest that health and illness are distinct concepts that are each a part of the life cycle for individuals and families.

A reexamination of the literature related to the families of the chronically mentally ill offered additional insight as well. The studies that were previously cited actually spoke to aversive client behaviors or symptoms of the individual's psychiatric illness that contributed to greater levels of family burden (Coyne et al, 1987; Creer et al, 1987; Doll, 1976; Fadden et al, 1987; Gibbons et al, 1984; Grad & Sainsbury, 1963; Gubman et al, 1987; Holden & Levine, 1982; Hooley et al, 1987; Lefley, 1987c; Noh & Avison, 1988; Runions & Prudo, 1983; Thompson & Doll, 1982). Clearly then, the relationships that were documented in this literature related to an illness phenomenon rather than to health.

Given this further review of the work of King (1981, 1990) and the existing literature pertaining to the families of the chronically mentally ill, a plausible explanation for the lack of support for Proposition 3 began to emerge. Perhaps an erroneous assumption was made, during the formulation of the middle range theory of family health in the families of the young chronically mentally ill, that a
decreased level of client health would be equivalent to symptoms of the client's mental illness. In fact, as King (1981, 1990) suggested these are two distinct concepts. The concept that the pertinent literature spoke to was that of client illness not client health. Thus, it is possible that an incorrect concept was selected for inclusion in the middle range theory.

A problem with instrumentation may have followed. The selection of the PES, as the empirical indicator of the family's perception of the client's level of health, was guided by the concept and its theoretical definition. The theoretical definition spoke to the client's ability to function and conduct the business of living in terms of her/his personal, social, and familial responsibilities. Given that, the researcher sought an instrument that captured client functioning. However, when phrases related to illness were included in the description of the instrument, this did not concern the researcher given the previously identified line of reasoning. Indeed, the authors of the PES stated that it was designed for an adult psychiatric population to capture their ability to function (Ihilevich & Gleser, 1982). In addition, they asserted that the seven dimensions of the PES were designed to represent the major areas in which health and psychopathology would manifest themselves (Ihilevich & Gleser, 1982). Clearly the PES was intended to measure aspects of both health and illness. Perhaps the PES did not capture sufficient information about the level of client illness to create correlations as were seen previously in the literature between symptoms of illness and family burden. There was evidence, however, that the PES differentiated between the clients within this sample and normative samples (Table 10). The basis for that differentiation is unclear. Was it differentiating on the basis of health or illness indicators?
This line of reasoning regarding the conceptualization of the middle range theory would suggest a modification of Proposition 3. A proposed revision to Proposition 3 of the middle range theory of family health in the families of the young chronically mentally ill would be:

The family's perception of the client's illness manifestations is inversely related to family health.

This proposed modification of Proposition 3 will require further empirical verification in subsequent research.

It was recognized that there might be other plausible explanations for the lack of support for Proposition 3 as well. A second possibility is that there simply is no relationship between the health of the individual and the health of the family unit. The health of the families of the young chronically mentally ill might be impacted by factors other than the health of their affected family member.

Further, it is possible that the nature of the relationship between these two variables is different than that set forth in Proposition 3. Perhaps there is not a direct relationship between the family perception of the client’s level of health and the outcome of family health. It is plausible that the relationship between these two variables is indirect or mediated by a third variable. Further data analysis could validate this possibility.

Finally, the PES was assessed for insufficient variability to determine if that might be the reason for the nonsignificant relationships. The possible range on the PES was 7 to 35. The actual range documented in this study was 9 to 35. The standard deviation on the PES for the sample was 5.65 compared with the normative population standard deviation of 4.63. The sample, then, had greater variability than the normative population. Therefore, this does not appear to provide an explanation for the lack of support for Proposition 3.
Thus, several potential explanations have been explored in regard to the findings relative to Proposition 3. Further research is clearly warranted.

Proposition 4 was not supported in the total sample correlations. This was surprising given that there had been literature support, however somewhat contradictory, for a relationship between time since diagnosis of the mental illness and family burden (Gibbon et al, 1987; Grad & Sainsbury, 1963; Hoenig & Hamilton, 1966; Lefley, 1987a; Noh & Turner, 1987; Seymour & Dawson, 1986).

If the correlations by strata are examined, there was support for a relationship between these variables for the parents as well as the married, white, and male respondents. Specifically, each of these subgroups demonstrated a positive relationship between the time since diagnosis of the mental illness and the FACES III Cohesion subscale. In addition, there was an inverse correlation between time since diagnosis of mental illness and the level of family conflict for those families whose chronically mentally ill member lived outside the family home. Over the years, these families experienced less conflict within the family unit. Thus, the correlations by strata showed several significant relationships between these variables.

An examination of the direction of the subgroup correlations related to Proposition 4 is interesting as well. Contrary to the propositional statement, the relationship between the variables time since diagnosis of the mental illness and family health was positive. In other words, as time passed these subgroups within the overall sample experienced a greater level of family cohesion and a decreased level of family conflict. While a relationship of this nature did not receive widespread support in the literature, the study by Gibbons et al (1984) did suggest that as time passed the families of the
chronically mentally ill were less distressed and burdened. In addition, a return to the work of King (1981) can assist in interpretation. King (1981) discussed time, stress, and crisis in her work. She asserted that stress has a temporal dimension in that a crisis occurs at a specific time in the life of an individual or family. As an individual or family "moves from one crisis to another there tends to be an added dimension to stress that may increase a person's (or family's) stress due to past experiences or may decrease stress from having learned to cope with past events" (King, 1981, p. 98). The results of this study may reflect the latter state of affairs. In fact, several of the families, whose member had been ill for many years, indicated that their responses to the questions would have been very different in the early years of the illness as the illness initially constituted a much greater crisis than it did at the time they participated in the study.

There remains the question of why this relationship was not evident in the total sample correlations but only in the subgroup correlations. An examination of the subgroups for whom the relationship was significant reveals that each of them, with the exception of men, constitute the majority of the sample. To state this differently, the sample was comprised of respondents who were predominantly white, married, female, and parents of the ill family member. In addition, in 61% of the families, the ill member resided outside of the family home. It is possible, then, that this correlation did not surface in the overall sample correlations as it was not true for women. Noh and Turner (1987) reported that there were indeed gender differences in terms of the response to mental illness. They reported that women were more distressed than men about the mental illness probably as a result of the fact that women are more often the

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primary caretakers of the ill member. It is possible that this particular difference between men and women persists over time in that the women continue to function as the primary caretaker. Perhaps the ongoing stress of that caregiving role precludes the experience of a greater level of family cohesion or lesser level of family conflict over time for the women.

The variability of time since diagnosis of mental illness was also explored in regard to the lack of significant correlations in the overall sample. The range on this variable was wide - from 0.25 years to 25 years. The mean time since diagnosis was 8.57 years with a standard deviation of 6.11 years. This issue did not appear to account for the lack of support for Proposition 4 in the overall sample.

While the results of the study did not provide support for Proposition 4 of the middle range theory, there appears to be merit to pursuing this relationship in future research. There is more that needs to be understood about this relationship particularly in regard to its directionality and how it is impacted by gender.

In hopes of gaining further understanding about the interrelationships between the concepts in the middle range theory, Research Question 2 was posed. It sought to explore the relationships between the independent or predictor variables. Since there was little theoretical or empirical guidance in this area a research question was deemed most appropriate. The results of the study indicated that there were significant inverse relationships between the family perception of the client's level of health and family stressors as well as between the time since diagnosis of the mental illness and family stressors. There were no significant relationships between the other predictor variables.
The relationship between time since diagnosis of the mental illness and family stressors can be related back to King's (1981) discussion of time and stressors. She stated explicitly that stress has a temporal dimension. King (1981) asserted that as a person moves from crisis to crisis there is an added dimension to stress that may increase one's stress due to past experiences or may decrease one's stress as a result of having learned to cope with past events. The inverse relationship that was discovered empirically seems to indicate that the latter scenario may be operative for the families of the young chronically mentally ill. It should be noted, however, that while these statements of King's (1981) appear to have implications for a relationship between time and coping as well, none was found in this study. Given this finding, it appears as though family stressors may be functioning as a mediating variable between the time since diagnosis of the mental illness and the outcome of family health. Thus, the time since diagnosis of the mental illness has an indirect relationship to family health.

The inverse relationship between the family perception of the client's level of health and family stressors is interesting as well. As the client's level of health decreased the family experienced an increased number of stressors. The significant, negative correlation between the total FILE and the PES may indicate that family stressors serves as a mediating variable between the family perception of the client's level of health and family health as well.

The nursing literature speaks eloquently to the purpose or function of theory. Nursing theory should seek to describe, describe, explain, or predict phenomena (Chinn & Jacobs, 1983; Fawcett & Downs, 1992). To that end, an attempt was made to determine the amount of variance in family health that could be explained by the middle range
theory of family health in the families of the young chronically mentally ill. In addition, efforts were made to identify which of the concepts constituted the strongest predictors of family health in the families of the young chronically mentally ill. Multiple correlation and hierarchical multiple regression were employed to these ends. The order of entry of the variables into the hierarchical multiple regression equations, based on the existing literature and clinical experience was as follows: family income (so as to control for it), family perception of the client's level of health, family stressors, family coping, and time since diagnosis of the mental illness. As reported previously, the model predicted 26% of the variance in the Family APGAR, 14% of the variance in the FACES III Cohesion scale, 13% of the variance in the FACES III Adaptability scale, and 16% of the variance in the FES Conflict scale. The FILE, or its Intrafamily Strains subscale, and the F-COPES Mobilize subscale were clearly the best predictors of family health. The identification of these two concepts as significant predictors was analogous to the results of the research conducted by Noh and Avison (1988) on family burden. Thus, the originally proposed middle range theory of family health in the families of the young chronically mentally ill explained a moderate amount of the variance in family health with the concepts of family stressors and family coping constituting the best predictors.

Stepwise multiple regression was also employed in an effort to investigate the explanatory and predictive power of the middle range theory. These regression equations contained each of the major study variables as well as any demographic variables that had significant zero order correlations with the outcome of family health. Sixteen to 26% of the variance in family health was explained by these equations: The significant predictors were family stressors, family coping and the
demographic variables of age, gender, and marital status of the respondent as well as family income. The literature documented several studies in which the gender and age of the respondent as well as family income were utilized in multiple regression equations attempting to explain family burden or household complaints in families with a mentally ill relative (Gubman et al., 1987; Noh & Avison, 1988; Noh & Turner, 1987). Only gender was found to be predictive of family burden (Noh & Turner, 1987). Noh and Avison (1988) also found significant gender differences in the correlates of burden. Thus, while these four demographic variables were found to be predictive of family health in this study, the literature support for such relationships was incomplete. Given that, only age of the respondent, which was correlated with the majority of the measures of family health and a significant predictor of family health, was added to the model of the middle range theory of family health.

The implications of the results pertaining to the five hypotheses and the second research question led to a modification of the model of the middle range theory of family health in the families of the young chronically mentally ill. The revised model is presented in Figure 2.

Given that this study was intended to contribute to nursing theory development by means of the creation and testing of a middle range theory, it seems only appropriate to assess its adequacy as a theory testing effort. The classic criteria with which to evaluate a study designed to test nursing theory were set forth by Silva (1986). These seven criteria are as follows:

1. A purpose of the study is to determine the underlying validity of a designated nursing model's assumptions or propositions.
2. The nursing model explicitly is stated as the theoretical framework or one of the theoretical frameworks for the research.
3. The nursing model is discussed in sufficient breadth and depth so that the relationship between the model
FIGURE 2
Revised Model of the Middle-Range Theory of Family Health in the Families of the Young Chronically Mentally Ill

- Family Coping
- Family Perception of Client's Level of Health
- Time Since Diagnosis of Mental Illness
- Age of Respondent

+ Family Stressors

- Family Health
and the study hypotheses or purposes is clear.
4. The study hypotheses or purposes are deduced clearly from the nursing model's assumptions or propositions.
5. The study hypotheses or purposes are empirically tested in an appropriate manner.
6. As a result of this empirical testing indirect evidence exists of the validity (or lack thereof) of the designated assumptions or propositions of the model.
7. This evidence is discussed in terms of how it supports, refutes, or explains relevant aspects of the nursing model. (Silva, 1986, p. 4)

The purpose of this study was clearly identified as attempting to provide empirical verification of a middle range theory of family health in the families of the young chronically mentally ill. Specifically its purpose was to test the four propositions of this middle range theory. The conceptual framework of King (1968, 1971, 1981, 1990, 1992), from which the middle range theory was deduced, was explicitly identified as the theoretical framework for the research. This study involved a detailed discussion of King's work beginning with an overview of her conceptual framework, a review of how she applied her framework to the family, and a review of each of the concepts from her framework that were used in the formulation of the middle range theory and its propositions. In addition, the derivation of each of the four propositions of the middle range theory of family health, from the original work of King, was explicated. The four propositions of the middle range theory actually served as four of the five study hypotheses. The propositions/hypotheses asserted relationships between family stressors, family coping, family perception of the client's level of health, and time since diagnosis of the mental illness and the outcome of family health. These propositions/hypotheses were empirically tested by means of bivariate correlations. The results of this empirical testing supported two of the four propositions of the middle range theory of family health. Each instance of support or nonsupport for the propositions of the middle range theory was related
directly back to King's conceptual framework. Therefore, the research provided validation for the middle range theory of family health in the families of the young chronically mentally ill and, in so doing, provided validation of King's conceptual framework as well. Thus, it appears as though this study met the seven criteria set forth by Silva (1986) and can be termed a study which adequately tested nursing theory.

As a further step, an assessment was then made of the middle range theory's ability to explain the variance in family health within this population and to identify the best predictors of this outcome. This type of analysis moved the middle range theory a step closer to addressing the purpose for which theory exists - namely to explain or predict phenomena.

Thus, the major contribution of this research was to the development of nursing theory. While the middle range theory requires additional empirical validation, this research represents progress toward developing the science of nursing with this population in that the issues pertinent to these families have been examined from a unique nursing perspective.

Contributions of the Study to Nursing Practice

It has been said that:

"... theory is born in practice, is refined in research, and must and can return to practice if research is to be other than a draining-off of energy from the main business of nursing and theory more than idle speculation." (Dickoff, James & Wiedenbach, 1968, p.416).

Given that, it is imperative that there be discussion of the significance of this theory development effort and research for the practice of nursing.
First, this study has strengthened the theoretical base for nurses providing care to families who have a young adult member with a chronic mental illness. To date, no such middle range theory has been documented in the nursing literature. The necessity of such nursing theory to quality nursing practice that will achieve valued nursing outcomes has been articulated clearly in the literature of the discipline (Chinn & Jacobs, 1983).

Second, the data analysis gives practitioners a clear sense of the strengths of these families. While unvalidated and outdated, previous notions about "dysfunctional" families causing mental illness have persisted and resulted in much unnecessary pain and guilt. The need for specific data to refute such myths was acute. This research accomplished that end by comparing the scores of the families of the young chronically mentally ill on family health measures with those of normative populations. The families of the young chronically mentally ill were found to possess a significantly greater degree of adaptability, a necessary aspect of family health, than the normative sample (See Table 10). In addition, these families scored significantly lower on the FES Conflict subscale than normative samples (See Table 10) indicating a much lower level of conflict within their family units. A similar result, related to the FES Conflict subscale, has been reported in the literature (Hill & Balk, 1987; Wilk, 1991). Wilk (1991) suggested that while the FES provides normative data for "normal" and "distressed" families, it was most appropriate to compare the families of the mentally ill to the norms of the "normal" families. Thus, far from approaching the families of the young chronically mentally ill as "dysfunctional", nurses working with this population can use the data provided by this study to validate their sense that these are strong and resilient families who face the crisis of serious
and persistent mental illness with exceptional levels of adaptability and highly developed skills around conflict management. The care that is designed and delivered to these families by professional nurses can take into account their strengths as well as their areas of need. Such an approach is consistent with nursing’s perspective on health rather than illness and disease.

Further, the results of the study provide specific direction regarding nursing interventions for this population. Such information can allow practicing nurses to focus their care on those areas that will be most useful in fostering family health within these families. The results of the hierarchical and stepwise multiple regression equations indicate that an assessment of family stressors, and particularly intrafamily stressors, is warranted. Given the nature of the relationship between family stressors and family health, nursing care that is directed toward reducing the stressors experienced by these families will be effective in enhancing their level of health. Further intervention research will be necessary to explore possible nursing interventions that might achieve this. In addition, these same equations suggest that practitioners should also direct their efforts toward familiarizing the families with community resources, making referrals to them, and actively encouraging use of them. Thus, a more focused approach to the care of families with a young adult member with a chronic mental illness can be taken as a result of the findings of this study.

Finally, the research assisted in the identification of vulnerable subgroups within the families of the young chronically mentally ill. The stepwise multiple regression equations included the major study variables as well as any demographic factors that had significant zero order correlations with the outcome of family health. The results of
this analysis indicated that being male and married tended to be more predictive of the perception of family health. Conversely then, it appears as those family members who are women and single tend to perceive a lower level of family health within their family units. Further validation of the potential vulnerability of these subgroups, within the total population of the families of the young chronically mentally ill, came from the independent t-tests. They also indicated significant differences based on gender and marital status. In particular, women perceived a greater number of family stressors and single persons perceived a lower level of cohesiveness within their family unit. This gender difference has previously been reported in the literature (Noh & Turner, 1987) such that women were found to be more distressed by the mental illness of a family member than men. On the other hand, Gibbons et al (1984) found no significant differences in distress or subjective burden by gender or marital status. Nevertheless, it seems as though there is at least initial evidence to suggest that nurses should pay particularly close attention to the needs of these family caregivers.

These same stepwise multiple regression equations indicated that the age of the respondent was predictive of family conflict. As the respondent’s age increased, the conflict within the family declined. This result might be linked to the previous relationships that were discussed in regard to the time since diagnosis of the mental illness and family health. These subgroup correlations indicated that as time passed the family experienced a greater degree of family health. Obviously as the family respondent ages, the time since diagnosis increases as well. Perhaps over the years of the illness, family caregivers develop methods to minimize the conflict that might otherwise be generated by the chronic mental illness of a family
member. Thus, nurses should recognize that families whose member is recently diagnosed with a mental illness, and whose caregivers are younger and less experienced with mental illness, may be particularly vulnerable in terms of the health of their family unit.

Additional research is required to determine just what nursing interventions might be appropriate to reduce the vulnerability of these subgroups and, in so doing, enhance the health of their family unit. Certainly, however, the knowledge of their vulnerability can be of assistance to nurses who are working with these families.

Recognizing that the study is but a beginning and further work needs to be done, the research has still made several contributions to nursing practice with families who have a young adult member with a chronic mental illness. It has strengthened the theoretical framework that nurses have to base their practice on. It has also validated the strengths of these families. Further, the research has provided direction in terms of specific nursing interventions that might be of assistance to these families. Finally, the research has made progress toward documenting the presence of vulnerable subgroups within this overall population that nurses should pay particular attention to.

**Strengths of the Research**

This nursing research study had several strengths that enhanced its contribution to the science of nursing. Several of these strengths related directly to attempts made in this study to address limitations that were evident in the previous research that was conducted with the families of the chronically mentally ill.

The study proceeded from a nursing conceptual framework. Fawcett and Downs (1992) identified, as a current problem in nursing research, the fact that most investigators have neglected to make the theoretical bases of their studies explicit. Similar statements have been made
pertaining to the development of unique nursing knowledge around families (Whall & Fawcett, 1991). Maurin and Boyd (1990), after conducting a critical review of the entire body of literature specifically pertaining to the burden of mental illness on the family unit, also noted that it is imperative that future studies in this area be theoretically grounded. This study, with its focus on the relationships between family stressors, family coping, family perception of the client’s level of health, time since diagnosis of mental illness, and family health, utilized concepts directly from King’s (1981) conceptual framework. Given that a conceptual framework lacks the specificity to precisely define relationships, a middle range theory of family health in the families of the young chronically mentally ill was formulated. This middle range theory development effort provided specific propositions that could then be empirically tested. Thus, this study was not only theoretically based but was focused on expanding the knowledge that is unique to the discipline of nursing.

Several aspects of the sample that was utilized in this study constituted an improvement over previous research with this population. Critiques of the literature to date on the families of the mentally ill focused on the fact that many of the samples were obtained entirely from support group members. Maurin and Boyd (1990) suggested that support group participants were not typical of the overall population of relatives of the mentally ill and thus the results of such studies can not be generalized beyond this unique group. Fifty five percent of the families that participated in this study were recruited through clinical agencies, 43% through support groups, and 2% through snowballing. The clinical sites included a private psychiatric hospital, a county hospital, and community mental health centers.
While the fact that a family was obtained through a clinical agency does not absolutely ensure that they were not also affiliated with a support group as well, such a sampling strategy was stronger than many that were previously reported in the literature.

The sample size in previous studies of this population has been a concern. Maurin and Boyd (1990) reported that a review of this body of literature revealed that the typical sample size was small—between 50 and 75 respondents. Few report the use of a power analysis to determine the appropriate sample size. This study involved 82 families and 104 respondents and thus had a larger sample size than the typical studies currently in the literature. More importantly, a power analysis was conducted which indicated that a sample of 77 families was necessary in order to detect significant relationships.

Instrumentation is an issue that has also been raised in regard to the current literature on the families of the mentally ill. Specifically, many of the instruments that have been used in the existing studies have little evidence of reliability and validity (Maurin & Boyd, 1990). Some were developed for a single study and had no psychometric data. This study utilized instruments with established reliability and validity. In addition, each of the instruments functioned reliably in the study as shown by the reliability coefficients in Table 5. The instruments used to measure the major study variables had Cronbach’s alphas that ranged from .73 for the FES Conflict scale to .89 for the FILE. It should be noted, however, that several of the subscales of the FILE and one of the P-COPES subscales had unacceptable (below .60) reliability coefficients. In light of this, these individual subscales were excluded from any further analysis. Each of the instruments provided normative data that allowed for comparisons to be made between the families of the young
chronically mentally ill and other families. Such comparisons can be useful in terms of expanding our understanding of the characteristics of families who have a young adult member with a chronic mental illness so as to design and provide individualized nursing care to them.

Finally, portions of the data analysis addressed deficits in the existing literature. Maurin and Boyd (1990) stressed the need for further research related to the families of the chronically mentally ill to look for possible differences among subgroups. Specifically, they indicated that differences related to gender, patient's diagnosis, socioeconomic status, patient residence, and kinship and affective relationships between the patient and the caregiver should be explored. This research explored four of these six potential areas of difference including gender, client residence, relationship to client, and socioeconomic status. In addition, marital status, ethnicity, and employment status of the caregiver as well as the source of the family's involvement (clinical agency or support group) were analyzed for differences. It should be noted that in some cases the subgroups were very small and thus appropriate caution should be exercised in interpretation. Nevertheless, this type of analysis has added to the available literature on these families.

Limitations of the Research

One evident limitation of the research relates to its design. The study was cross-sectional in nature such that a single measurement of the major study variables was taken. While there may be compelling pragmatic reasons to utilize such a design, it is necessary to acknowledge the theoretical difficulties that this decision posed for this study. Variables such as family health, family stressors, and family coping are dynamic and changing entities. King's (1981) discussion of health, for example, clearly reflected this when she
referred to health as "dynamic life experiences of a human being, which implies continuous adjustment to stressors..." (p.5). In like manner, King's (1981) discussion of stress, from which this study's theoretical definition of family stressors was derived, stated that "stress is a dynamic state..." (p.98). Similarly, the theoretical definition of family coping utilized in this study spoke to "the constantly changing cognitive and behavioral efforts to manage specific external and internal demands..." (Lazarus & Folkman, 1984, p.141). Thus, a single measurement of these concepts was unlikely to capture their complexity, variability, and overall patterns. Woods and Lewis's (1992) agreement with this evaluation was apparent when they suggested that research designs that would facilitate an understanding of the dynamic processes occurring in families required repeated measures over time. So, the use of a cross-sectional design in this research study constitutes one of its limitations.

A second limitation relates to the unit of analysis. The issue of the proper unit of analysis in family research has been discussed within the literature (Barnard, 1984; Gilliss, 1983; Gilliss, 1991; Larzelere & Klein, 1987; Miller et al, 1982; Moriarty, 1990; Schumm et al, 1985; Uphold & Strickland, 1989). There is general agreement that if the conceptual unit of interest is, indeed, the family, then data should be collected from more than one family member in order to capture the complexity of the family system. Typically most family research has relied exclusively on data collected from one family member, often the mother. This state of affairs is particularly so in the literature related to the families of the chronically mentally ill where the vast majority of the studies have not reflected any evidence of a family unit of analysis (Maurin & Boyd, 1990). This study attempted to address this issue by including parental dyads whenever
possible. The result, however, was a mixed unit of analysis with 27% parental dyads and 73% single family respondents. The fact that one was a single family respondent did not, necessarily, mean that there was not a second parent in the family unit. In fact, of the 60 single family respondents in this sample, 52% of them were married to the parent of the client while another 8% were married but not to the parent of the client. In these cases, there are questions regarding why the second parent or step-parent did not participate and what was unique about the first parent that prompted her/him to participate. The mixed unit of analysis raises conceptual and methodological issues for the study and clearly constitutes a limitation. The issues related to unit of analysis will continue to present challenges for family nursing researchers and will need to be addressed in the literature pertaining to the families of the chronically mentally ill.

A third limitation of the study relates to the ethnic composition of the sample. The sample was comprised of 87% white respondents and 13% ethnic minority respondents. Moriarty (1990) has identified the fact that family nursing research has, to date, directed little attention to the uniquenesses of minority families. A similar state of affairs exists in the literature related to the families of the chronically mentally ill. Unfortunately, this study did not make significant contributions in this regard. While data analysis by ethnic background was conducted, the subgroup of ethnic minority families was too small to make any definitive statements. Independent t-tests did not reveal any significant differences on the instruments utilized to measure major study variables. It is possible that this was due to a Type II error given the very low power. Correlations by strata did reveal some differing trends between the groups relative to family stressors, family coping, and the outcome variable of family...
health that could be pursued in future research. Clearly, however, this study did not substantively add to the body of knowledge pertaining to ethnic minority families who have a member with a chronic mental illness. In fact, the very low percentage of minority families that were included in the sample constitutes a threat to the external validity of the study.

Another concern related to the sample composition involves the educational level of the respondents. The educational level was atypically high with a mean of 15.32 years (SD = 2.91). While constituting speculation, it is possible that educational level might affect family coping. Perhaps the coping strategy that was found to be important in this study, that of seeking out and utilizing community resources, might be more applicable to families who are highly educated. At any rate, such a sample characteristic will make generalization of the findings of this study to the total population of families with a young adult member with a chronic mental illness difficult.

The support group response rate achieved in this study constituted an additional limitation. The response rate from this source was 14%, based on the number of questionnaires that were distributed and those that were subsequently returned. The reason for such a low response rate is not entirely clear. The most likely explanation pertains to the difficulty in establishing trust and credibility with these families during brief encounters at meetings or state-wide conferences. These particular families of the young chronically mentally ill appeared to have formed very cohesive groups that included families facing similar challenges. These groups appeared to have come together in response to a perceived need for support, advocacy for the seriously mentally ill, and to impact a mental health care delivery
system that seemed, at times, unresponsive to their needs. On several occasions, potential family respondents shared with the researcher negative experiences that they had encountered in the mental health care system and their position that other families could be of most assistance to them in their struggle to deal with the mental illness of their relative. The positive relationships that these families did have with health care providers appeared to have developed over time and in the context of the provision of care to their loved one. Therefore, the researcher faced a challenge in terms of establishing sufficient trust and credibility with families to ensure their participation in the study. This potential explanation seems to be strengthened by the fact that the response rate from the clinical agencies, where initial contacts were made by staff members who had been working with the families, was 71%. Clearly then, the support group response rate of 14% is a concern. Kerlinger (1986) suggested that when response rates were as low as 40-50% it was difficult to make valid generalizations. This was due to the fact that the few returns are undoubtedly from a highly select population. This is certainly a possibility with this segment of the sample and constitutes a limitation that must be acknowledged.

Future Directions

Given the results and the limitations of this study, there are several implications for future research related to the middle range theory of family health in the families of the young chronically mentally ill. It is apparent that the middle range theory will require additional empirical testing. An expanded model, based on the results of this study, is proposed in Figure 3 and would serve as the basis for a subsequent study. In order to most effectively test this model several issues would need to be addressed. First, the possible
FIGURE 3
Future Directions for the Model of the Middle-Range Theory of Family Health in the Families of the Young Chronically Mentally Ill

- Family Coping
- Family Perception of Client's Level of Health
- Family Stressors
- Family Health

- Time Since Diagnosis of Mental Illness
- Age of Respondent
- Family Perception of Client's Illness Manifestations
- Gender of Respondent
- Marital Status of Respondent
creation of a Family Health Index from the four instruments used to measure family health would need to be considered. Factor analysis could be utilized to determine the appropriateness of such an Index. Further, instrumentation difficulties pertaining to the variables family perception of the client’s level of health and the family perception of the client’s illness manifestations would need to be dealt with. Instruments that capture the distinct aspects of client health and the unique features of chronic mental illness will need to be identified. Further efforts will need to be made in regard to the sample - both in terms of the sample composition and the unit of analysis. Finally, the statistical analysis in future studies may be expanded to include path analysis in addition to the multiple correlation and multiple regression used in this study. This will allow for the detection of causal relationships.

Summary

The development of the science of nursing is dependent on the articulation of knowledge that is unique to the discipline. This study examined issues related to family health in families who have a young adult member with a chronic mental illness from a nursing perspective.

The conceptual framework of King (1981) was the theoretical basis for the study. A middle range theory of family health in the families of the young chronically mentally ill was deduced from King’s conceptual framework. The middle range theory stated:

Family stressors, family coping, family perception of the client’s level of health, and time since diagnosis of the mental illness affect family health.

Three assumptions and four propositions were set forth, each of which were logical extensions of King’s conceptual framework. The propositions specified the nature of the relationship between the four
variables and the outcome of family health. The research was then
designed to empirically verify this middle range theory.

A review of the existing literature pertaining to the families of
the mentally ill indicated that this body of knowledge is fairly small.
The studies to date generally explored the outcome variable of family
burden. None of them studied family health as the dependent variable
with this population. In addition, several significant conceptual and
methodological limitations were apparent in the current literature.
This study sought to address some of those limitations.

The four propositions of the middle range theory served as four of
the five hypotheses for the study. The fifth hypothesis asserted that
a significant amount of variance in family health could be accounted
for by the variables in the middle range theory. In addition, two
research questions were investigated. The research questions pertained
to the characteristics of the young chronically mentally ill and their
families and to the relationships between the various predictor
variables. Theoretical definitions for each variable were either
derived directly from King's (1981) conceptual framework or were
logical extensions of it. The Family Inventory of Life Events and
Changes Scale (FILE) (McCubbin et al, 1982) served as the empirical
indicator of family stressors. The operational definition of family
coping was derived from the Family Crisis Oriented Personal Scales (F-
COPES) (McCubbin et al, 1982). The family perception of the client's
level of health was operationally defined as the score on the Progress
Evaluation Scales (PES) (Ihilevich et al, 1981). There were four
empirical indicators for the dependent variable of family health.
These were the two scales of the Family Adaptability and Cohesion
Evaluation Scales (FACES III) (Olson et al, 1985), the Family APGAR
(Smilkstein et al, 1982), and the Conflict scale of the Family
Environment Scale (FES) (Moos & Moos, 1981). The design of the study was a cross sectional correlational survey design. The sample was a nonprobability sample comprised of 82 families and 104 respondents. The data analysis plan included descriptive statistics, bivariate correlations, multiple correlations, hierarchical and stepwise multiple regression, independent t-tests, and paired t-tests.

The results of the study provided support for two of the four hypotheses. The first hypothesis, which the data supported, posited an inverse relationship between family stressors and family health. The second hypothesis, which asserted a positive relationship between family coping and family health, was also verified by the empirical data. The third hypothesis, which suggested a positive relationship between the family’s perception of the client’s level of health and family health, was not supported by the data obtained in this study. A relationship between the time since diagnosis of the mental illness and family health, as suggested by the fourth hypothesis, was also not supported by the data analysis. Further bivariate correlations indicated that there were significant correlations between several of the predictor variables. Specifically, a significant negative correlation was found between the time since diagnosis of the mental illness and family stressors. In addition, a significant negative correlation was found between the family’s perception of the client’s level of health and family stressors as measured by the FILE.

Hierarchical multiple regression equations were used to test the model of the middle range theory. Thirteen to 26% of the variance in family health, depending on which of the instruments was used to measure the outcome variable, was explained by these regression equations. The FILE, or its Intrafamily strains subscale, and the F-COPES Mobilize subscale were found to be significant predictors of
family health. Stepwise multiple regression equations, involving each of the major study variables as well as any demographic variables that had significant zero order correlations with family health, were employed to determine the best predictors of family health. Sixteen to 26% of the variance in family health was explained by these equations. Once again, family stressors and family coping functioned as significant predictors. In addition, the demographic variables of gender, marital status, and age of the respondent as well as family income were found to be significant predictors of family health.

Independent t-tests revealed significant differences by gender, marital status, relationship to client, and client living arrangements. Correlations by strata also revealed differing patterns among these subgroups as well as between ethnic groups. Paired t-tests, conducted to ensure that the identified differences were actually due to differences between groups and not due to differences within families, were nonsignificant.

The study results provided empirical verification, with some modifications, for the middle range theory of family health in the families of the young chronically mentally ill. Further, the research met the classic criteria set forth by Silva (1986) as necessary for adequate testing of nursing theory.

This study has implications for nursing practice as well. The research expands the theoretical base available to practitioners, provides a clear sense of the strengths of these families, suggests potential nursing interventions, and gives some indication of vulnerable subgroups within the overall population of the families of the chronically mentally ill.

In summary, this study has explored family health in the families of the young chronically mentally ill from a nursing perspective. In
so doing, the research has contributed to the unique body of knowledge that constitutes the science of nursing.
PLEASE NOTE

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University Microfilms International
DEMOGRAPHIC DATA

To enable us to compare the results of this study to people from different groups and life situations, we would like some additional information about your background. Please complete the following questions.

1. What is your ethnic background?
   a. Asian
   b. Black
   c. Caucasian
   d. Hispanic
   e. Native American
   f. Other (Please specify) ____________________

2. How old are you? ________

3. Are you: a. Female
   b. Male

4. What is your relationship to the client?
   a. Mother
   b. Father
   c. Wife
   d. Husband
   e. Other ______________________.

5. What is the highest grade of school that you have completed?
   (Circle one)
   1 2 3 4 5 6 7 8  9 10 11 12  1 2 3 4  5 6 7 8 9 10 11
   Grade School  High School  College  Graduate School

6. What is your present marital status?
   a. Married to mother/father of client
   b. Married but not to mother/father of client
   c. Married to client
   d. Separated
   e. Divorced
   f. Widowed
   g. Single

7. What is your yearly family income (before taxes)?
   a. Less than $5,000
   b. $5,000 to $9,999
   c. $10,000 to $14,999
   d. $15,000 to $24,999
   e. $25,000 to $39,999
   f. $40,000 to $59,999
   g. $60,000 or above
8. Which of the following most closely describes your occupation?
   a. Home and family
   b. Laborer/unskilled worker
   c. Machine operator/semi-skilled worker
   d. Skilled worker, craftsman
   e. Clerical, sales
   f. Technician, semi-professional (i.e. secretary, bank teller)
   g. Small business owner
   h. Minor professional (i.e. dental assistant, draftsperson), manager
   i. Administrator, lesser professional (i.e. teacher, nurse), owner medium size business
   j. Executive, owner large business, major professional (i.e. physician, attorney, architect)

9. Are you employed now?
   a. Yes Hours per week ______
   b. No Laid off _____
      Disability _____
      Retired

10. What is your religious preference?
    a. Protestant
    b. Catholic
    c. Jewish
    d. Other (Please specify) _____________________________
    e. None

11. To what extent do you participate in religious activities?
    a. Inactive
    b. Infrequent participation (1-2 times per year)
    c. Occasional participation (about monthly)
    d. Regular (weekly)

12. Where does the client typically live when she/he is not hospitalized?
    a. In the family home
    b. In a house or apartment other than the family home
    c. In a group home
    d. Other ________________________________

13. How old is the client? __________

14. Is the client:
    a. Female
    b. Male

15. How many times has the client been hospitalized for mental illness in the past?
    __________

16. Is the client on a prescribed medication regime?
    a. Yes
    b. No
17. Do you perceive that the client adheres to her/his medication regime?
   a. Yes
   b. No

18. Is the client seen on an ongoing basis by a case manager or therapist?
   a. Yes
   b. No

19. How long has it been since you were told that your relative was mentally ill?
   (Please be as specific as possible i.e. 2 years and 3 months.)

20. How did you become involved in this research study?
   a. The researcher came to a support group that I am involved in.
   b. The researcher was given my name by another family who has a mentally ill member.
   c. I was given information about the study from an agency that provides services to my ill relative.
      That agency is a:
      1. Community Mental Health Center
      2. Public Hospital
      3. Private Hospital
      4. Other (Please specify)
   d. I read about the study in an ad in the newspaper.
   e. I obtained information about the study at an AMI Conference.
   f. Other (Please specify) ____________________________

21. What are the greatest problems that you encounter as a result of having a mentally ill family member?

22. What are the best ways that you have found to cope with these problems?
APPENDIX I
CONSENT FORM FOR COUNTY HOSPITAL
Mary Molewyk Doornbos, a graduate student of the Wayne State University College of Nursing, is conducting a research study about factors that influence family health. This study is being conducted with families who have a young adult member (between the ages of 18 and 35) with a diagnosis of schizophrenia or bipolar disorder. It is hoped that the information learned from this study will enable nurses and other health care professionals to provide better care to these families.

We ask for your cooperation in this activity by completing a packet of questionnaires that ask about you (as parent(s) or a spouse of this person), your mentally ill relative, and your family unit. This data will be treated as confidential material and your identity will not be revealed. The collection of this data will not alter the treatment program of your relative in any way.

I voluntarily consent to participate in this study with an understanding of the following:

1. I can receive additional explanation of this study at any time before, during, or after my participation is completed. I would simply contact the researcher, Mary Molewyk Doornbos, at (616) [redacted] or (616) [redacted].
2. I understand that I am free to discontinue my participation in this study at any time without penalty to me or my relative who is receiving services.
3. I understand that the information associated with this study will be treated with strict confidence and that my identity will remain anonymous.
4. I understand that the procedures of this research do not pose any apparent risks.
5. I engage in this investigation freely, understanding that new knowledge may be obtained which may be valuable to my family or other families.

NAME SIGNATURE RELATIONSHIP TO CLIENT DATE

_________________ ___________________ ___________________ __________

_________________ ___________________ ___________________ __________

750 Fuller Ave. N.E., Grand Rapids, Michigan 49503 (616) 774-3300

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July 19, 1993

Mr. and Mrs. XXXXX XXXXXX
11685 XXXXXXXXX XX
XXXXXXXXXXXX, MI. 49XXX

Dear Mr. and Mrs. XXXXXX:

I appreciate the interest that you have expressed in the research study that I am conducting. As you know, the project pertains to family health in families who have a young adult member with a chronic mental illness such as schizophrenia or bipolar disorder. It is hoped that the study will result in a greater understanding of families who are challenged with caregiving responsibilities associated with a member’s mental illness. I believe that families such as yours can teach mental health care professionals a great deal about how we might provide care that is appropriate to your needs.

Enclosed you will find two sets of questionnaires. You can return the packets to me by means of the stamped, addressed envelop that is included.

I am most appreciative of your willingness to take the time to participate in this research study. Every effort will be exerted to make good use of the valuable information that you have provided.

Thank you again.

Sincerely,

Mary Molewky Doornbos RN, PhD Candidate
NURSING STUDY OF FAMILY HEALTH IN THE FAMILIES OF THE YOUNG CHRONICALLY MENTALLY ILL

Mary Molewyk Doornbos, a graduate student of the Wayne State University College of Nursing, is conducting a research study with families who have a young adult member (between the ages of 18 and 40) with a diagnosis of schizophrenia or bipolar disorder. The study seeks to understand factors that contribute to family health in families who are challenged with caregiving responsibilities associated with a member’s mental illness. It is hoped that the information learned from this study will enable nurses and other health care professionals to provide better care to these families.

Included in this packet are several questionnaires that ask about you (as a parent or spouse of this person), your mentally ill relative, and your family unit. Please be assured that there are no "correct" answers to these questions. In addition, the information that you do provide will be kept confidential and your anonymity will be protected. Thus, please respond candidly and honestly.

When a question asks about your family, please consider whatever group of individuals that you perceive to comprise your family unit. This group should include your mentally ill member as well as any other members - relative or nonrelative, living in the family home or outside it - that you perceive to be a part of your family.

It is very helpful if more than one family member (i.e. both parents) is willing to participate in the study. In this case, each family member should complete a packet of questionnaires and respond to the questions independently.

Information about what is learned from this study may be published or given to other people doing research, but your name will not be used.

Since this is a research project, your participation is voluntary. You can withdraw from this study at any time. If you withdraw from this study, there will be no adverse consequences to you or your relative. If you have questions about the study at any point, please feel free to contact Mary Molewyk Doornbos at (616) [redacted] or (616) [redacted]

Completed questionnaires can be returned to the researcher by means of the stamped, addressed envelop.
March 17, 1993

Mr. XXXXX XXXXXX
XXXX XXXXXXXX XX
XXXX XXXXXX, XX. 4XXXX

Dear Mr. XXXXX:

Recently you received information about a research study that is being conducted at XXXXXXXXXXXXXXXXXXXXXXXXXX with families who have a young adult member with a serious and persistent mental illness. This study is ongoing and to date has documented some useful information about family health in families who are challenged with caregiving responsibilities associated with a member's mental illness. I believe that this information will enable mental health care providers to deliver care that is more appropriate to the needs of such families.

I would like to invite you, once again, to participate in the study by completing the packet of questionnaires that you previously received. If you have any concerns or questions about the study or a particular portion of the questionnaire packet, I would be happy to respond to them. I am most anxious to have your input! Please know that your participation will be greatly appreciated and every effort will be made to make good use of the valuable information that you provide.

Thank you for your consideration of this matter.

Sincerely,

Mary Molevyk Doornbos RN, PhD Candidate
APPENDIX M
SCRIPT OF DISPLAY POSTER USED AT
STATE WIDE SUPPORT GROUP CONFERENCES
WHO CAN HELP?
If you are a parent(s) or spouse of a young adult (age 18-40) with schizophrenia or a bipolar disorder, you can help.

WHY WOULD YOU WISH TO HELP?
Your family has been touched by the pain of a mental illness. You and your loved one did not ask for this illness any more than another person and his/her family asked to be touched by Alzheimer's disease, cancer, or multiple sclerosis. Your family has, however, lived with the mental illness of your member, been affected by it, and coped with it in various ways. Thus, you have valuable information to share with nurses and other mental health care providers.

HOW DO YOU HELP?
You can help by participating in a nursing research study which seeks to understand the experience of families who are challenged with caregiving responsibilities associated with a member's mental illness. Specifically, the study attempts to understand factors that contribute to family health in such families.

Participation involves filling out the packet of questionnaires below and returning it by means of the stamped, addressed envelop that is attached.

WHAT IS THE BENEFIT OF PARTICIPATING?
The information that you share will enable nurses and other mental health care providers to develop a greater understanding of the family's perspective. Ultimately, this will allow for the design of services that are appropriate to your needs.

WHO IS CONDUCTING THIS RESEARCH?
Mary Molewyk Doornbos R.N., Ph.D. Candidate is a graduate student at Wayne State University College of Nursing and an Associate Professor of Nursing at Calvin College. This study constitutes her doctoral dissertation.
## CORRELATIONS BY STRATA - GENDER

Male (n=33)  
Females (n=71)

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<th>FACES III Cohesion</th>
<th>FACES III Adaptability</th>
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<td>Work</td>
<td>---</td>
<td>-.28*</td>
<td>---</td>
<td>---</td>
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</tbody>
</table>

| F-COPES            | --- | .25* | .44* | --- | --- | --- | --- |
| Social             | --- | --- | --- | --- | --- | --- | --- |
| Spiritual          | --- | --- | .41* | --- | --- | --- | --- |
| Mobilize           | --- | .40** | .51** | --- | .42* | --- | -.37* | -.24* |

| PES                 | --- | --- | --- | --- | --- | --- | --- |

| Time Since Diagnosis | --- | --- | .41* | --- | --- | --- | --- |

*p < .05  **p < .01  ***p < .001
**CORRELATION BY STRATA - ETHNICITY**

White (n=91)  
Minority (n=13)  

<table>
<thead>
<tr>
<th></th>
<th>Family APGAR</th>
<th>FACES III Cohesion</th>
<th>FACES III Adaptability</th>
<th>FES Conflict</th>
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<tr>
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* *p < .05  **p < .01  ***p < .001

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### CORRELATIONS BY STRATA-MARITAL STATUS

Married (n=85)  
Not Married (n=19)

<table>
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<tr>
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<th>FACES III</th>
<th>FES</th>
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</tbody>
</table>

| F-COPES          | .22*   | .23*      | ---        | -.26*|
| Social           | ---    | ---       | .26*       | .24* |
| Mobilize         | .28**  | .22*      | .31**      | -.28**|
|                  | ---    | ---       | ---        |      |
| PES              | ---    | ---       | ---        | -.22*|
|                  | ---    | ---       | ---        |      |
| Time Since Diagnosis | --- | .34**     | ---        | --- |

*p < .05  **p < .01  ***p < .001
### CORRELATIONS BY STRATA - RELATIONSHIP TO CLIENT

Parent (n=93)

Spouse/Other (n=11)

<table>
<thead>
<tr>
<th>Family</th>
<th>FACES III Cohesion</th>
<th>FACES III Adaptability</th>
<th>FES Conflict</th>
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| F-COPES | --- | .62* | --- | --- | --- | --- | --- | --- |
| Social  | --- | ---  | --- | --- | --- | .21* | --- | --- |
| Mobilize | .29** | .70* | --- | .65* | .32** | --- | -.21* | --- |
| Reframing | --- | .68* | --- | .63* | --- | --- | --- | --- |

| PES | --- | --- | --- | --- | -.23* | --- | --- | --- |

| Time Since Diagnosis | --- | --- | .24* | --- | --- | --- | --- | --- |

*p < .05  **p < .01  ***p < .001
# CORRELATIONS BY STRATA - CLIENT LIVING ARRANGEMENTS

**Family Home (n=32)**  
**Outside Family Home (n=50)**

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

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Clausen, J. & Yarrow, M.R. (Eds.) (1955). The impact of mental


Process, 30, 74-79.


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Publications.


ABSTRACT

FAMILY HEALTH IN THE FAMILIES OF THE YOUNG CHRONICALLY MENTALLY ILL

by

MARY MOLEVYK DOORNBOS

December, 1993

Advisor: Dr. Jacquelyn Campbell
Major: Nursing
Degree: Doctor of Philosophy

Although the family plays a major role in the care of young adults with serious and persistent mental illness, there has been limited research on the impact of these ongoing caregiving responsibilities on the health of the family unit itself. The specific objective of the study was to explore the relationship of family stressors, family coping, family perception of the client’s level of health, and time since diagnosis of mental illness to the outcome of family health. In so doing, it also sought to empirically test a middle range theory that was deduced from King’s Open System’s Model.

A predictive, correlational, theory testing, survey design was used. Eighty-two families were obtained by means of a nonprobability sampling strategy. Families were sought from a community mental health agency, public and private psychiatric hospitals, and support groups. Family stressors was measured by the FILE (McCubbin et al, 1983), family coping by the P-COPES (McCubbin et al, 1981), family perception of the client’s level of health by the PES (Ihilevich et al, 1981), and family health by the Cohesion and Adaptability scales of the FACES III (Olson et al, 1985), the Family APGAR (Smilkstein et al, 1982), and the FES Conflict scale (Moos, 1981).

Descriptive statistics, bivariate correlations, multiple correlation, and multiple regression were used to address the hypotheses and research questions. The results provided empirical
support, with some modifications, for the middle range theory of family health in the families of the young chronically mentally ill. In addition, family stressors, family coping, and several demographic variables were found to be significant predictors of family health.

The results of this study contributed to both the science and practice of nursing. The science of nursing was advanced by means of the empirical testing of a middle range theory. This study also constituted an initial step toward the long term goal of theory based and experientially verified nursing care for families who have a young adult with a serious mental illness. Such nursing care will enhance the profession's ability to promote health within these vulnerable family units.
AUTOBIOGRAPHICAL STATEMENT FOR MARY MOLEYK DOORNBOSS

EDUCATION
Wayne State University, Detroit, Michigan
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  Staff Nurse; June, 1980 - July, 1982

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Mid-West Nursing Research Society

PROFESSIONAL PRESENTATIONS
Paper Presentations

Poster Presentations

RESEARCH AND GRANTS
Kappa Epsilon Chapter of Sigma Theta Tau International - Small Projects Grant. 11/92. "Family health in the families of the young chronically mentally ill." Approved, funded.
Individual NRSA Grant. 5/90. "Family life satisfaction in the families of the mentally ill". Approved, not funded.