FAMILY SYSTEMS FUNCTIONING AND FAMILY PHYSICAL HEALTH PRACTICES

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July, 1985

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PHYSICAL HEALTH PRACTICES

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July 26, 1985

ACKNOWLEDGEMENTS

The completion of doctoral studies in general, and this dissertation in particular, would not have been possible without support and encouragement from a number of individuals. A special thanks is expressed to members of my committee. Each has had a unique way of assisting while challenging me to grow. Dr. Francis Stromberg, Department Head of Family Relations and Child Development and chairperson for my committee has always been available to find answers to problems and facilitate completion of my doctoral program. I thank Dr. David Fournier, Professor of Family Relations and Child Development and my dissertation advisor for his expertise in research methodology and computer use. Dr. John McCullers, Professor of Family Relations and Child Development, introduced me to a stimulating new way of thinking beginning my first semester. Dr. Brent Snow, Professor of Applied Behavorial Studies, has provided encouragement in my decision to become a family therapist. I have appreciated his gentleness and guidance. Dr. William Johnston, Professor of Housing, Interior Design and Consumer Studies has encouraged growth and taking time to

enjoy life simultaneously. The blending of each member's approach to learning has been invaluable.

I extend special thanks to my classmate and traveling companion for three years, Angie O'Malley. Angie has been an encourager and motivator when stress and fatigue were high. She has been a special gift.

I appreciate the assistance of several people in the preparation of this thesis. I am particularly thankful for the efforts of my research assistants, Hope Dupre' and Tom Hoehner. The hours of work they put in collecting data by interviewing families was highly valued.

Margaret Page, Carla Thompson, Barbara Pearson and David Phillips freely gave hours of their time when demands were pressing. Cyndi Cox spent her weekends preparing this manuscript.

I am thankful also for the support of coworkers in both nursing education and family therapy. The encouragement given by my church family has been precious.

I want to acknowledge the support of my parents. They have always encouraged me to grow and learn and have instilled in me the value of doing things wholeheartedly. Their phone calls, letters, love, and prayers have undergirded my efforts the past three years.

I praise God for blessing me with family, friends and helpers. I thank Him for closing some doors while opening others and for showing me daily He is always there.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The role of the family is critical in every aspect of health care. Many people believe there is a strong relationship between the family and member health status. The family group serves to teach preventive health practices and to establish wellness and illness roles, attitudes and behaviors, as well as educating members to interact with the health care system. The family is the primary unit which assesses wellness/illness behaviors, determines the individual member's definition of illness and health and defines the health leadership role he/she will assume. An individual's perception of himself as healthy or ill, and his concept of self image are learned largely within the family (Friedman, 1981).

Families provide both preventive health care and the majority of sick care for their members. Levin (1977) estimated that 75-85% of all health care is provided by self or family. These percentages hold for both populations who have and do not have access to professional health services.

Pratt (1976) determined that families also have the prime responsibility for initiating and coordinating health services rendered by health professionals. Family differences in both definition and conceptualization of what constitutes health and illness, as well as motivation to seek health services and improve health behavior, are the main reasons for observed diversity of health care practices (Friedman, 1981).

The health care function is a primary focus in healthy, well functioning families (Friedman, 1981). Pratt (1976) proposed that the main reasons for the ineffectiveness of the provision of health care by families lies with the family structure or type and the structure of the health care delivery system.

Statement of the Problem

The role of the family in health care is believed by many health professionals to be crucial because of the powerful interrelationships between the family and the health status of its members (Friedman, 1981). The family is involved in almost every aspect of a member's health or illness. Even the decision to become a client or patient involves interaction within the family, as well as with external agents such a friends, neighbors and the health care system. The family provides the most important arena in which health and illness behaviors are taught, where

illness occurs and is resolved (Litman, 1979). It is possible that wellness and illness have a potent relationship to family structure, function and family conceptualization of health, illness, and health care.

The family has been a unit of empirical inquiry in the study of health since the 1940's. However, much of the early research was based on regional or national surveys and the clients of insurance programs. In 1971, the World Health Organization Report stated:

> The complex interrelationships between health and family virtually constitute terra incognita. In the form presented or available, statistics too often tell very little about the family setting.... The fact that the family is a unit of illness because it is the unit of "living" has been grossly neglected in the development of statistical tools suitable for coping with this set of problems, and in the provision of statistical data essential for an investigation of the individual as part of the family in illness as well as health. (p. 15)

Recent literature demonstrates improvement in methodology and investigation involving the family and health. However, there is an "inadequacy and lack of applicability of established measures of family functioning to health care research" (Litman, 1981). Litman also cites a need for research which has greater integration with family theory.

Another pitfall in many studies pertaining to family and health is that data collection involves only one family member who is viewed as representing the total family. There is a paucity of research in which the

family is examined as a unit or system. Research which investigates the level of effective performance of the family health role based on the family typology or structure appears to be negligible. Empirical investigation is needed which explores the relationship(s) of family systems functioning and family health practices.

In summary, research is needed which addresses the effects of family systems functioning on family health practices and family attitudes toward health and illness. As many family members as possible should be involved rather than having one member represent the unit. Valid and reliable instruments pertaining to family systems and physical health are needed for future research in the area of family functioning and health.

Purpose of the Study

This study attempts to determine both the existence and nature of relationships between family systems functioning and family health practices, including the family's attitudes toward health and illness. The research is based in family systems theory and the Circumplex Model of Marital and Family Systems (Olson, Russell, Sprenkle, 1979, 1980, 1983). The model uses two dimensions depicting cohesion and adaptability to determine family functioning.

In this study, input regarding health practices and concepts was acquired from as many family members as

possible, so that a more complete description of family health practices could be obtained. Both parents and their children, from ages twelve through adolescence participated in providing data. As families are complex, it is recognized that this procedure increases the complexity of the study.

One other purpose of this research was to develop reliable research instruments which measure family health practices. Family health practices are delineated in this study as utilization of physical health services, family attitudes toward health and illness, leadership roles of family members during health and illness, and concept of family health.

It is hoped that findings from this study will provide initial information pertaining to the relationship of family systems functioning on family health care practices. These findings may have implications for health care providers, especially those who care for family members as a family unit. Health educators may gain from results which pertain to acceptance and compliance with therapeutic regimen. Family therapists whose practices deal with families and illness and family systems medicine may also be able to gain understanding of the dynamics of family structure and health behaviors.

Questions to be Answered

Questions pertinent to the research include:

1. Is there a difference in the level of family functioning and the members' concept of family health.

2. Is there a difference in the level of family functioning and utilization of physical health services.

3. What is the relationship between the assumption of family health leadership roles and family functioning.

4. What relationship exists between family functioning and attitudes toward health and illness.

5. Is there a difference in family perception of the locus of control pertaining to health when related to family cohesion and adaptability.

Assumptions

1. Respondents have knowledge regarding the nature and types of physical symptoms that reflect episodes of illness.

2. Respondents are willing to share this knowledge with the researcher.

3. Health practices are taught in the home, by the family.

4. Wellness and sickness roles are determined by the family.

5. An individual's definition of health and illness is determined mainly by the family.

6. A six month to one year history of family health practices represents an adequate period of time to evaluate family physical health practices.

7. Research findings can be used by professionals to better understand the influence of family functioning on physical health practices.

THEORETICAL RATIONALE

General Theory

Family systems theory is derived from general systems theory initially proposed by Ludwig von Bertanlanffy (1968). Systems theory is not a theory of change, but rather a theory of stability. This theory consists of numerous basic principles. Although these principles can be studied individually, it is difficult to describe family system theory without acknowledging their interrelatedness.

One principle of a system is that the whole is greater than the sum of the parts. The whole adds the relationships to the parts. One part, in isolation, cannot define a relationship. When assessing a family, the whole must be seen as well as the way one individual acts in relation to another. The resultant interaction of members provides the organization to the system. This aspect should also be assessed. The complexity of a system increases with the addition of members. Because of interrelatedness, a change in one member or part of a system will have an impact on the whole.

A system tends toward or seeks stability, but must also be able to change or adapt in order to be healthy. Homeostasis refers to a system's capacity to be stable. Morphogenesis is defined as behavior(s) that allow change, growth and diversity. Adaptation occurs as the system makes changes in the internal environment, often in response to elements in the external environment. Adaptation occurs through use of feedback mechanisms or communication.

Systems also have boundaries. Elements belonging either to the environment or to the system are delineated by boundaries. As the system interacts with its environment, beneficial elements are incorporated while hostile elements can be eliminated. In families, boundaries define or help give a family its unique identity. Boundaries may be open or closed. The more input a family permits from external sources or family members, the more open it is: the less input, the more closed. A balance between openness and closedness is desirable.

Family Systems Functioning

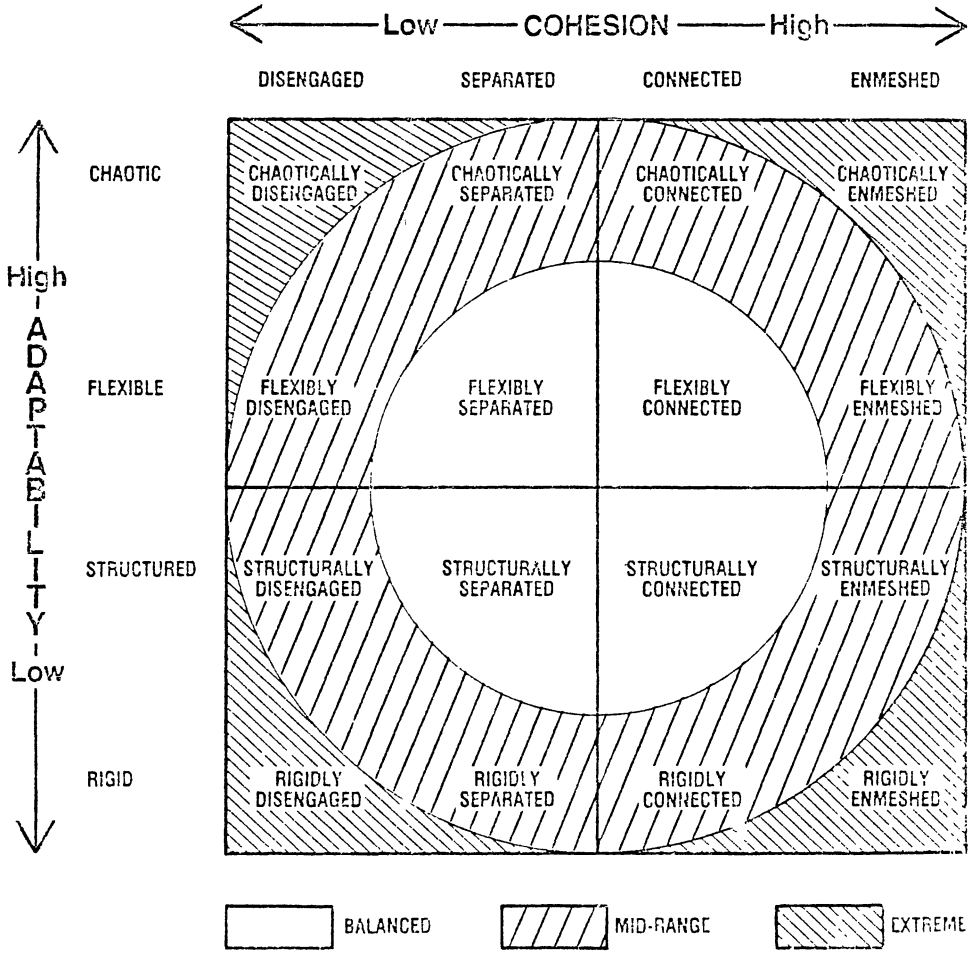
The Circumplex Model of Family Systems was developed and refined by David Olson and his associates (1983, 1980, 1979). The model defines family functioning with three major concepts, cohesion, adaptability and communication.

Communication is viewed as a facilitating factor for the other two.

Olson's model was developed as a clinical diagnostic tool for therapy with couples and families. Using an instrument he developed, the Family Adaptability and Cohesion Evaluation Scales (FACES), family members rated their family on the adaptability and cohesion dimensions. The instrument was judged to be valid and reliable in studies by Russell (1979) and Sprenkle and Olson (1979). It was later shortened and titled FACES II. By combining the two dimensions of cohesion and adaptability in a circumplex model, sixteen family types were defined and empirically validated. The types were developed by categorizing couples and families on the two continua into four levels: very low, low to moderate, moderate to high, and very high. These four levels related to cohesion are disengaged, separated, connected, and enmeshed. The four levels of adaptability range from rigid, to structured, to flexible, to chaotic (Olson, 1983). The intersecting of these levels forms sixteen cells, each of which identifies one family type.

Families in the middle area of the circumplex, which represents moderate or balanced cohesion and adaptability, are seen as most functional. The outer area depicts extreme families, seen as least functional to family and/or member development. The area falling in between represents midrange families (Figure 1).

CIRCUMPLEX MODEL



*From Olson, D. et al, Families: What Makes Them Work, Beverly Hills, Sage Publications, 1983.

Figure 1. Sixteen types of marital and family systems derived from the Circumplex Model

Utilizing basic principles of family systems theory, a relationship between family cohesion, adaptability and family physical health practices is possible. This relationship is illustrated in Appendix A.

Family Health Practices

The family plays an important role in the prevention of illness and promotion of health. Family decisions related to utilization of health care services for things such as prenatal care, immunizations and routine physical examination may help determine the level of wellness within the family. Both influential positive and negative health behaviors such as proper diet, an exercise program and smoking are taught to family members at an early age.

Two of the roles family members may adopt pertaining to health are in leadership and in the sick role. Litman's family studies (1974) indicated that the American mother plays the major role in circumscribing family health behaviors. He discovered that the mother-wife acted as health decision maker 67.7 percent of the time, while the father-husband assumed this role only 15.7 percent.

The sick role is defined by each family and is enacted at home. Some families exclude the sick member from all responsibilities and assist them to the fullest extent. Other families expect little change in the ill member's behavior, hoping he/she can carry on as usual.

This is particularly true when the wife-mother is the ill member. Once a family member is determined to be sick, the decision as to whether to care for the member at home, notify health professionals, or go to a health care agency is negotiated within the family. Again the mother wife will usually initiate the contact with the agency or professional (Pratt, 1976).

As one examines coping strategies used by families, spiritual support, family support and external supports are most often used (Olson, 1983). In research conducted by Caplan (1974, 1976) external supports, both formal and informal, were identified as major family supports. Informal sources include social networks such as friends, coworkers and neighbors. Formal supports encompass community agencies and professionals, such as physicians, therapists, and social workers.

The process of being ill and receiving professional health services requires the family to make a series of contacts and decisions related not only to health care providers, but also to family and friends. Pratt (1976) found when families had wide association with organizations, engaged in common activities, and used community resources, they used health services more appropriately. Also personal health practices were enhanced when husbands were actively involved in internal family affairs, including matters concerning the health care system.

Williams and Leaman (1973) determined that families with higher incomes, with children in the home, and those who lived in a community for some time have a regular source of health care. Families without one or more of the mentioned characteristics do not routinely use the same source for care. The closeness of a health care agency or professional appears to be a prime determinant of whom families contact. Therefore, the closer the facility, the greater the usage factor.

The meaning of health or illness to the family will determine the family's response. One would suppose that balanced families would be more sensitive to members' health needs, would react to early symptoms of illness, and be flexible to temporarily exempt ill members from role responsibilities.

Extreme families may define health only as the ability to work, and ignore illness until one is incapacitated from work. One would expect to find little or no attempt at role enactment and coping resources that are severely strained. After illness episodes any resultant changes would be ignored and the family would attempt to return to previous behavior.

Hypotheses

The general hypothesis of this study is that families of different typologies, as identified by the Circumplex Model, will exhibit differential levels of physical health

practices. Operational hypotheses are contained in Chapter III. Conceptual hypotheses are listed below:

I. Families of varying family types will utilize health services differently.

II. Families of varying typologies will differ in the sharing of health leadership roles.

III. Families of diverse typology will differ in allowing members to assume the sick role.

IV. Families of diverse typology will have different attitudes toward health.

V. Families of diverse typology will differ in their attitudes toward illness.

VI. Families of different types will view themselves differently in regard to their susceptibility to illness.

VII. Families of different types will vary in their perception of the locus of control over health.

Definitions of Key Terms

The following definitions of terms are used for the purpose of this study:

Family Adaptability: The "ability of a marital or family system to change its power structure, role relationship and relationship rules in response to situational and developmental stress" (Olson, 1983). Concepts which reflect adaptability are family power, negotiation styles, role relationships and relationship rules.

Family Cohesion: The "emotional bonding that family members have toward one another," or "the degree to which an individual was separated from or connected to his or her family system" (Olson, 1983). Some specific concepts related to cohesion are family boundaries, decision making, coalitions, time, space, friends, interests and recreation.

Circumplex Model: A model illustrating the theoretical rationale for determing family typology based on the dimensions of adaptability and cohesion. This model is a circular representation of interrelated family variables as illustrated in Figure 1.

Family Functioning: The family's level of adaptability and cohesion identified by the Circumplex Model. There are four possible levels of adaptability which range from low adaptability (rigid) to high adaptability (chaotic). The central range of this dimension consists of two levels, low central (structured) and high central (flexible). The four levels of cohesion range from low (disengaged) to high cohesion (enmeshed). The low central cohesion level is called separated and the high central level is called connected.

Family Type: Sixteen family typologies result when the adaptability and cohesion dimensions are combined. These sixteen types may be reduced to three types of families, Extreme, Midrange, and Balanced (Figure 1).

Extreme Families: Family types found on the high or low end of both the cohesion and adaptability dimensions. Four of the sixteen family types compose the extreme family category.

Midrange Families: Family types found on the high or low end of one of the dimensions and on the central level of the other family functioning dimension. This category consists of eight of the possible sixteen family types.

Balanced Families: Family types found on the two central levels of both the cohesion and adaptability dimensions. Four of the sixteen family types fashion the balanced family category.

Physical Health: Soundness of body

Health Leadership Role: Family member who makes the final health decisions for the family members.

Concept of Health: A set of beliefs, values, and perspectives regarding wellness and illness.

Utilization of Health Services: Number of times a family member has sought professional health services during the past twelve months.

Preventive Practices: Those practices which help prevent illness, i.e. annual physical exams, dental checks, etc.

Episode of Acute Illness: Period, not lasting more than two weeks, when the affected family member considers her/himself as "injured" or "sick" or is told by a health professional that (s)he is ill.

Chronic Condition or Illness: A life condition or disease that persists longer than two months.

Physician Visit: Consultation with a doctor in person or by phone for purposes of diagnosis, examination, treatment, or advice.

Emergency Visits: Number of visits to a hospital emergency room, minor trauma center, or doctor's office for sudden onset of acute illness or accidents.

Organization of the Study

This chapter has described the basic concepts of family systems functioning and family physical health. It also reviewed the theoretical framework which serves as the basis for empirical study and delineated the areas of investigation.

The following chapter consists of a literature review describing family systems functioning based on the Circumplex Model. It also contains information from pertinent sources regarding family physical health practices, including family attitudes toward health and illness and family concept of health.

Chapter Three outlines the specific research methodology, procedures, and relates the composition of the study sample. It also describes the instruments selected and designed for the purposes of this study.

Chapter Four discusses the analysis of data collected from research interviews and questionnaires. An evaluation of findings for each hypothesis is presented.

Chapter Five summarizes the study, its application to family physical health, family medicine and family counseling. Conclusions and recommendations for further study are described in this chapter.

CHAPTER II

REVIEW OF LITERATURE

This chapter provides a conceptual framework in which theoretical positions pertinent to this research are explored. Existing studies which are relevant to theory, which lead to generation of hypotheses and provide rationale are reported. The family as a system is explored first. Literature pertaining to family functioning is presented next, followed by studies and observations related to family physical health. The fourth section establishes the relationships between the two concepts.

The Family As A System

The family is a living social system, constantly interacting with its internal and external environments. As a system, the family operates by the same principles governing other systems.

Systems are goal oriented or purposeful. The organization, network of relationships and nature of relationships within a system are relative to the purpose of the system. Relationship describes patterns of interaction between individuals. It also describes rules

governing how family members relate to each other. Relationship is inferred when members of a system are observed exchanging redundant patterns of behavior. The rules of a relationship may be inferred from the observations of these patterns (Becvar, 1982).

Family systems have the potential for self organization and cohesion. A portion of the energy of a system is used to organize the system. Some energy is directed toward task functions. Too much energy directed toward maintenance functions at the expense of task functions can be problematic. In a disorganized system the members lack a coherent sense of relationship and energy is expended thoughtlessly or in a random manner. The movement of the system at this point is toward entropy. There is a reorganization of the forces and parameters within the family when they are subjected to the action of new constants in the environment.

Self stabilization of a system occurs as the system compensates for changing conditions in the environment by making coordinated changes in the system's internal environment. The buffering capacity of the system reduces the effects of the environment on its respective parts. By the use of feedback mechanisms or communication, systems become adaptive (Gillies, 1983). Activating change mechanisms within the system involves a focus of the family processes as well as interaction with the "hear

and now" communication and feedback, and this with the structure and organization of the family (Becvar, 1982).

Communication patterns define the nature of the relationship in a family system. Communication can be verbal, nonverbal or contextual. A change in context will elicit a change in the rules of a relationship. Social systems are held together and change by transfer of information within and between the boundaries of different systems. In families, information flow enables the system to stabilize and/or adapt to change as necessary, and thus continue its existence.

A fundamental characteristic of systems is that they have boundaries. A boundary delineates elements belonging to the system and those belonging to its environment. The system constantly interacts with the environment. Hostile external elements can be filtered out, while those which are beneficial to goals and rules can be sought out and incorporated. In the family system, this boundary is defined by redundant patterns of behavior which characterize the relationships within that system and by those values which are sufficiently distinct as to give a family its particular identity (Becvar, 1982). The amount of information permitted into a system from without, or the rigidity of the boundary is indicative of the openness or closedness of a system. If a family accepts too much information from without, the boundaries of that system become indistinct and are not discernible as separate from

other systems. If boundaries are rigid, the family will not be flexible enough to effectively process information from its environment.

Openness and closedness refer to the boundaries a family establishes among family members and between itself and other systems. The more input family members allow from other family members, or from other systems, the more it is an open system; the less input, the more closed. In the functional family, a healthy balance is most desirable.

All living systems are open to some degree. A family system accepts from other systems those inputs that are necessary for continued existence. Boundaries, to some extent, become permeable or rigid according to need. Families thereby regulate the amount of input from the environment as well as output to the environment (Reinhardt, 1973).

Family Systems Functioning

General Systems theory is the foundation for the Circumplex Model of Marital and Family Systems developed by Olson, Sprenkle and Russell (1979). This model focuses on the dimensions of family adaptability, cohesion and communication. Communication facilitates the other two dimensions, as it makes movement of families on the cohesion and adaptability continua possible.

There are four levels of the adaptability dimension. The two extreme levels are chaotic (high change) and rigid (little change). The middle two levels are called structured and flexible. The cohesion dimension ranges from the extreme levels of enmeshed (extreme family bonding and limited individual authority) to disengaged (low family bonding). Putting the four levels of adaptability and four levels of cohesion together forms sixteen family types. These sixteen types can be further reduced to three types of families, Extreme, Midrange and Balanced. Extreme families fall in the extremes of the two dimensions. Midrange families fall on one extreme level on one dimension and a middle level of the other dimension. Balanced families fall in the middle levels of both dimensions (Figure 1).

A number of empirical studies have verified the use of the Circumplex Model as a theoretical base for clinical and research purposes. Sprenkle and Olson (1978) compared a population of 25 clinical couples receiving counseling with 25 nonclinical couples. Using the Simulated Family Activity Measure (SIMFAM), they found that under stressful circumstances nonclinical couples shared leadership patterns and were more supportive to each other's needs than were the clinical couples. Findings thereby supported the adaptability dimension of the Circumplex Model.

A study by Russell (1979) tested both the cohesion and adaptability dimensions of the Circumplex Model. She compared 31 Catholic families with female adolescents who participated in the SIMFAM games and completed a questionnaire measuring the two dimensions. She found that ten of fifteen high-functioning families fell into the Balanced types, when families were placed on the two continua. All of the low-functioning families fell into the extreme areas. Findings supported the curvilinear hypothesis between family functioning and the circumplex dimensions.

In separate studies, Russell (1978, 1979) empirically demonstrated that the two dimensions of adaptability and cohesion are independent. In the first study she used one self report measure and four behavioral measures of adaptability. There was one behavioral measure and one self report measure of cohesion. Thirty family triads were involved. Factor analysis revealed that items loaded on adaptability (average $r = .77$) and cohesion ($r = .75$).

In the second study (1979), Russell used twenty family triads, some measures from Moos' Family Environment Scales, and similar measures of adaptability and cohesion as before. This study confirmed and replicated findings of the previous study.

In 1980, Portner compared a group of 117 nonclinical family triads to 55 clinical families. She used the Inventory of Parent-Adolescent Conflict (IPAC) and FACES.

Her study showed that nonclinical families tend to be Balanced families more than are clinical families.

Bell and Bell (1982) studies 33 families of runaways by utilizing IPAC and FACES. They compared these families with the same 117 nonclinical families used in the Portner study. He found more runaway families in the Extreme or Midrange groups. Significantly more nonclinical families were found to be Balanced types.

A recent study by Olson and associates (1983) used the Circumplex Model and FACES II as the basis for a national survey of 1,140 Lutheran nonclinical couples and families from 31 states. This study measured family types, family stress, family resources, family coping and family satisfactions. The research was an attempt to investigate normative family processes with regard to family life cycle. The outcome of the study strongly supported the use of the Circumplex Model and the hypothesis that Balanced families seem to function more adequately throughout the family life cycles. Families also tended to use internal resources rather than external supports to cope with family stress. Community resources were used only if members could not cope by using their internal resources.

Olson's study also investigated personal health behaviors of family members, such as smoking, drinking, exercise, sleep and eating habits. In general, the families had generally good health habits. Adolescents

tended to have better health behaviors than their parents. No correlation was made with health and family functioning.

To date research has not investigated the possible relationships between family systems functioning and family health practices and beliefs. Studies addressing these relationships are needed in both the social sciences and health related fields. These relationships will be examined in this study.

Family Physical Health Practices

One of the many roles of the family is the teaching of health beliefs, habits, and practices. There are family differences in how health and illness are defined and conceptualized, how members are motivated to utilize health services, and to change behaviors to enhance health states. Families also provide the majority of health care and health education to their members. Authors such as Pratt (1976) and Friedman (1981), support the belief that the provision of health care is a basic family function. If health care in a family is ineffective, the reason may lie within family structure.

Health Leadership Roles

In the American family, the wife-mother has traditionally functioned as the main health educator, decision maker, and determiner of health behavior of the

family. A 1971 study by Litman illustrates the extent of her role. A population of 201 families, representing three generations was surveyed. He found that the mother made health decisions 67.7 percent of the time, while the husband-father assumed this role only 15.7% and the two spouses together 13.1%. Litman reported that no matter what health variable was assessed, the nature of illness, sick role assumption, utilization of health services, or familial assistance, the wife-mother was the central agent of care and cure within the family. There was also considerable reliance on the parental mother as a main source of assistance and comfort in times of illness. Reliance on others in the immediate household was sought 6% of the time, with 70% of this resulting primarily from illness of the wife-mother.

These findings further support a study by Alport (1967) who noted that mothers have a primary role in defining symptoms and organizing family responses to these symptoms. He also documented that mothers are most likely to take actions related to symptoms of health. Mothers were more likely to seek advice and medical care for their children than for themselves and were more willing to allow other family members the right to be sick than themselves. Bell and Phillips (1964) found the wife-mother plays a significant role in defining and legitimizing her husband's assumption of the sick role. When the early symptoms of an illness present, the first

person a married man turns to for information exchange is his wife (Twaddle, 1969).

Mechanic (1964) evaluated the wife-mother's response to illness in families. He found that mothers rarely assumed the sick role, doing so only when necessary, and then often reluctantly. Mother's illness was also found to be extremely disruptive to day to day family functioning, while husband's prolonged illness decreased the family standard of living.

The interaction of family functioning, health leadership role and family decision making of 233 families was empirically studied by Pratt (1976). Results indicated that there is a higher concentration of health education responsibilities among women than among men, although 66% of fathers reported participating in health education of their children. She proposes that since the wife has traditionally been assigned the main responsibility of family health, women show more interest in health information and tend to be more health knowledgeable. Both men and women cited family health as a concern in this sample. However, family members' health topped a list of problems most often worried about by women. Health was third as a concern for fathers. This finding is consistent with the traditional health role in families.

Pratt purports that equalitarian decision making combined with a flexible organization of family tasks may

assist a family to mobilize for maximum effort and to enable sound health practices. Establishing a pattern of regular, frequent and varied interaction among all family members, with joint participation in tasks would also foster personal health practices of family members. Data supported the finding that father-child interaction had more influence on the overall health practices of the family than did mother child interaction. Children with a high degree of family support and feeling of autonomy had good health practices. Family participation in organization and activities was positively and significantly related to personal health practices of mothers, fathers and children. Community participation played a lesser role in the health practices of fathers.

Pratt also determined that the result of interdependence of family members is also significant. Personal health practices are dependent on the relationship structure among all family members. For women, the main influence is father-child interaction. Fathers' practices are influenced first by husband-wife interaction, while community participation ranks first for children followed by their autonomy and parent-child interaction.

Stepwise regression analysis determined that differences in family structure accounted for one-fourth of all the variance in health behaviors of family groups. The pattern of family structure was significantly related

to the health behaviors of the family group en total. The study population was held constant for socioeconomic status and there was no change in the correlation to personal health behaviors.

Pratt concluded that an "energized family structure", which is similar to Olson's Balanced family type, supported family members' efforts to care for their health more than a "nonenergized traditional" pattern. Pratt states:

> . . . it is evident by the fact that it is precisely in those dimensions in which the energized family diverges most sharply from the traditional form that it provides its most significant contribution to member's health behavior. (p. 160)

Concept of Family Health

Definition and conceptualization of what constitutes wellness and illness varies from culture to culture and family to family. A family defines behaviors that constitute sickness and health for its members. These definitions are often passed from generation to generation. The family's concept of their health affects motivation to learn about health, to seek assistance with health matters, and to utilize health services.

Families have different ways of defining their level of health. Often the frequency of the occurrence of a condition will modify one's concept of illness. For example, many Americans view the common cold as an

inconvenience of daily living, but may not consider themselves ill when afflicted with one. Some people are highly cognizant of changes occurring in their bodies and recognize minor symptoms as indicators of disease or illness. Others may determine they are sick only when they can no longer function at work or at home. Family members' perceptions of what constitutes illness, their level of susceptibility to an illness, and the threat of sickness will help determine health behaviors and practices.

Ware and Karmos (1976), in an investigation supported by the National Center for Health Services Research, developed a 32 item instrument which measured an individual's perception of his/her health. They collected the data from 2,000 adult respondents in five field tests conducted between 1973 and 1975. Three of the tests were done in different areas of Illinois, one in East St. Louis and the other in Los Angeles County. The variables they measured included perception of current health, prior health, resistance or susceptibility, health outlook for the future, health worry/concern, sickness orientation, rejection of the sick role and attitudes toward going to the doctor. They found that general health perceptions tend to be stable over time and that long term stability of these perceptions had been underestimated in other published studies. Health perceptions were consistent with level of psychological well being of the individual.

Results suggested that the majority of low general health rating scores could be explained to chronic disease, poor health and psychiatric impairment. Ware's findings confirmed those of other studies which cite that health perceptions are not consistently correlated to health behaviors, such as medical check-ups. Results also support other studies which reveal a linear relationship between general health perceptions and age. Older persons perceive their health as poorer than younger persons and tended to resist the sick role more by not allowing illness to interfere with their lives.

The National Center for Health Statistics (1984) reported data from a national census survey conducted in 1980 and 1981. Data was obtained through household interviews throughout the United States. Data was reported for the country as a whole and by four geographic regions. Eighty-five percent of persons of all ages perceived themselves as having excellent or good health. Twelve percent determined they had fair or poor health. As with Ware's study younger persons perceived their health more positively than older people. Persons of all age groups residing in the North Central region tended to rate themselves sightly higher than their counterparts in other regions. Eighty-eight percent of this group viewed their health status as excellent or good, while 11.2% had fair or poor health perceived. Ninety-five percent of those under 17 years perceived

their health as excellent to good. The percentages decreased with age. Seventy percent of those 65 years or older saw their health this way.

Health data were further computed by sex. Men of all ages tended to see their health as better than did women. Fifty-three percent of the men viewed their health as excellent while forty-six percent of the women did. Good ratings were obtained from forty percent of the women and thirty-six percent of the men. Ratings of fair health were 8.5% for men and 10.5% for females. Perceived poor health status was reported by 2.9% of males and 3 percent of the women.

Litman's three generation health study (1974) further depicts the role of family in the socialization of knowledge and beliefs and the role of the family in health and illness behavior. He discovered that generational differences of these variables persisted regardless of socioeconomic class, and that social class differences in health and health care were most often a result of generation.

Research to date has not investigated the linkage between family interaction from a family systems perspective and the family's concept of their health as individual members or as a unit. These interrelationships will be examined in the present study.

Attitudes Toward Health and Illness

Health attitudes are integrated with other family practices and belief systems such as religion, kinship patterns, ethnic and cultural expectations and perceptions of level of social control. Attitudes a family holds regarding health and illness can be important variables in determining how members perceive sickness and wellness, and thereby may help describe health behaviors or practices.

The General Mills American Family Report (1979) suggests that Americans frequently deny illness and perceive sickness as a sign of weakness. The report also states that health is often taken for granted and the populace does not accept responsibility for their state of health. The American media has presented a plethora of health information for many years, yet research shows that there has not been much impact (General Mills, 1979, Mechanic 1979).

Mechanic's research consisted of a follow-up study of the health practices and patterns of 302 adults initially interviewed as children sixteen years prior. He found low levels of consistency or continuity of positive health patterns over this sixteen-year period of time. A study of HMO's by Leavitt (1979) revealed that even when one perceives oneself as vulnerable to illness there is a very low correlation with actual prevention practices.

Pratt (1976) concludes that the value placed on good health and the level of health knowledge does not appear to reinforce good health habits. She suggests answers should be sought in the structure of the family and the structure of the health care delivery system.

Litman (1974) discovered that even though practices may vary between generations, the tendency to adopt a fatalistic attitude toward health and wellness was evident. Grandparents relied on fresh air and exercise as well as the Protestant Ethic of "work hard and keep busy" as a prescription for good health. The third generation, their grandchildren, tended to rely on vitamins or do nothing special to keep well. Only one percent of the total sample thought regular medical check-ups were important to good health.

Attitudes toward health and illness may also correspond to a family's coping abilities. Members who are able to seek out new resources, are open to ideas, and who can adapt to a family's changing needs may see themselves as in control of their health and that of their family. They may perceive themselves active participants in health care and as partners with health care providers.

In contrast, families who take a more fatalistic outlook toward life, who passively accept circumstances, and experience problems as crises on a day-to-day basis may also see illness as inevitable, unpredictable, and out of their control. These families may tend to neglect

health matters until they reach crisis proportion. Illness or health may be perceived as either punishment or reward for certain behaviors. These families may be more reliant on folk fatalism than on scientific medicine, and be passive in their relationships with professional health care providers.

Gochman (1972) illustrated this phenomenon in a research study of 774 children, ages 8 through 17 years. Children who viewed themselves as actively involved and in control of their world perceived their preventive behaviors as reducing their vulnerability to health problems. Children for whom health was salient, but who viewed themselves as victims of circumstances were not as likely to see the relationship of their preventive behaviors to the reduction of their chances of illness.

Other studies such as Dabbs and Kirscht (1971), McKinlay and McKinlay (1972) show that families who are motivated to exert control over their environments are more likely to seek out information from health professionals and utilize health services appropriately. Families who perceive themselves as powerless and life as uncontrollable apply standard formulas to life events, seek health information less often, and may under use services, thereby sustaining a crisis existence.

In summary, supportive social relationships along with individual efforts and determination are important to maintain a high level of wellness or health. A family

member's attitudes toward health and illness seem to be related to family functioning. Family dynamics will affect members' motivation for establishing and maintaining good health practices, their utilization of health services and the actual level of members' health states.

Utilization of Health Services

The decisions as to whether one's illness requires professional health services or should be treated at home is largely determined by the family (Litman, 1974). A family's response to illness of one of its members depends on several factors. First, they must recognize that a health problem exists which requires professional attention. Services must be affordable and convenient. Families must know about the existence of the services and be willing to use them.

The National Center for Health Statistics (1984) reports that during 1980-1981, 74.6% of persons in the United states visited a medical doctor at least once. The average number of visits per person was 4.7. Persons under 17 to 44 years of age had 4.3 visits annually. The number increased with age, so that those 75 years and over had 6.5 visits per person per year. Of people visiting physicians, 60.7% made one to six visits, 8.3% made 7-12 visits, and 4.4% made 13 or more visits. Twenty-five percent of the population had no physician visits at all.

The majority of physician visits, including prepaid groups, occurred in the physician's office. Significantly fewer visits occurred in a hospital clinic, emergency room or by telephone. Each was less than one sixth of the frequency of office visits. The majority of these visits (84.4%) were for purposes of diagnosis or treatment. Visits made for preventive purposes, specifically prenatal and postnatal care, general checkups, immunizations and vaccinations, totaled 14.3%.

Family characteristics related to physician visits during 1980 show that the number of visits decreases with family size. Families of only two members had 5.5 visits per individual, while those consisting of 5-6 persons had 3.8 visits per family member. The "typical" American family consisting of 3-4 persons had 4.7 visits per person per year.

Short stay hospitalization (average of 9 days) occurred in only 10.3% of the the general population with 5.1% of those under 17 having one or more hospital stays. Incidence of hospitalization increased with each age group to a high of 20.6% for those 75 years or more.

Males tend to utilize health services less frequently than females. Hubbard and Pope (1983) investigated gender differences in illness orientation and utilization of health services. They studied 886 women and 762 men ranging in age from 18-59 years. Males and females reported the same tendency to assume the sick role. This

was even more congruent when women worked. Working women with parental responsibilities reported symptoms less than their male counterparts. However, this group had higher rates of health service utilization. Unemployed women without parental responsibilities reported more symptoms of illness. The study also confirmed pervious research findings that women have a higher interest in health than males, which affects their symptom perceptions and utilization of health services. Women's socialization to gender role expectations and their traditional responsibility for family health may contribute to this increased concern for health.

Socioeconomic status has less effect on the utilization of health care than in the past. Since government has subsidized health care with Medicare and Medicaid, the poor visit physicians more than those in higher income brackets. Kronenfeld (1978) and Galvin (1975) substantiate the NCHS statistics. The poor have more illnesses, delay seeking help until conditions become more of a severe nature and often seek care in emergency rooms or centers. See Figure 2.

Except when income was less than $5,000, Blacks had fewer visits than Whites. More physician visits occurred by Whites in this income bracket, with the exception of children under 17 and people 65 years and older. Families with incomes of $25,000 or less utilized physicians less often, with the exception of the elderly who saw

physicians more often than their counterparts in other income brackets.

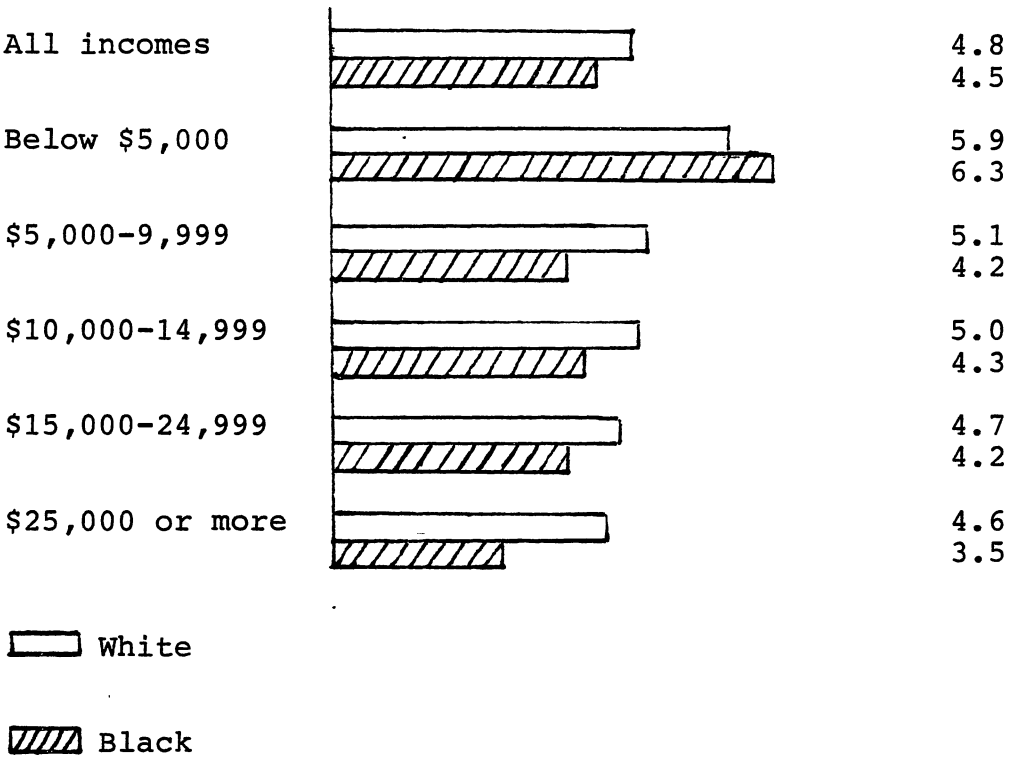


Figure 2. Physician Visits Per Person

Another salient factor in family utilization of health services is that health services are utilized appropriately. Often in inadequately functioning families, illness is not dealt with until a member's condition deteriorates so that the family rushes him/her to a hospital emergency room. Friedman (1981) relates that one of the major responsibilities of the family in

its health care function is enlisting appropriate health services to meet the health needs of family members.

Families with rigid boundaries will rely on themselves or close kin-networks to care for the member at home. There will also be strict adherence to traditional age and sex patterns of decision making and task assignments. This may often be to the detriment of the family and its members.

In a more adaptable or balanced family, family members participate in decision making related to seeking health services, making appointments, providing transportation, and coping with the intricacies of the health care system. This family pattern not only facilitates health care utilization for routine care, but is of major importance in cases of emergency to maintain a high level of family functioning.

Summary

The majority of health research has explored the relationship of a number of separate factors that affect an individual's health state. Most studies have neglected the role of the family's patterns of relating to and working with one another as they pertain to family physical health practices.

Several studies support the premise that the family plays a vital role in the area of health care. The family defines what constitutes health and illness for its

members. Family members determine health behaviors based on a certain level of health knowledge. They furnish a social network for dissemination of this information and the development of health practices, provide the majority of health care to their members and enlist the assistance of the health care delivery system when the family can no longer function in the health provider role.

Family structure may be a key factor in determining the nature of family health practices. The family through its structure and interactions, plays a salient role in members' concept of health, their attitudes regarding health and illness, their role(s) in health and illness, and the utilization of health services.

Families who are supportive of one another, who encourage and tolerate members' moves toward autonomy, and who actively attempt to deal with problems and issues, are more likely to be competent in the health care function. On the other hand, families with little adaptability, or who are chaotic in other areas of living, fail to provide adequate support to members or may block individuals in their efforts to function effectively in the area of health.

CHAPTER III

METHODOLOGY

This study investigates the relationship between family systems functioning and family health practices. Relevant factors pertaining to family functioning found in the literature include the independent variables of family cohesion and adaptability. The assessment of health practices focuses on families' internal functioning and attitudes, as well as their utilization of external resources in the community which can assist them in maintaining health or coping with illness.

Family systems functioning can be viewed as an independent variable which influences a family's organization and management of health behaviors or practices and attitudes. One may hypothesize that the family's levels of cohesion and adaptability and the family type would affect the members' actions, concepts, and attitudes toward health and illness.

This chapter describes (1) research design, (2) selection of subjects, (3) methods of data collection, (4) instrumentation, (5) data analysis and processing, (6) statistical procedures, and (7) research hypotheses.

The development and manner of performance of these procedures will be delineated.

Research Design

This study utilized comparative and correlational designs in order to investigate degrees of relationship or interrelationship between the major variables, family systems functioning and family physical health practices. Family functioning variables are cohesion, adaptability, and family type. Family health practice variables include attitudes toward health and illness, concept of family health, health leadership roles, and utilization of professional health services (Figure 3).

Comparative and correlational approaches were chosen for the design since the research variables are somewhat complex and do not readily lend themselves to experimental control or manipulation by the researcher. Comparative correlational research permits simultaneous measurement of the interrelationship of several variables (Appendix A). The extent to which variations in one factor correspond with variations in one or more other factors may be explored through these methods (Issac and Michaels, 1979).

Possible limitations of this method are identification of equivocal and superficial relationship patterns which have little or no reliability or validity. Cause and effect are not identified; thereby, issues are not "proven." Less control and manipulation is exercised

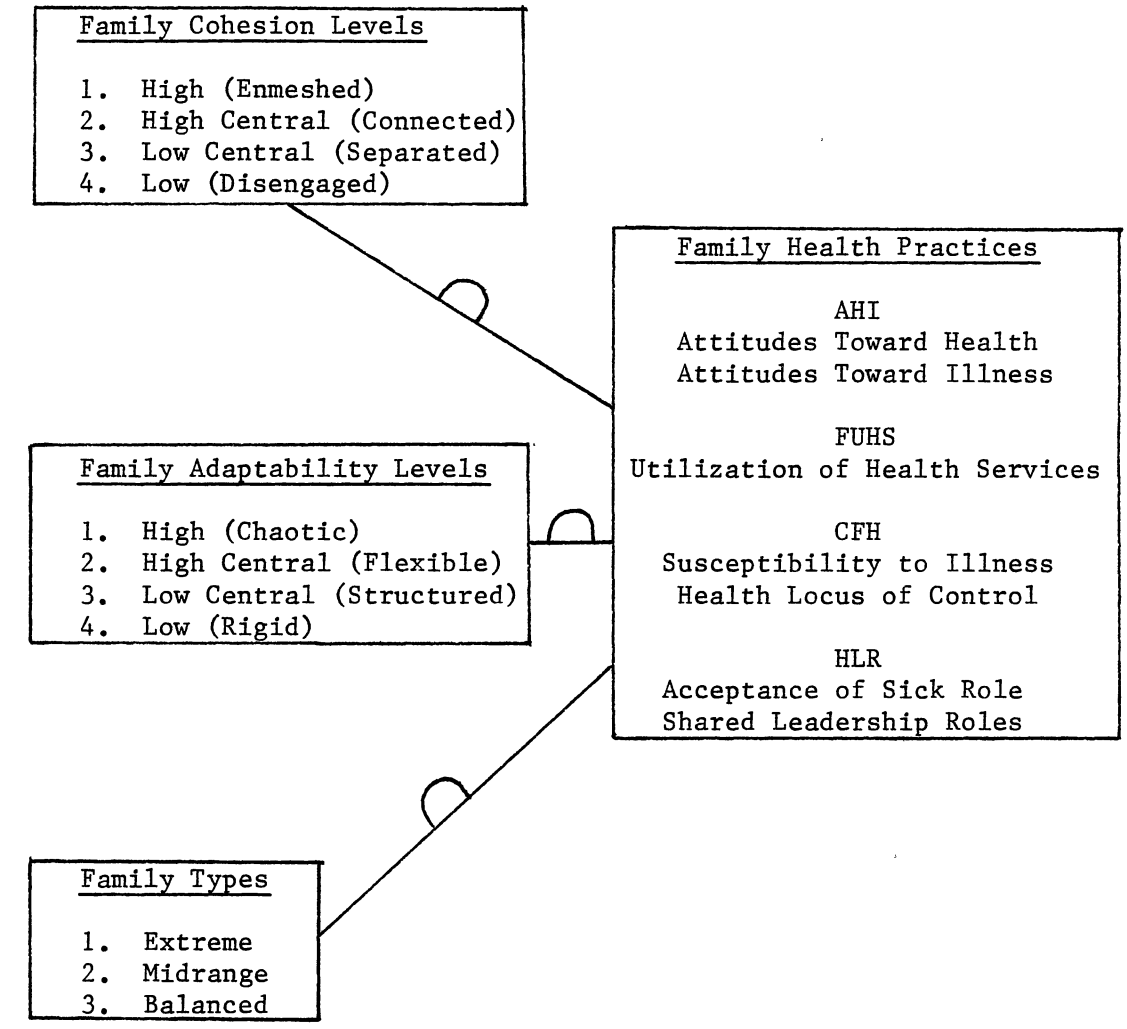


Figure 3. Hypothesized Relationships Between Independent and Dependent Variables

over the variables than with experimental research designs. The researcher is also limited by the design in data analysis.

Multi-Method Procedure

The researcher used a multimethod approach to obtain data, relying on instruments which utilized a pencil and paper self report survey and a semi-structured interview. According to Olson (1974), methodological limitations arise when only one method of data collection is used to investigate theoretical concepts and principles. A single method may eventually restrict the variety of the concepts that are measured while limiting the flexibility of data analysis. Olson suggests that multimethod techniques can enhance the validity of social science research and provide different perspectives that aid in making objective judgments.

Olson (1983) relates that few studies have attempted to understand how families contribute to the physical well-being of individual members. Litman (1985) recommends that research on the family system in family medicine merge theory and methods so that designs are based in theory. He also called for development of data bases which included more family members, i.e. fathers and siblings. The design of this research is one attempt to address these issues.

Description of Instruments

Three instruments used for this research were the family health questionnaire, FACES II, and the family genogram. FACES II was selected based on established reliability and validity from previous studies, and because of the instrument's usefulness in assessing family functioning. The consent form, Family Health Questionnaire (FHQ), and Family Genogram were developed by the researcher to assess factors pertaining to family physical health practices. These instruments are included in Appendicies B, C, D, and E, respectively. Measurement of the key variables are found in Table 1. A description of these instruments follows.

Family Health Questionnaire

The Family Health Questionnaire, developed by the researcher, measured the Concept of Family Health (CFH), Health Leadership Roles (HLR), Attitudes Toward Health and Illness (AHI), and Utilization of Health Services (UHS). The first section of this instrument consisted of demographic data pertaining to age, sex, socioeconomic status, occupation, race and religion. A second section contained a five point Likert type scale measuring Concept of Family Health (CFH I), and another scale which elicited descriptive data regarding Utilization of Health Services (UHS) from adult respondents. All family members

completed the scale rating concept of family health (CFH I). The descriptive data (UHS) consisted primarily of health questions the researcher thought most children would not have knowledge of, so only parents were asked to complete it. The third section of this questionnaire, given to all respondent family members, consisted of three, separate five point Likert type scales dealing with the family's attitudes toward health and illness (AHI), family health leadership roles (HLR) and concept of family health (CFH I). Family health scales and subscales are described in the following pages.

Family Health Questionnaire Scales

Utilization of Health Services

The UHS scale, developed by the researcher, measured family utilization of health services. The scale was composed of descriptive items which were completed by parents. Families were asked to identify their main physical health care provider to assess whether family functioning tended to influence this choice. The scale also delineated family practices as they pertain to health services utilization for preventive purposes, emergency situations, and episodes of acute illness during a twelve-month period. An open ended question elicited information describing the nature of hospitalization and length of stay for family members. Questions, such as

type of transportation, distance from health care and financial support, were asked to determine if and how these factors might influence utilization of services.

The UHS scale consisted of eleven items in a forced choice format. Four of the questions were nominal level data. A space was provided for one "other" response.

Five ordinal level items were contained in the FUHS (Family Utilization of Health Services) subscale. This scale measured utilization of physical health services for prevention, for episodes of acute illness and for emergency situations (Table I). Reliability of this subscale is discussed in Chapter 4.

Concept of Family Health

Members' concepts of their family's health were elicited through two five point Likert type scales (CFH). The first scale (CFH I), developed by this researcher, required each member to rate their health and that of other immediate family members from excellent to extremely unhealthy. The second scale (CHF II) consisted of three subscales. The first defined what types of conditions constituted illness for each family (FCHD). The second subscale appraised if members felt in control of their health states (FCHCON). The third elicited members' responses regarding perception of their susceptibility to illness (FCHSUS).

TABLE I

SUMMARY OF RESEARCH INSTRUMENTS

Name of Variable	Number of Items	Source	Theoretical Scale Range	Reliability Summary*		
				Alpha	Split Half	Test Retest
Family Adaptability	14	FACES II	14 - 70	.78	.90	-
Family Cohesion	16	FACES II	15 - 80	.87	.80	-
Utilization of Health Services (FUHS)	5	FHQ	5 - 29	-	-	-
Attitudes Toward Health/ Illness (AHI)		FHQ				
AHIILL	7		7 - 35	-	-	-
AHIHCO	6		6 - 30	-	-	-
Health Leadership Roles (HLR)	7	FHQ				
Health Leadership Roles (HLRIN)		FHQ				
HLRSH	6		6 - 30	-	-	-
HLRSR	9		9 - 45	.59 Average		.58 Average
Concept of Family Health (CFH)		FHQ				
FCHSUS	4		4 - 20	.70 Average	-	.69 Average
FCHCON	6		6 - 30	-	-	-

*Reliability summaries are based on research conducted by authors of the instruments.

Four questions utilized by Ware and Karmos (1976) in an extensive research project were contained in the FCHSUS subscale. The items reflected the perceived resistance or susceptibility to illness. Test-retest reliability of these items established through product moment correlation of three different populations was reported by Ware and Karmos with an average of .69. Internal consistency of the items with four test groups was ascertained through Chronbach's alpha and averaged .70 (Table I). Validity was established by factor analysis of these same scale items in relation to health status, health and illness behavior, and age. Their study addressed individuals, so wording of items used by this researcher was changed to reflect the family system. Reliability of the modified scale was then established. Results are described in Chapter 4.

The CFH I scale, consisting of nine possible items which asked respondents to rate each member's health, was scored by tallying all responses and dividing by the number of family members in order to obtain each person's family score. Analysis of the CFH I scale was limited to frequency data. The total CFH II scale was composed of 13 items. Respondents were asked to choose one of five responses for each question. The format choices were (1) strongly disagree, (2) somewhat disagree, (3) neither agree or disagree, (4) somewhat agree, and (5) strongly

agree. A total score for each subscale was obtained by adding items scores.

Attitudes Toward Health and Illness

Family attitudes toward health and illness were measured on the AHI scale. This scale consisted of 27 items developed by this author. The items were a forced choice response format of (1) strongly disagree, (2) somewhat disagree, (3) neither agree or disagree, (4) somewhat agree, and (5) strongly agree. A seven item subscale (AHICON) was used to determine if families viewed health as controllable. A second subscale consisting of 8 items (AHIILL) assessed if families perceived illness as an aspect of living that could be prevented and controlled, or was inevitable. A third subscale assessed whether members viewed health and illness as reward or punishment from God. A fourth subscale examined their concepts of characteristics of people who are well or ill. All subscale scores were obtained by totaling individual item scores. Only the AHICON and AHIILL subscales were used for purposes of this study (Table I).

Health Leadership Roles

The Health Leadership Role scale (HLR) consisted of two scales developed by this author. One scale (HLR I) was composed of nominal level descriptive items, while the second (HLRIN) was a forced choice Likert type scale.

Both evaluated who actually made the decisions pertaining to family health practices occurring during wellness or illness states. Traditionally, this role is delegated to mothers. However, as Pratt (1976) mentions, family functioning might make a difference in who performs this function in various families.

The first scale, HLR I, consisting of seven nominal level items, was answered only by parents. They were to identify who participated in or actually made decisions pertaining to health and who made family health appointments. It also asked who cared for sick family members. Some of this same information was asked in the second scale (HLRIN) which was answered by both parents and children.

HLRIN consisted of two interval level subscales. One 9-item scale determined family acceptance for members to assume the sick role (HLRSR). Four of the subscale items were modified from Ware and Karmos (1976) to reflect the family. The reliability from their study was conducted on four sample groups. The average alpha coefficient of these four test groups was .58. Test-retest reliability established through product moment correlation of three populations was .59 average.

The second subscale (HLRSH), assessing shared leadership, consisted of 6 items at the interval level. Both subscales used a five response Likert type format with answer choices of (1) almost never, (2) once in a

while, (3) sometimes, (4) often, and (5) almost always. These subscales were scored by adding item scores (Table I).

Family Health Genogram

The family health genogram was used in a semi-structured interview format to gain information about each family and their health state. The interview was an attempt to identify patterns of physical illness across generations and to verify legitimacy of the family's concept of their health and the utilization of health services. The genogram was the first instrument presented to the family. This was done intentionally to enable the research assistant to establish some rapport with the family members prior to having them answer the questionnaires. The genogram was used to determine family composition, chronic illnesses, or conditions of each member and family health background. It was not a direct instrument for purposes of this study.

The genogram has many advantages. It is a structural framework which quickly and clearly depicts general information, names, dates, ages, and more complex information such as family patterns. Patterns often repeat themselves over generations, which is quickly apparent when three generations are studied over time (Pendagast, 1976). Guerine (1976) states that the genogram may help to define physical and emotional

boundaries as well as membership of the system. Sometimes social and family isolation can be determined. Many health practitioners suggest using the genogram as an integral part of the family health history.

Adaptability and Cohesion Scale

FACES II, The Family Adaptability and Cohesion Scales, was developed by Olson and associates (1978). It was selected for this study because of established reliability and validity. Recent empirical studies were conducted by Bell and Bell (1982), Portner (1980), Druckman 1979), Russell (1979, 1978), and Sprenkle and Olson (1978), which validate the dimensions of adaptability and cohesion as direct measures of family systems patterns of behavior. A11 of these researchers used the Circumplex Model, introduced in Chapter II as the theoretical base of their research, and tested various hypotheses derived from the Model. One of the basic assumptions of the Circumplex Model is that the two dimensions of adaptability and cohesion are independent (Olson, 1983). Factor analysis in Russell's studies empirically validated this assumption, and through varimax rotation established construct validity of the instrument. Construct validity focuses on the extent or degree to which certain explanatory concepts are determined by a particular measure (Isaac and Michael, 1979). Both scales were previously tested for reliability by test-retest

procedures with populations of over 100. Internal consistency in this study was measured by Cronbach's Alpha Reliability for both the cohesion (.90) and adaptability (.76) dimensions.

The aforementioned studies documented the existence of a curvilinear relationship between family systems functioning and cohesion and adaptability. Clinical families were more likely to score in the high or low extremes on the cohesion and adaptability continua. Non-clinical families usually scored in the moderate ranges of the two dimensions.

Family dimensions of cohesion and adaptability were measured along the high and low continua. Family Adaptability is the ability of a family to adapt to developmental or situational stress. Concepts used to describe adaptability include power structure, role relationships, relationship rules, and negotiation styles. The four levels of adaptability range from very low (rigid), to structured (low to moderate), to flexible (moderate to high) to chaotic (very high). Each subject responded to fourteen statements on family adaptability. Response choices for each statement were : (1) almost never, (2) once in a while, (3) sometimes, (4) often, and (5) almost always. Families scoring extremely high are considered to be chaotically organized, while those with extremely low scores are considered to be rigidly organized. Families scoring in the middle range are

characterized as having a balance between stability and change.

Family Cohesiveness is the degree of emotional bonding that members have toward one another in the family system. Concepts used to measure cohesion include emotional bonding, boundaries, coalitions, time, space, friends, decision making, interests, and recreation. Cohesion is also measured at four levels ranging from disengaged (very low), to separated (low to moderate), to connected (moderate to high), to enmeshed (very high). Each respondent answered sixteen statements with the same choices listed under adaptability. When there is high cohesion, individuation of family members is hampered. With low cohesion levels (disengaged system), there is high individual autonomy and limited commitment to the family. Families scoring in the middle range experience a balance of independence and connectedness of members (Figure 4).

Demographic Information

Selected questions from the Family Health Questionnaire (FHQ) were used to provide demographic information for this study. Each participant completed information identifying name, age, sex, occupation, educational level, ethnic background, marital status, religious beliefs, and total family income for 1984.

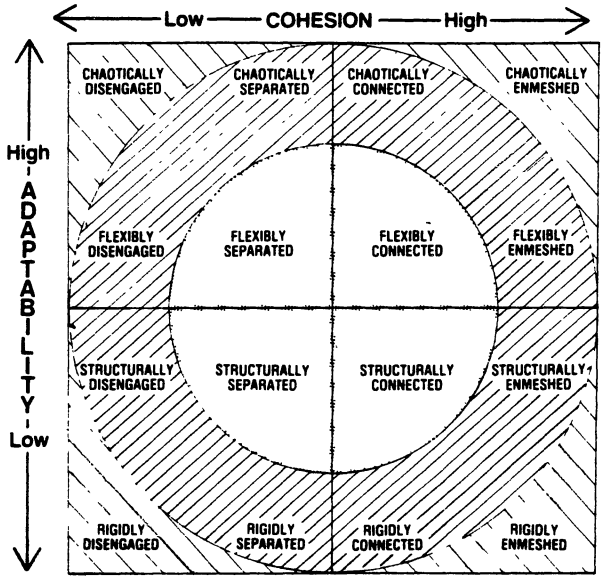


Figure 4. Circumplex Model

Individuals were asked to circle a specific category within a range of possible responses.

Pilot Study

A pilot study was conducted by the researcher to appraise the adequacy of the instruments and testing procedures, and to test readability of instructions and questions. Five families, unknown to the researcher, were contacted by phone and agreed to participate. All families consisted of two parents with children

twenty-five or younger residing in the home. The families varied in stages of the family life cycle. The researcher met all families in their homes. Written permission was first obtained from one of the parents. All families were given the same instructions by the researcher prior to the interview concerning the family genogram and subsequent completion of the questionnaires. Instructions were given to the total family as a group and tests were taken with all members in the same room. The researcher reminded children to ask her, rather than parents, if they had questions about the meaning of words, or if certain questions were confusing or too hard. All family members were asked not to confer with one another on the answers and to mark questions that were confusing to them.

The researcher was uncertain as to what age children should be limited from participating in the study. Initially, the age of ten years was chosen as a cut off point. Two of the pilot families had daughters of ten. Both had many questions regarding wording of items and one had difficulty concentrating on the task. Two twelve year old sons from these same families had many fewer questions and appeared to complete the questionnaire without difficulty. The researcher thereby limited study respondents to family members twelve years and older. This decision is consistent with Piaget's (1960) developmental cognitive staging of formal operations.

All families completed the questionnaire and interview within one hour's time. The researcher provided time after the process to answer questions or to clarify what questionnaire items were confusing and what made them unclear to the pilot families.

Several changes were made of the Family Health Questionnaire as a result of the pilot study. A question asking parents to list the family health care providers by name and to identify family members who visited each was deleted. Wording of the Likert type scale heading was changed since children required a synonym for the word moderately. Two questions were reworded because both adults and children were unclear as to the intent of the statements.

Selection of Subjects

The research population was composed of seventy families, residing in Tulsa County, each consisting of two parents with children 12 to 25 years living at home. The researcher determined this number in order to have enough families of the different family types depicted in the Circumplex Model for an adequate comparison.

A stratified sample population was required for this research as families in the extreme ranges of the Circumplex Model are not randomly distributed in the population. Several methods were explored to generate an appropriate sample. First, clinical families who were

clients of the researcher during the previous year were asked to participate. Five families were obtained through this method. Second, two pastors of very different denominations were asked to refer names of families they considered to be chaotic, rigid, or high stress families. They were also asked for names of families they thought adjusted well to problem conditions. Both pastors do short term counseling for families in their respective churches. Since Oklahoma has a large population who are considered full-time church members, it was assumed that selecting part of a sample through this method would not inordinately skew the information gained from the responding families.

Family participation was also solicited from a number of families in Tulsa and Broken Arrow. These families were referred by health professionals who had been contacted by the researcher. Names of six families who agreed to participate were referred by a participant who had been contacted in the earliest phase of data collection, and who was enthusiastic about the nature of the research. None of the families were known by the researcher.

This sampling procedure reflects a blending of quota and purposive, or judgmental sampling. Both are nonprobability methods in which the researcher uses his or her judgment or knowledge about the population to build representativeness into the sample (Polit and Hungler, 1983). In quota sampling, the researcher identifies

strata of the population and determines the proportions of elements needed from sections of the population. The basis of stratification is some variable, in this case family adaptability and cohesion, which would reflect important differences in the dependent variable, family physical health practices.

The researcher, when using purposive sampling, purposively selects cases who are judged to be typical of the population in question. A small number of families were chosen in this manner for purposes of this study.

Methods of Data Collection

Training of Assistants

Data were collected by research assistants. These assistants were students in health or health related fields at two local colleges. The researcher trained these individuals in use of the family genogram and the specific questions to be asked for purposes of this study. Instructions were also given as to how to give directions to families regarding the completion of FACES II and the Family Health Questionnaire. The importance of not making value statements to any questions or comments was stressed. Emphasis was also given to not in any way define what was meant by health or illness for family members. The assistants were to remind families there

were no right or wrong answers, and that families could not be guided in their answers.

Five families were evaluated concurrently by the researcher and each assistant in order to establish interrater reliability on the genogram and to verify the assistant's proficiency in providing direction to families. The first of the five families was interviewed by the researcher, with the assistant also completing a diagram. The remaining four families in each group were interviewed by the assistant, while the researcher completed a second genogram and observed the assistant's technique. Genograms were compared following each interview session. Genograms had to be exact 100% of the time and directions had to correspond between the investigator and assistants in each case.

Contact and Interview Procedures

After families were identified, the investigator telephoned each family and related the purpose of the study, how they were selected and inquired if they would be willing to participate. After they consented, they were told that the researcher's assistant would contact them to schedule a time to meet with all family members at the family's home. Most families found the second call for scheduling helpful, since the major hurdle to interviewing was finding a time when all family members pertinent to the research would be home at the same time.

Families were also told that the total procedure usually took less than one hour of their time.

After the assistant was admitted to a family's home, the nature of the instruments and the procedures were reviewed with participating family members as a group. Written consent was then obtained from a parent.

The family genogram interview was completed first. Health information was elicited from each parent which pertained to the health of members from their family of origin. Fathers were interviewed first. The information pertaining to the immediate family, the research family, was obtained from either parent. Children sometimes added health information throughout this genogram interview.

Questionnaires were then distributed to participating members. The scales were compiled in the following order: (1) demographic information, (2) CFH I, (3) HLR, (4) UHS, (5) FACES II, (6) CFH II, (7) AHI, and (10) HLRIN. Members were then given directions by the assistant as to the completion of the questionnaire. It was explained that parents had a few more questions to complete than the children. All family members were asked to confer with the assistant if words needed clarification or if a statement was unclear. Family members were told to not help one another with the answers. The procedure took each family less than one hour. Upon completion of the instruments by the total family, the assistant responded to any questions the family had regarding the procedures

and the general nature of the study. Families were told that any significant findings related to this study would be sent to them for their information.

Data Analysis And Processing

Data Transformations and Coding

Questionnaire and interview data were converted into numerical codes representing attributes related to each variable. All data were coded on Fortran coding sheets by this researcher. Each family was assigned an identification number. In addition, individual family members were given an identification number which specified family role, such as father or daughter, as well as sibling birth order of adolescent respondents. The Fortran coding sheets were used by professionals for keypunching of computer cards. Cards were then loaded onto disk files on the IBM main frame computer at Oklahoma State University. The SPSSX software package was used for all statistical analyses. Frequency distributions were obtained on all data fields to detect errors which may have occurred in the coding process.

Statistical Procedures

Data used for statistical analysis were obtained from FACES II and the Family Health Questionnaire. The SPSSX statistical program at the Oklahoma State University Computer Center was used to analyze the specific

hypotheses and determine reliability of FHQ scales. Five statistical procedures were applied to the data. These included descriptive statistics, Chronbach's alpha, one-way ANOVA, two-way ANOVA and chi-square. Descriptive statistics produced by the FREQUENCIES procedure in SPSSX included the mean, median, mode, standard error, standard deviation, variance, kurtosis, skewness, range minimum and maximum. Chronbach's Coefficient Alpha, from the RELIABILITY procedure in SPSSX, is a measure of reliability based on internal consistency. It determines whether measurement error is present due to errors in sampling content. When coefficient alpha approaches .55, minimum standards have been reached for research purposes (Nunnally, 1978).

Analysis of variance (ANOVA) is a statistical procedure designed to test for the significance of variances among two or more groups (Kerlinger, 1973). ANOVA demonstrates whether the variability among groups is large enough in comparison with the variability within groups to justifying saying that the means of the population from which the different groups were sampled are not all the same. The specific test of significance which determines if there is a significant difference depends on the F-ratio. Two-way ANOVA investigates the differences of two independent variables on a dependent variable. This tool is useful in determining if the

difference in population means is a result of interaction of the two independent variables.

One-way ANOVA investigates the difference in group means of one independent variable. When significant differences are found, further comparison of groups may be conducted through use of multiple comparison procedures. These procedures provide protection against calling too many differences significant and provide more stringent criteria for significance than does the usual *t*-test. Tukey's HSD (Honestly Significant Difference) is one of the most conservative methods for pair-wise comparison of means, requiring larger differences between means for significance than other methods.

Chi-square is a test of statistical significance useful in determining whether a systematic relationship exists between two variables. The subprogram CROSSTABS in SPSSX was used to calculate chi-square. Chi-square is computed by measuring the squared deviations between observed and theoretical frequencies in each category. The greater the discrepancies between the expected actual frequencies, the larger the chi-square becomes.

Cramer's V., a correlational coefficient, is used with chi-square to provide some indication of the strength of association between variables. It is a conservative method for comparison of one or more variables measured with nominal level data. Cramer's V. does not indicate direction or describe the nature of the relationship.

Operational Hypotheses

Specific hypotheses were developed from the research questions in Chapter I. A rationale for these hypotheses may be found in Chapter 4. The following operational hypotheses pertain to the relationship of family adaptability, family cohesion, and family type with family physical health practices:

I. Families with central adaptability scores (FADAP) will have more functional scores on Family Health Questionnaire scales than families with extremely high or low adaptability scores.

II. Families with central cohesion scores (FCOH) will have more functional scores on Family Health Questionnaire scales than families with extremely high or low adaptability scores.

III. Balanced family types on the Circumplex Model (FACES II) will have more functional scores on Family Health Questionnaire scales than Midrange or Extreme family types.

Limitations

This study is restricted by the following factors:

1. Only two parent families with children twelve to twenty-five years of age still living at home were selected for this study.
2. Families were referred to the researcher, rather than selected through random selection.

3. The study population was composed only of those families who agreed to participate in the study.

4. The cognitive level of the questionnaire restricted data gathering to those members twelve years of age and over.

5. Some of the data collected were based on recall and therefore subject to respondent subjective bias.

6. A random sample was not used, thereby violating one of the assumptions of ANOVA.

7. Instrument construction of the Family Health Questionnaire may not be generalized to other contexts.

8. The unit of analysis is the individual rather than the family as a single unit.

9. FACES II scores reflect the perceptions of family members rather than exact functioning of families.

Statistical Analysis of Hypotheses

Descriptive statistics and measures of central tendency were used to summarize the demographic data collected from the FHQ. This information pertained to each family member's age, sex, education level, occupation, race, marital status, and religion. Family income was also summarized in this manner.

The chi-square statistic was used to analyze each nominal item obtained from the health leadership role scale (HLR). The association of adaptation (Hypothesis I), cohesion (Hypothesis II), and family type (Hypothesis III) on each item was determined through use of this tool. Relationships were further analyzed through Cramer's V. Coefficient.

Two-way analysis of variance was used to examine relationships between the two independent variables of family adaptability and cohesion together and the mean differences when analyzing the dependent variables, FUHS, HLRSR, HLRSH, AHICON, AHIILL, FCHSUS, AND FCHCON.

One-way analysis of variance was the method of statistical analysis for investigating relationships between each independent variable, adaptation (Hypothesis I), cohesion (Hypothesis II), and family type (Hypothesis III) on each dependent variable. Further comparison of mean differences was conducted on these hypotheses by Tukey's HSD.

CHAPTER IV

RESULTS

The primary purpose of this research was to determine if a relationship exists between family systems functioning, or adaptability and cohesion, and family physical health practices. The first part of this chapter describes the demographic characteristics of the sample. The remainder contains the analysis of each hypothesis. Conclusions are also presented.

Sample Characteristics

The sample consisted of 70 families, or a total of 188 individuals residing in a metropolitan area in northeastern Oklahoma. The sample population embodied 136 parents and 48 adolescents or older children residing at home. Fifty-four percent of the adolescent sample consisted of females (n = 22) and 46 percent (n = 26) was composed of males. The average age of this group was 15 years. The mean age for the parent group was 38 years. Background characteristics of the total population are shown in Table 2. Generally, the families interviewed were white (84%), middle class, religious and suburban (Tables II and III).

TABLE II

SELECTED BACKGROUND CHARACTERISTICS

Characteristic	Parents N = 140	Adolescents N = 48	Total N = 188
Sex (%)			
Males	50%	45.8%	51%
Females	50%	54.2%	49%
Age ($\bar{X}$ of years)	38.25	15.25	32.43
Marital Status (%)			
Single	0%	100%	26%
First Marriage	75%	0%	56%
Second Marriage	25%	0%	18%
Highest Education (%)			
Elementary (Grades 5-8)	1%	35%	10%
High School (Grades 9-12)	24%	62%	34%
College (13-16)	53%	2%	39%
College (17-18)	9%	0%	7%
College (Over 18)	13%	0%	10%
Occupation (%)			
Health Professional	7%	0%	7%
Nonhealth Professional	54%	4%	54%
Housewife/Health Professional	3%	0%	3%
Housewife/Nonhealth Professional	11%	0%	11%
Student	0%	96%	25%

TABLE III

SELECTED BACKGROUND CHARACTERISTICS

Characteristics	Family N = 188
Religion (%)	
Catholic	4%
Protestant	
Methodist	19%
Baptist	13%
Presbyterian	4%
Nazarene	26%
Disciples of Christ	15%
Interfaith (Charismatic)	3%
No Denomination Preference	13%
Other	3%
Race (%)	
White	84%
Black	8%
American Indian	3%
Mixed Race	4%
Other	2%
Family Income	N = 70
Less than $10,000	1%
$10,000 - $19,000	4%
$20,000 - $29,000	14%
$30,000 - $39,000	37%
$40,000 or more	44%

Reliability of Instruments for the Research Sample

Chronbach's Coefficient Alpha was obtained to determine if the FHQ subscales met minimum standards for reliability (.55). Due to initial reliability estimates, some items were removed to insure that scales met minimum

research standards. Subsequent hypothesis testing used the most reliable scale items.

The alpha coefficient for the FUHS subscale was .59. Since this coefficient was based on ordinal data, the actual reliability of the subscale may be lower. Appropriate caution should be taken in evaluating empirical results from this scale.

HLRIN consisted of two interval level subscales. One scale determined family acceptance for members to assume the sick role (HLRSR). Chronbach's alpha of the HLRSR was .59. The second subscale (HLRSH), assessing shared leadership, consisted of six items. HLRSH had an alpha level of .51 which is below minimum standards for research purposes. This fact should be considered when appraising results.

Alpha coefficient for the AHIHCO and AHIILL scales were .65 and .50 respectively. The AHIILL subscale did not meet minimum criteria for research. However, analysis was conducted and appropriate limitations were noted.

The reliability coefficient for the FCHSUS scale was .75. The alpha coefficient was .55 for the FCHCON scale. The reliability of both scales was acceptable for research purposes. The alpha levels of the Family Health Questionnaire subscales are described in Table IV.

Description of Concept of Family Health

Family members also described their family's level of

TABLE IV

RELIABILITY AND IDENTIFICATION OF FAMILY HEALTH QUESTIONNAIRE SCALES AND SUBSCALES

Name of Scale/Subscale	Number of Items	Identification of Items	Alpha Reliability	Actual Score Range	Actual Mean Score
FACES II					
Family Adaptability	14	2, 4, 6, 8, 10, 12, 14 16, 18, 20, 22, 24, 26, 28	.76	21-62	47.21
Family Cohesion	16	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 30	.90	25-80	64.12
Utilization of Health Services (UHS)					
FUHS*	5	6, 7, 8, 9, 10	.59	5-22	9.83
Attitude Toward Health/Illness (AHI)					
AHIILL*	7	1, 5, 7, 8, 13, 15, 23	.50**	13-33	23.29
AHIHCO*	6	2, 6, 9, 16, 18, 21, 25	.65	15-33	24.85
Health Leadership Roles (HLRIN)					
HLRSH*	6		.51**	8-23	16.95
HLRSR*	9	HLRIN 1, 3, 8, 9, 10, 11 CFH 11, 12, 13, 17	.59	19-45	30.47
Concept of Family Health (CFHII)					
FCHSUS*	4	CFH 14, 15, 16, 18	.75	4-20	10.47
FCHCON*	6	CFH 1, 2, 4, 5, 6, 7	.55	10-30	23.23

* Scale developed or modified by researcher.
_ Item deleted from final scale.
**Below standard for research purposes.

health. Individuals indicated their perception of each family member's health state by marking categories labeled (1) excellent, (2) good, (3) fair, (4) poor, and (5) extremely unhealthy.

Each member's scores were totaled to determine perceived family health state (CFH I). Sixty-four percent of the population (n = 188) viewed their family as having excellent health. Thirty-two percent categorized their health as good, while 4% said their family's health was only fair. No one rated their family's health as poor or extremely unhealthy. These percentages were higher than the national statistics described in the NCHS (1984) study where 85% of persons perceived themselves as having excellent or good health and 12% determined they had fair or poor health. The ages of respondents between populations was different. The elderly were not included in the sample for this study.

In this research population, 82% of the children and 84% of the adults saw a physician for preventive purposes during the previous year. Twenty-four percent of the adults and 17% of the children did not require services from a health professional for treatment of illness. Forty-two percent of this population used emergency health services with 6% of the families having more than three visits during the past year. Short-stay hospitalization was required in 24% of the population.

This population reported major differences in utilization of health services when compared to the NCHS study (1984). (See Table IV.) These results may be due to social desirability factors, the high socioeconomic and educational level of this group, and the nearness of facilities and ease of transportation.

TABLE V

COMPARISON OF HEALTH SERVICE UTILIZATION DURING THE PREVIOUS YEAR

Health Care Services	Study Population (%)	National Center for Health Statistics (%)
Visits to Doctor	-	75
Preventive	83	14
Illness Related	80	84
Emergency Visits	47	-
Short Stay Hospitalization	24	10

Composition of Family Types

The sample population was further analyzed by

frequencies to determine number of individuals in each family type category, either Balanced, Extreme, or Midrange. The number of persons in each of the four levels of adaptability and cohesion dimensions were also reported in this way. Results of analysis are depicted in Table VI.

TABLE VI

LEVEL OF FAMILY FUNCTIONING BY DIMENSION AND FAMILY TYPE

	Study Sample Frequency n = 188	Normative Sample (a) Frequency n = 2645	Study Sample Percent n = 188	Normative Sample (a) Percent n = 2645
Cohesion				
Disengaged	38	436	20	15
Separated	59	811	31	38
Connected	58	1,019	31	31
Enmeshed	33	400	18	16
Adaptability				
Rigid	52	407	28	17
Flexible	79	938	42	33
Structured	40	858	21	35
Chaotic	17	441	9	15
Family Type				
Extreme	33	397	18	15
Balanced	81	1,402	43	53
Midrange	74	846	39	32

(a) Olson, D. Families: What Makes Them Work, Beverly Hills, Sage Publications, 1983.

Distribution of family functioning characteristics of the sample population are somewhat similar to 1,140

Lutheran families reported in Olson's (1983) national study. However, as previously mentioned, this research sample was non-random and the study is a preliminary study; therefore generalization to a larger population is limited in regard to interpretation and conclusions.

Hypothesis Related To Family Functioning And Family Physical Health Practices

Hypothesis I investigates the relationship between family members' adaptability scores and scores on the Family Health Questionnaire scales of Utilization of Health Services (FUHS), Health Leadership Roles (HLRSH), Family Acceptance of the Sick Role (HLRSR), Attitudes Toward Health and Illness, (AHIHCO and AHIILL), Family Perception of Susceptibility to Illness (FCHSUS) and perceived Family Control of Health (FCHCON). Adaptability is the independent variable.

Hypothesis II investigates the existence and nature of the association of the independent variable, family cohesion, on the same dependent variables. The relationships of family typology scores to the dependent variables' scores are investigated in Hypothesis III.

Hypothesis I: Family Adaptability And Family Physical Health Practices

Hypothesis I states that families with central adaptability scores (FADAP) will have more functional

scores on scales of the Family Health Questionnaire than families with extremely high or low adaptability scores.

Family adaptability, defined by Olson (1983) is the "ability of a family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress." The adaptability dimension has four levels or groups, low (rigid), low central (structured), high central (flexible), and high (chaotic). The Circumplex Model postulates that the most viable family systems tend to be those in the central levels of the adaptability dimension. It is thought that when there is a balance between stability and change, these families will more likely have egalitarian leadership, role sharing and role making, enhanced communication and successful negotiation. Family systems in the extreme ends of the dimension for a prolonged period of time may have more difficulty with these functions and may be termed "dysfunctional" (Olson, 1983). However, this is not an absolute finding. Cultural norms as well as family life cycle stages may affect family functioning. Families scoring in the high and low ranges of adaptability may function well as long as all members concur with this level of functioning.

Utilization of Health Services

Hypothesis I first investigated the relationship between family adapability and appropriate family

utilization of health services. It was postulated that families with central adaptability scores would have higher FUHS scores than families with low adaptability scores. Low adaptability (rigid) families might tend to seek out new resources less and not be as open to other ideas. Theoretically, they would favor not changing existing patterns of interaction with the health care system to meet stress created by illness. Thereby, they may use health services less appropriately.

No significant difference in scores was found among family adaptability groups after analysis with one-way ANOVA. The two central groups' mean scores were higher than the low adaptability (rigid) groups' scores. However, they were lower than those of the high adaptability (chaotic) group. The lack of statistical significance of this hypothesis may have been due, in part, to the positive skewed direction of the FUHS scale or demographic factors.

Health Leadership Roles

Two different scales were used to determine leadership roles and responsibilities for health in the family. The first scale to be discussed was the nominal level HLR scale. Frequencies and chi-square were used to analyze the data. Only the 140 parents responded to these items. Results of frequencies showed that the families in this study were somewhat traditional in their leadership

roles. Mothers consistently lead the family by making health decisions and caring for ill family members the majority of the time. Fathers took a secondary role in health leadership in the vast majority of families. Parents shared equally in decisions and tasks less than 15% of the time. Children, relatives, and friends were not often called on to make health decisions or to carry out tasks (Table VII). These findings are consistent with Litman's (1971) study.

Each item on the HLR scale was analyzed separately by chi-square. Results from chi-square analysis by adaptability showed no significant relationship for any of the items at the .05 level.

The second health leadership scale (HLRIN) consisted of interval level data. One subscale, HLRSH, dealt specifically with family health leadership. Adaptability encompasses the negotiation of roles, relationship rules and family power structure. This fact was the basis for the prediction that families with central adaptability scores (FADAP) would have lower shared health leadership scores (HLRSH) than families with low adaptability scores. The HLRSH scale included two items which assessed family reliance on assistance from persons outside the family system. The scoring of this scale was such that utilization of these extra-familial resources gave a family a lower scale score. This factor combined with high scores for sharing of leadership within the family

TABLE VII

FAMILY HEALTH LEADERSHIP ROLES

Health Decision and Tasks	Mother Primary/ Secondary %	Father Primary/ Secondary %	Parents Equal %	Children Primary/ Secondary %	Family Friends Relatives %	Friends Relatives Primary/ Secondary %	No One %
Decisions							
When one is ill	86/7	7/75	5/0	2/0	0/17	0/1	
Illness visit/ call	80/9	9/76	11/0	0/0	0/13	1/2	
Member Stay Home	76/9	8/77	14/0	0/2	2/11	0/0	
Preventive Visits	76/10	9/79	14/0	0/0	1/10		
Tasks							
Calls Doctor	92/2	2/93	6/1	0/2	0/0	0/0	
Stays with Child	69/0	4/50	0/0	0/8	10/27	2/4	14/12

system accounts for the direction of the predicted relationship.

The HLRSH scale scores were statistically analyzed by one-way ANOVA. Results showed that there was a significant ($p<.05$) difference among group means. Central families did score lower than low adaptability families. Further analysis with Tukey HSD revealed that the greatest difference in shared health leadership existed between the low (rigid) group and the high central (flexible) group (see Table VIII). This finding is consistent with theory since a rigid family would be less likely to adapt to a stress situation by changing family roles and responsibilities. In flexible families, members would be more willing to relinquish and/or accept responsibilities, thereby changing power structure according to family need.

Family Acceptance of the Sick Role

Hypothesis I addressed the association of adaptability on family acceptance of the sick role. The researcher proposed that families with central adaptability scores (FADAP) would have higher acceptance of the sick role scores (HLRSR) than families with low adaptability scores. According to theory, low adaptability (rigid) families would be the least likely to allow for changes in family roles as a result of illness. High adaptability (chaotic) families would be the most likely of all groups to change power structure and role

TABLE VIII

LEVELS OF ADAPTABILITY IN RELATIONSHIP TO SELECTED FAMILY HEALTH PRACTICES (N = 188)

FHQ Categories	Individual's Low (Rigid) Group I $\bar{X}$ (N = 52)	Individual's Low Central (Structured) Group II $\bar{X}$ (N = 79)	Individual's High Central (Flexible) Group III $\bar{X}$ (N = 40)	Individual's High (Chaotic) Group IV $\bar{X}$ (N = 17)	F-ratio	Prob	Paired Means Significantly Different Tukey's HSD Method* for Groups 1 & 2	1 & 3	1 & 4	2 & 3	2 & 4	3 & 4
Utilization of Health Services	12.13	12.85	12.81	13.29	.90	.0442	-	-	-	-	-	-
Shared Leadership Roles	7.89	7.03	6.23	7.00	3.07	.029	-	*	-	-	-	-
Acceptance of Sick Role	25.50	27.32	28.45	30.71	7.37	.0001	-	*	*	-	*	-
Attitudes Toward Health	25.31	26.53	26.85	27.47	1.85	.1397	-	-	-	-	-	-
Attitudes Toward Illness	18.94	18.46	19.03	18.35	.35	.7860	-	-	-	-	-	-
Health Locus of Control	20.37	22.95	24.01	23.65	12.57	.000	*	*	*	-	-	-
Susceptibility to Illness	9.13	8.35	7.05	6.65	4.81	.003	-	*	*	-	-	-

Note: (*) denotes pairs of groups significantly different at the 0.05 level . (-) = no significance

relationships in response to family member illness. However, extreme adaptation in either the low or high direction might lead to neglect of family maintenance functions.

One-way ANOVA was used to assess group or level differences on the adaptability dimensions. Results showed that the differences among the group means were significant at the .0001 level. HLRSR scores increased as the level of adaptability increased. Further analysis by Tukey HSD revealed that significant differences existed between low adaptability (rigid) types and high central (flexible) types, and rigid and high adaptability (chaotic) types. There was also a significant difference between the means of the chaotic and low central (structured) groups (Table VIII).

These findings lend credence to the hypothesis that the level of adaptation is related to family acceptance of the sick role in this research sample. Similar findings in other studies could have implications for health practioners who enlist support of the family in treatment regimen.

Family Attitudes Toward Health

Family functioning theory purports that families in the two central levels of adaptability will be able to negotiate successfully, communicate assertively and cope with life stresses more readily than the high or low

adaptability family groups. These central adaptability families may feel in control of their lives because of these strengths. If families do perceive themselves to be in control of their lives, it is postulated that they might also determine that health is a life phenomenon that can be managed.

Hypothesis I suggested that families with central adaptability (FADAP) scores would have higher scores on the AHIHCO scale than those families with low or high adaptability scores. The hypothesis was tested by one-way ANOVA and Tukey HSD. No significant evidence was found to support the hypothesis. Scores did progress from the low scores of rigid types to high scores in the chaotic group. However, mean differences were not significant (Table VIII).

Family Attitudes Toward Illness

Families who tend to live a more crisis oriented existance than others and who do not negotiate or communicate well with external systems might view life as unpredictable. Illness could be perceived as uncontrollable. On the other hand, one might assume that family types who perceive health as controllable would view illness in the same light. It was expected that families with central adaptability (FADAP) scores would have lower attitude toward illness scores (AHIILL) than those families with low or high adaptability scores.

Scores were subjected to analysis through one-way ANOVA. This hypothesis was not supported as no significant differences were found between family adaptability and family attitudes toward illness. Previous reliability measures determined the AHIILL scale did not meet acceptable research criteria. This factor may have played a role in the outcome of analysis. If the hypothesized relationship does exist, it was not reflected in this sample as measured by AHIILL.

Perception of Susceptibility to Illness

Hypothesis I stated that families with central adaptability scores will have lower scores on the susceptibility to illness scale (FCHSUS) than will families with high or low adaptability scores. Families with low scores would view themselves as less susceptible to illness than those with higher scores. Flexibility in family power, roles, and rules may contribute to health by facilitating care of members during illness and by promoting recovery. Rigid families may block members' attempts at individuation, which may increase the level of illness or hinder their efforts to cope with stress. Therefore, low adaptability family members may perceive themselves as more susceptible to illness. In addition, families who have regular, frequent interaction among members with joint participation in tasks should foster positive health practices. If this is true, individuals

from high adaptability or flexible families may feel less susceptible to stress and illness as a result. In high adaptability or chaotic families the family structural support needed to develop sound practices and promote a feeling of control may not be present. Members might expect to be highly vulnerable to stress and susceptible to illness.

The hypothesis measured by one-way ANOVA demonstrated a significant ($p < .01$) difference between levels of family adaptability and family concept of susceptibility. Group mean scores ranged from high for low adaptability (rigid) families to low for high adaptability (chaotic) families. Tukey HSD revealed that significant ($p < .05$) differences existed between these two groups and between rigid and high central (flexible) groups (Table VII). The hypothesis that the level of adaptability is associated with perceived susceptibility to illness was supported in this research population.

Locus of Control

The counterpart to susceptibility to illness is the concept of being in control of one's own health. Members who are able to seek out new resources, who are open to ideas and who can adapt to a family's changing needs may see themselves in control of their health and that of their family. As they are usually able to negotiate and communicate effectively, they may perceive themselves as

active participants in health care and as partners with health care providers. Theoretically, this description of families is more typical of central adaptability families than those who are low or high on the adaptability dimension.

Hypothesis I stated that families with central adaptability scores (FADAP) will have higher scores on the FCHCON scale than will families with high or low adaptability scores. One-way ANOVA and Tukey HSD were used to analyze this hypothesis.

A significant ($p < .001$) difference existed among the levels of adaptability and their relationship to the members' perception of being in control of their health (Table VIII). Low adaptability (rigid) families scored significantly lower on the FCHCON scale than did central families. High adaptability (chaotic) families had the highest score means. Significant group differences existed between the rigid (low) group and each of the other three groups on the adaptability dimension (Table VIII). This finding suggests that for this research sample the level of family adaptability plays a significant role in affecting their perceived locus of control over health.

Hypothesis II: Family Cohesion And Family Health Practices

Hypothesis II states that families with central

cohesion scores (FCOH) will have more functional scores on the Family Health Questionnaire scales than families with extremely high or low cohesion scores.

Cohesion is the level of emotional bonding members have with one another. Some factors encompassed in cohesion are boundaries, decision making and coalitions. There are four levels of cohesion. The low extreme or disengaged type is characterized by low bonding. The low central level is referred to as separated and the high central level is referred to as connected. In high cohesion, or enmeshment, there is extreme bonding and over-identification with the family that may lead to limited individual autonomy. According to theory, families with a central degree of cohesion will deal more effectively with situational stress and developmental change. Balanced cohesion is the most conducive to effective family functioning and to optimum individual development.

Utilization of Health Services

Hypothesis II predicted that family types with central cohesion scores (FCOH) would have higher appropriate utilization of health services scores (FUHS) than those with low cohesion scores.

One-way ANOVA and Tukey HSD were used to determine the existence and nature of a relationship between these two variables. The differences among the groups of

cohesion were found to be significant at the .05 level. Central groups did score higher than either group with low or high cohesion scores. However, Tukey HSD demonstrated that there was no significant ($p<.05$) difference between any of the groups (Table IX). Therefore, although family cohesion may have a significant effect on appropriate family utilization of health services, the amount of bonding or separateness of family members did not make a significant difference in this population. The positive skewed direction of scores may have contributed to these results.

Health Leadership Roles

Two instruments were used to obtain data related to health leadership role. The HLR scale is a nominal level scale while the HLRSH scale obtains interval data. Hypothesis II stated that families with central cohesion scores (FCOH) would have lower health leadership scores than would families with low cohesion scores.

Each item on the HLR scale was analyzed by chi-square. No significant relationship for any of the items and level of cohesion at the .05 level was found. The item pertaining to who makes the decision to call or visit the doctor was significant at the .10 level. The main difference in frequencies existed in the mother's decision making between the central group and high and low groups. The low cohesion or disengaged group mothers

fulfilled this responsibility less than any of the other three groups. This finding was not significant for purposes of this study.

When the hypothesis was assessed with the interval level data (HLRIN) some significant findings were revealed. As hypothesized, central group scores were lower than the disengaged group's, and slightly higher than the enmeshed group's scores. The differences among group means was significant at the .001 level. Tukey HSD determined that disengaged types (group 1) differed significantly ($p<.05$) with each of the other three groups. Differences in group means verified that disengaged types shared leadership roles and tasks less than midrange or enmeshed types and may rely more heavily on outside resources, such as friends and relatives for this family responsibility (Table IX).

Enmeshed family scores showed a sharing of responsibility. This finding would relate to the strong family involvement with one another. Enmeshed families may be more sensitive to one another's needs and would share responsibilities in order to keep this health function within the family boundaries. A concurrent explanation might be that the low cohesion group members may be left more on their own to make health decisions so that no one really assumes the leadership role.

TABLE IX

LEVELS OF COHESION IN RELATIONSHIP TO
SELECTED FAMILY HEALTH PRACTICES (N = 188)

FHQ Categories	Individual's Low (Disengaged) Group I $\bar{X}$ (N = 38)	Individual's Low Central (Separated) Group II $\bar{X}$ (N = 59)	Individual's High Central (Connected) Group III $\bar{X}$ (N = 58)	Individual's High (Enmeshed) Group IV $\bar{X}$ (N = 33)	F-ratio	Prob	Paired Means Significantly Different Tukey's HSD Method* for Groups 1 & 2	1 & 3	1 & 4	2 & 3	2 & 4	3 & 4
Utilization of Health Services	11.83	12.63	13.43	12.2	2.81	.0417	-	-	-	-	-	-
Shared Leadership Roles	8.90	6.90	6.50	6.40	8.55	.0000	*	*	*	-	-	-
Acceptance of Sick Role	26.48	27.11	27.53	28.51	1.27	.2855	-	-	-	-	-	-
Attitudes Toward Health	24.61	26.22	26.45	27.74	3.94	.0093	-	-	*	-	-	-
Attitudes Toward Illness	18.58	18.88	18.93	18.15	.41	.7489	-	-	-	-	-	-
Health Locus of Control	19.24	22.92	23.19	24.52	21.75	.0000	*	*	*	-	-	-
Susceptibility to Illness	9.34	8.63	7.59	6.85	4.86	.0028	-	*	*	-	*	-

Note: (*) denotes pairs of groups significantly different at the 0.05 levels. (-) = no significance

Family Acceptance of Sick Role

Families who perceive themselves as enmeshed or with high levels of cohesion would most likely be aware of illness states of their members. They would also tend to stay home to provide care for sick members. In theory, low cohesion families would tend to go their own ways, leaving an ill member to meet his or her own needs for care. In both groups, members would be allowed the freedom to assume the sick role. However, that freedom may be less functional for the individual in the disengaged group.

Hypothesis II predicted that families with central cohesion scores (FCOH) would have higher scores on the family acceptance of the sick role (HLRSR) than will those families with high or low cohesion scores. Results of analysis with one-way ANOVA showed that central scores were higher than low cohesion group scores and varied in a direct relationship with the level of cohesion. The central groups scores in the midrange of the scale. There was no significant difference among the group means. As was mentioned in Hypothesis I, instrument construction may have affected the outcome of this hypothesis.

Family Attitudes Toward Health

Families who are supportive of individual members and who promote individuation should be more functional

according to Olson (1983) and Pratt (1976). Central level families should allow members to experience being both connected to and being independent from their family. Presumably, these individuals would view life as somewhat in their control. If this view transfers to health, these members would also perceive health as controllable.

The prediction of Hypothesis II was that families with central cohesion scores (FCOH) would have higher attitudes toward health (AHIHCO) scores than families with low cohesion scores. This hypothesis was supported after analysis with one-way ANOVA. Significant differences among groups on the cohesion dimension were found at the .01 level. The range of scores was directly related to the level of cohesion. The groups which differed significantly at the .05 level were the two extreme groups disengaged (low cohesion) types and enmeshed (high cohesion) types (Table IX). Enmeshed types may feel more in control of aspects of living than disengaged types because of family support and structure. This perspective of control may extend to one's attitudes toward health.

Family Attitudes Toward Illness

Hypothesis II was analyzed as it pertained to illness. Families who viewed health as controllable would tend to see illness in the same light. Other family types might tend to view illness as uncontrollable and unpredictable.

No significant differences were found between family cohesion and family attitudes toward illness as being unpredictable and uncontrollable. Analysis of this hypothesis was conducted through one-way analysis of variance. Although a curvilinear relationship in scores was present, no significant differences existed among the scores on the AHIILL subscale. As previously mentioned, this subscale was determined to not have an acceptable reliability for purposes of this study.

Perception of Susceptibility to Illness

Hypothesis II stated that families with central levels of cohesion (FCOH) would have lower perception of susceptibility to illness scores (FCHSUS) than would those families with high or low cohesion scores.

The relationship of level of cohesion and susceptibility to illness was determined as significant at the .01 level. Mean differences ranged in the same manner as those with the level of cohesion. Tukey HSD analysis identified pairs of groups as different at the .05 level (Table IX). Significant differences were found between the means of the disengaged (low) group and the enmeshed (high) group, and between the disengaged group and separated (high central) group, and between the separated and enmeshed groups. Members of the disengaged group perceived themselves as most susceptible to illness.

Again, these findings may be a result of little family bonding or support.

Individuals who do not have adequate family support systems may experience crisis on a daily basis and view themselves as more vulnerable to life stresses. In addition, when stress levels are increased, one's susceptibility to physical illness may in fact be increased.

Of interest is the finding that high cohesion group scores reflected the least perception of vulnerability. One might hypothesize that as parent-child coalitions characterize enmeshed family systems and attempts at individuation are blocked (Olson, 1983), enmeshed group scores would reflect a feeling of increased vulnerability. This was not the finding with this sample. The outcome may be related to the family life cycle stage as families are often more cohesive during early and middle childrearing years.

Locus of Control

Cohesion was found to be significantly related to family perceived locus of control. Hypothesis II stated that families with central cohesion scores (FCOH) would have higher scores on the family control over health scale (FCHCON) than would families with low cohesion scores.

A relationship significant at the .001 level was determined after analysis by one-way ANOVA and Tukey HSD.

The disengaged (low cohesion) group scored lower than the other groups. Significant differences existed between each group and the disengaged group (Table IX).

Disengaged groups may well perceive themselves as having less control over their health state as they have less support from the family system. They may not have had opportunity to learn habits that would assist in stabilization of their level of health. Health, as with other areas of life, may seem out of their control.

Hypothesis III: Relationships Between Family Type And Family Physical Health Practices

Family type is an independent variable obtained when cohesion and adaptability dimensions are combined. Sixteen possible family types are produced through this union. These sixteen types can be categorized into three major family types identified in the Circumplex Model. These three types are called Extreme, Balanced, and Midrange. Balanced family types are considered to be the most functional, while Extreme types tend to function at the highest and lowest levels of cohesion and/or adaptability and are not expected to able to change their behaviors (Olson, 1983). Again, caution must be exercised in this interpretation as Extreme families will function adequately as long as all family members have the same

expectations. Life cycle stage may also alter theorized expectations.

All relationships between family type and family physical health practices were analyzed by two-way ANOVA. In each case there was no significant interrelationship found between the two dimensions of cohesion and adaptability. Hypotheses were then subjected to one-way ANOVA and Tukey HSD for anlaysis.

Family Utilization of Health Services

Hypothesis III stated that Balanced family types (FACES II) will score higher on appropriate utilization of health services (FUHS) than will Midrange or Extreme Family types. As Balanced families tend to promote adequate family functioning and will change to adapt to stress, they would be expected to use health services in an appropriate manner more than other family types.

The prediction of direction of scores was accurate for this hypothesis. Extreme families had the lowest FUHS scores. Midrange family scores were next, followed by Balanced type high scores. The level of significance was at the .09 level of probability which was not sufficient by criteria established in this study (Table X). Two possible confounding factors include the fact that FUHS scores were not normally distributed and that there was some joining of the adaptability and cohesion variables. The level of probability that the effects of these two

variables were interrelated was significant at the .06 level.

This research sample was fairly homogeneous. If factors such as socioeconomic status, transportation, and distance from health professionals play a major role in family utilization of health services, this influence would not have been identified in this study.

Health Leadership Roles

Two scales were used to identify relationships between family systems functioning and health leadership roles. These instruments were previously discussed in Hypothesis I and Hypothesis II.

Chi-square analysis of the HLR scale showed that a significant ($p<.01$) relationship between family type and health leadership existed when the secondary person(s) deciding when a member was ill was analyzed. The main difference in frequencies existed in the fathers' acceptance of leadership in the Balanced and Extreme family types. Cramer's V identified the strength of this relationship to be .34. Four other items were analyzed at the .10 level of significance for family type. These items included primary decisions for member illness ($p<.07$), secondary decision to call or visit the doctor ($p<.08$), primary decision for preventive health visits ($p<.10$) and the task of staying with an ill spouse ($p<.09$). None of these are significant for the purposes

of this study. However, thay may warrant future consideration with different population of other means of statistical analysis.

One-way analysis of variance investigated differences between family types with the shared health leadership variable. Hypothesis III stated that Balanced family types (FACES II) would score lower on shared leadership (HLRIN) than would Midrange or Extreme types. Balanced mean scores were lower than Midrange or Extreme types. Extreme families had the highest score. Results of ANOVA were significant at the .01 level (Table X). Tukey HSD determined the main difference of means occurred between extreme and balanced families, thereby confirming this hypothesis. Low scores may have indicated less reliance on kin-networks for more flexibility within the family for sharing of responsibilities during illness. Theoretically, in an adaptable or balanced family, family members would participate in decision making related to seeking health services, making appointments, providing transportation, and coping with the intricacies of the health care system. This family pattern not only facilitates health care utilization for routine purposes, but is of major importance in cases of crisis or illness to maintain a high level of family functioning. Extreme types would tend to either not shift responsibilities or rely heavily on external resources for leadership depending on the family type.

TABLE X

FAMILY TYPE IN RELATION TO SELECTED
FAMILY HEALTH PRACTICES (N = 188)

FHQ Categories	Extreme Family Type Group I $\bar{X}$ (N = 33)	Balanced Family Type Group II $\bar{X}$ (N = 81)	Midrange Family Type Group III $\bar{X}$ (N = 74)	F-ratio	Prob	Paired Means Significantly Different Tukey's HSD Method* for Groups 1 & 2, 1 & 3, 3 & 2		
Utilization of Health Services	11.69	13.12	12.58	2.46	.0894	-	-	-
Shared Leadership Roles	8.12	6.46	7.32	5.28	.0059	*	-	-
Acceptance of Sick Role	26.89	27.60	27.31	.30	.7395	-	-	-
Attitudes Toward Health	25.61	26.46	26.26	.54	.5827	-	-	-
Attitudes Toward Illness	18.55	18.85	18.62	.12	.8855	-	-	-
Susceptibility to Illness	8.48	7.91	8.22	.42	.6594	-	-	-
Health Locus of Control	20.24	23.51	22.50	11.85	.0000	*	*	-

Note: (*) denotes pairs of groups significantly different at the 0.05 level. (-) = no significance

Family Acceptance of the Sick Role

If Balanced families do have a larger behavior repertoire and are able to change to meet the demands placed on them, it would be expected that these families would be more accepting of sick role behaviors of their members. Hypothesis III stated that Balanced families on the Circumplex Model (FACES II) would have higher acceptance of sick role scores (HLRSR) than either Extreme or Midrange families.

One-way analysis of the difference between family type means on HLRSR was conducted to investigate this hypothesis. The predicted difference among scores was found, but was not present at an acceptable level of significance. Thereby, the hypothesis was not supported.

Attitudes Toward Health

Hypothesis III stated that Balanced family types on the Circumplex Model (FACES II) will score higher on attitudes toward health (AHIHCO) scales than will Midrange or Extreme family types.

As Balanced families tend to function more adequately, they may perceive health more positively than other family types. Health would be viewed as obtainable through direct behaviors, as well as controllable and predictable.

Analysis was conducted by one-way ANOVA. Balanced

families did have higher scores than either Midrange or Extreme families. Extreme family types had the lowest scores. However, differences among these three groups were not significant (Table X).

Attitudes Toward Illness

Hypothesis III was repeated for family attitudes toward illnes. Similar results were obtained as those found for family attitudes toward health. Extreme families had the lowest AHIILL scores and Balanced family scores were the highest. However, differences were not significant at the .05 level. Therefore, the hypothesis was not supported. Analysis of this dependent variable might be continued in future study with use of a more reliable instrument.

Perception of Susceptibility to Illness

Theoretically, Balanced families would contribute to members' health by fostering positive health practices and meeting the health care needs of individual members. The structural support these families provide should promote a feeling of control and decrease perception of susceptibility to illness.

Hypothesis III stated that Balanced family types will score lower on the FCHSUS scale than will Midrange or Extreme family types. This relationship of scores was present. Balanced family types had the highest score

means. However, no significant relationship was found among groups. This hypothesis could not be supported.

Locus of Control

Hypothesis III predicted that Balanced family types (FACES II) would have higher scores on the family control of health scale (FCHCON) than would Midrange or Extreme family types.

One-way ANOVA analysis of Hypothesis III was significant ($p<.001$). See Table X. Differences among family types was significant ($p<.05$) between Extreme and Balanced families and Extreme families and Midrange types. The hypothesis was accepted as Balanced families did score higher than either the Midrange or Extreme families. Extreme family types had the lowest FCHCON scores (Table X).

Theoretically, Balanced families tend to be supportive of one another, encourage and tolerate members' moves toward autonomy and actively attempt to deal with problems and issues. Therefore, members may be more likely to feel competent and in control of their health.

Summary

Descriptive statistics, chi-square, ANOVA and one-way ANOVA with Tukey HSD were applied to data obtained from FHQ and FACES II. All tests on the hypotheses were

analyzed at the .05 level of probability to be determined as significant.

The findings and results were discussed in the order in which the hypotheses were presented in Chapters I and III. The findings presented in this chapter were based on information from 70 families in a metropolitan area in northeastern Oklahoma. One hundred forty married parents and forty-eight children ranging in ages from twelve to twenty-five composed the sample population. Families in this sample were generally white, middle class, suburban, religious and well educated. The results of this study should not be considered representative of health practices of all families.

Chi-square was used to analyze nominal level health leadership role data. Only one statistically significant relationship was found. Differences in frequencies of fathers deciding when someone was ill was found between balanced and extreme families. Balanced types' fathers were more likely to make this decision than fathers in extreme families.

Both the adaptability and cohesion dimensions have four levels or groups for analysis, with scores ranging from low to high. The mean difference of the effects of these groups on seven dependent variables was determined by two-way analysis of variance and one-way ANOVA. Two-way analysis of variance revealed that that were no significant joint effects of the two independent variables,

adaptability and cohesion, on any of the dependent variables. Because there was no significant presence of interaction, all variables were tested individually through one-way ANOVA. If mean differences were significant ($p<.05$) Tukey HSD was applied to the means to discover which differences were contributing most to the findings.

Significant true differences between the four adaptability groups were found in interaction with shared health leadership roles, family acceptance of the sick role, family perception of susceptibility to illness, and family perception of internal locus of control over their health. Tukey analysis revealed that significant differences occurred between rigid (low adaptability) and flexible (high central) group scores in shared health leadership role. Significant group differences existed between rigid and flexible groups, rigid and chaotic (high adaptability) groups, the chaotic group and structured (low central) group, when the effects of adaptability on family acceptance of the sick role was analyzed.

The rigid group also significantly differed with the flexible group and the chaotic group when assessing the effects on family perceived susceptibility to illness. The rigid group differed significantly with each of the other three groups when adaptability was analyzed with the perceived locus of control variable.

One-way ANOVA of the cohesion variable revealed significant mean differences with shared leadership role. The low cohesion disengaged group was significantly different with each of the remaining three groups, separated (low central), connected (high central), and enmeshed (high cohesion). Significant mean differences were discovered with attitudes toward health as well. The disengaged group was significantly different from the enmeshed group. Significant mean differences were found also with perceived susceptibility to illness. Pair differences occurred between disengaged and enmeshed groups, disengaged and separated groups, and connected and enmeshed groups. Differences were found between groups with the variable of family perceived locus of control. The disengaged group differed significantly with each of the other cohesion groups.

The two independent variables were combined to form three distinct family types, Extreme, Midrange, and Balanced. Differences between these types on each health variable was determined. Significant differences were found with two of the dependent variables. Family concept of locus of control was one of the dependent variables. A significant difference existed between the Extreme group and each of the two other types. Significant differences were found between the means of the Extreme and Midrange families on shared leadership roles.

CHAPTER V

SUMMARY AND DISCUSSION OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

Family systems medicine is a new area of research in the field of family studies. Many health professions, including medicine and nursing, claim to care for the family. However, in actuality, the family is rarely a unit of intervention and usually receives episodic attention as required in order to care for the individual family member (Schwenk, Thomas and Hughes, 1983).

A thorough review of the literature on family functioning and the relationship to family physical health practices indicates that very little research has been done to demonstrate the effect one may have on the other. At the time of the design of this research no instruments had been constructed which measured family physical health practices defined by this researcher. This study was undertaken to answer the question as to whether relationships between family adaptability and cohesion and family health practices indeed existed, and to determine the nature of association.

An instrument entitled "The Family Health Questionnaire" (FHQ) was constructed based on aspects of family physical health care identified in the literature and from areas of interest from the researcher's nursing experience. This instrument, used in combination with FACES II (Olson, 1983), and the Family Health Genogram, was the basis for data gathering procedures.

Seventy families, each consisting of two parents and children from twelve to twenty-five years of age, were asked to rate their own family and give their opinions to scale items. The families all lived in a metropolitan area in northeastern Oklahoma. One hundred and forty parents and 48 children participated in the study. The mean age for the parent group was 38 years. The adolescent sample consisted of 22 females and 26 males. The average age of this group was 15 years. Generally, the families interviewed were white (84%), middle class, religious, and suburban. The study sample was non-random.

Results from statistical analyses revealed the existance and nature of interactions of the dimensions of family functioning on family physical health practices. Family utilization of health services was not significantly associated with either adaptability, cohesion, or family type. This finding may have resulted from the skewed distribution of FUHS scores.

The level of family functioning was significantly related to the sharing of health leadership decisions and

tasks. Both low adaptability and low cohesion types were less likely to share roles and tasks than were the other groups on the two dimensions. Extreme families shared leadership significantly less than balanced family types.

Only family adaptability was significantly related to the family's acceptance of members' manifestations of sick role behaviors. Low adaptability family types were not as accepting of such role behavior as were high central and extreme high adaptability types. Low central adaptability families were also less tolerant than were chaotic or high adaptability family types.

The dimension of cohesion showed differences between groups' attitudes toward health. High cohesion family types were more likely to view health as controllable than did low cohesion types. No significant differences among groups existed when their perception of illness was examined.

Family members' perceptions of their susceptibility to illness was significantly different for some types on the adaptability and cohesion dimension. Rigid or low adaptability families viewed themselves as more vulnerable to illness than either flexible or high adaptability types. Both high central and high cohesion groups felt they were less susceptible than the low cohesion group. The low central group members perceived themselves as more susceptible to illness than the enmeshed type. No

significant mean differences among the three family typologies, Extreme, Balanced, and Midrange existed.

Family functioning was highly interrelated to the family's perceived locus of control over health. Significant differences were found for both adaptability and cohesion as well as family type. The low adaptability group perceived less control over their health than any of the other types on the adaptability continuum. The same perception was true for low cohesion types when compared to each of the other cohesion groups. Balanced family types saw themselves as more in control than either Extreme families or Midrange families.

This study raises many questions which are yet unanswered. To further understand the findings of this study it is suggested that the following projects be undertaken:

1. Comparison of individual scores as well as family average scores to ascertain if the perceived level of functioning by the combined family unit correlates in a similar manner with individual perception of family health practices.

2. Further study which investigates the differences between family typologies and individual and family health practices. Investigation into the differences between the sixteen family types identified on the Circumplex Model and their relationships with health variables would be useful.

3. There are a number of instruments available which assess individual health habits and behaviors. Further development of valid and reliable research instruments which measure other aspects of family health practices, including health attitudes and beliefs. The researcher suggests that physical health research pertaining to the family be extended past the point of examining health habits.

4. It would be useful to determine whether or not family life cycle has a significant influence on certain physical health practices. It would seem logical that family size and life cycle state could affect utilization of health services. Variables which might be less fluctuant than health service utilization could be used in future investigations.

5. It would be highly advantageous to have statistical methods developed which pertain to the total family unit for analysis. This study utilized individual members' scores for analysis. However, z scores or other methods of evaluation, might prove more reliable and valid for future research in the general area of family studies.

6. Further investigation into the effects of family attitudes toward health and illness and family concept of health on actual utilization of health services and personal habits would be profitable. Research in this area would be valuable to physical health care professionals and in the teaching health to families.

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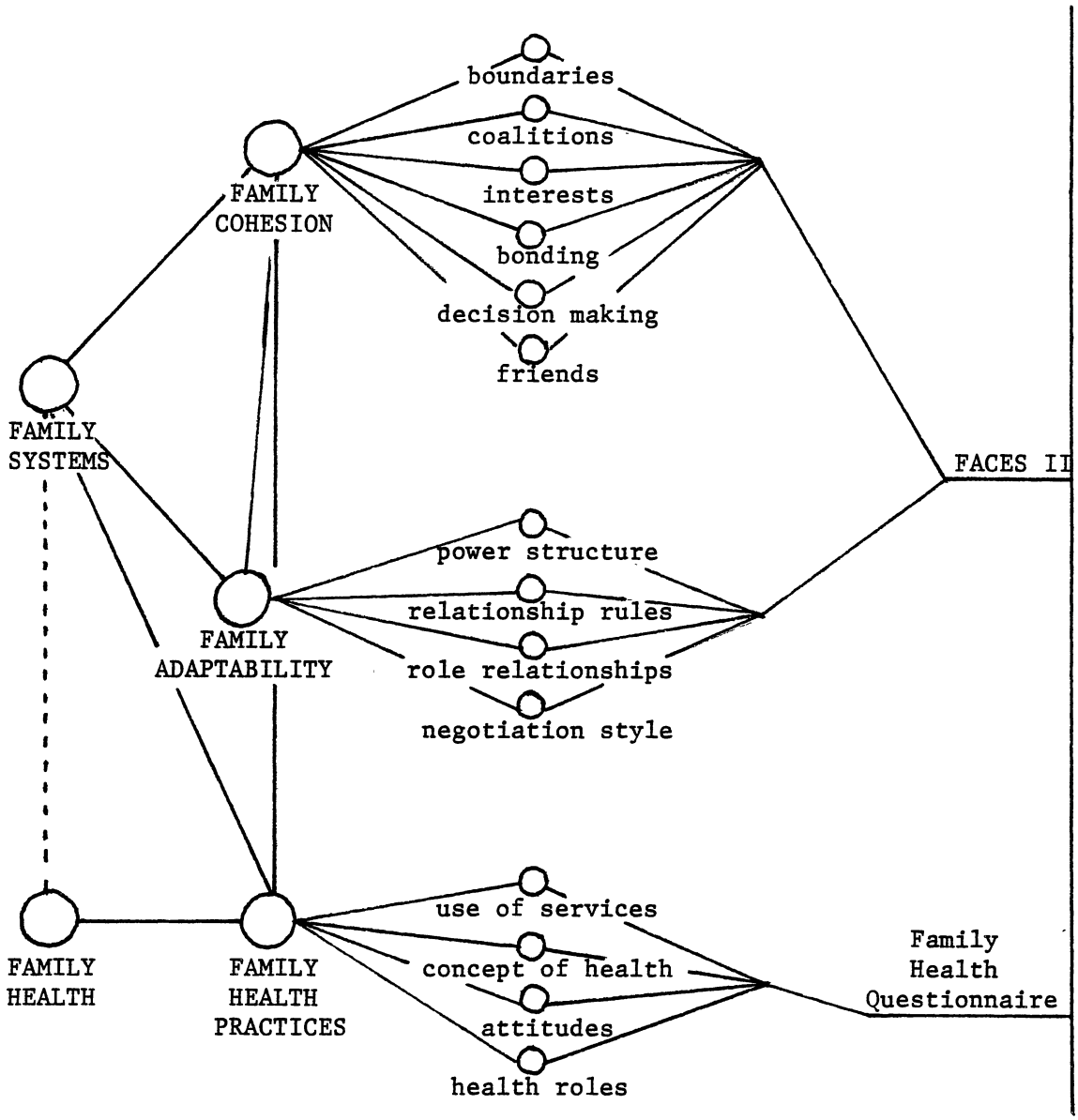
APPENDIX A

FAMILY SYSTEMS AND HEALTH

APPENDIX A

FAMILY SYSTEMS AND HEALTH



APPENDIX B

CONSENT FORM

APPENDIX B

CONSENT FORM

I agree to participate in a research study conducted by Su An Arnn R.N., M.S.N. This study is concerned with the physical health practices of families in the Tulsa and Brown Arrow communities. I understand that Ms. Arnn or her associates will be interviewing my family in our home. I also understand that all information I give her or her associates is confidential and that neither my name or any family member's name or initials will be used in any kind of report she might make.

Consent _____

Witness _____

APPENDIX C

FAMILY HEALTH QUESTIONNAIRE

APPENDIX C

FAMILY HEALTH QUESTIONNAIRE

Name_____ Date_____
Birth Date_____
Occuptaion_____

Circle the answer that best describes you:

Sex:

1. Male
2. Female

Marital Status

1. Single, never married
2. Single, divorced
3. Single, widowed
4. Married - 1st, 2nd, 3rd, 4th, 5th
5. Married, separated

Years of education completed (Circle one)
5. 6. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, over 18

Circle the answer that best describes your family:

Racial or Ethnic Identification

1. Black (Negro)
2. Chicano (Mexican American)
3. Native American (American Indian)
4. Oriental
5. White (Caucasian)
6. Other _____

Religious Beliefs

1. Catholic
2. Jewish
3. Protestant
   a. Denomination_____
   b. No church preference
4. Agnostic
5. Atheist
6. Other_____

Total Family Income for 1984

1. Less than $10,000
2. $10,000-$19,000
3. $20,000-$29,000
4. $30,000-$39,000
5. $40,000 or more

Please check (X) the term that best describes the general health state of:

	Excellent	Good	Fair	Poor	Extremely Unhealthy
Father	____	____	____	____	____
Mother	____	____	____	____	____
Child 1 (oldest)	____	____	____	____	____
Child 2	____	____	____	____	____
Child 3	____	____	____	____	____
Child 4	____	____	____	____	____
Child 5	____	____	____	____	____
Child 6	____	____	____	____	____
Child 7	____	____	____	____	____
Other living at home	____	____	____	____	____

The following questions refer to only those family members presently living with you.

1. What type of health professional does your family consider to be their main physical health care provider?
   1. Doctor of Chiropractic (D.C.)
   2. Doctor of Medicine (M.D.)
   3. Doctor of Osteopathic (D.O.)
   4. Nurse (R.N.)
   5. Other _____

For questions 2-8, circle all answers that apply, and place a star next to the person who does it most often.

2. Who of the following is most likely to decide when a family member is actually sick or ill?
   1. Mother
   2. Father
   3. Daughter
   4. Son
   s. Other relative_____
   6. Neighbor
   7. Friend
   8. Other_____

3. Who usually decides when it is necessary to call or visit the doctor/health professional?
   1. Mother
   2. Father
   3. Daughter
   4. Son
   5. Other relative _____
   6. Neighbor
   7. Friend
   8. Other _____

4. Who actually calls the health professional to make appointments?
   1. Mother
   2. Father
   3. Daughter
   4. Son
   5. Other relative _____
   6. Neighbor
   7. Friend
   8. Other _____

5. Who decides when a family member must stay home from work or school because of illness?
   1. Mother
   2. Father
   3. Daughter
   4. Son
   5. Other relative _____
   6. Neighbor
   7. Friend
   8. Other _____

6. Who in your family decides when to visit a health professional for <u>preventive</u> purposes (annual physical, dental check-ups, school physicals, etc.)?
   1. Mother
   2. Father
   3. Daughter
   4. Son
   5. Other relative _____
   6. Neighbor
   7. Friend
   8. Other _____

7. If a spouse/parent must stay home from work because of illness, who stays with him/her?
   1. No one
   2. Spouse
   3. Daughter
   4. Son
   5. Other relative _____
   6. Neighbor
   7. Friend
   8. Other _____

8. If a child must stay home from school because of illness, who stays with him/her?
   1. No one
   2. Mother
   3. Father
   4. Daughter
   5. Son
   6. Other relative _____
   7. Neighbor
   8. Friend
   9. Other _____

9. Which term best describes the number of times in the past six months family members were ill, but professional health services were thought not necessary?
   1. None
   2. 1-5
   3. 6-10
   4. 11-15
   5. 16-20
   6. 21-25
   7. 26-30
   8. Over 30

10. Approximately how many times did children visit a physical health care provider/doctor for preventive reasons in the past 12 months (school physical, immunizations, etc.)? Please indicate total number of visits.
   1. None
   2. 1-5
   3. 6-10
   4. 11-15
   5. 16-20
   6. More than 20

11. Approximately how many times did parents visit a physical health care provider/doctor for preventive reasons in the past 12 months (annual physical, PAP smear, etc.)? Please indicate total number of visits.
   1. None
   2. 1-5
   3. 6-10
   4. 11-15
   5. 16-20
   6. More than 20

12. Approximately how many times were children seen by a physical health care provider/doctor for incidences related to illness in the past 12 months? Indicate total number of visits. Do not include emergency health services.
   1. None
   2. 1-5
   3. 6-10
   4. 11-15
   5. 16-20
   6. More than 20

13. Approximately how many times where parents seen by a physical health care provider/doctor for incidences related to illness in the past 12 months? Please indicate total number of visits. Do not include emergency health services.
   1. None
   2. 1-5
   3. 6-10
   4. 11-15
   5. 16-20
   6. More than 20

14. Approximately how many times in the past 12 months did family members use emergency health services?
    1. None
    2. 1-3
    3. 4-6
    4. 7-9
    5. 10 or more

15. How many times in the past 12 months did family members have to stay in the hospital?
    1. None
    2. 1-3
    3. 4-6
    4. 7-9
    5. 10 or more

Please list hospitalized family member, reason for hospitalization and how long (s)he stayed.

	Family Member	Reason for Hospitalization	Length of Stay
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____

16. How far away is your home from the office of your family's main health care provider? (If you previously marked more than one, please identify which health professional next to the numbered category).
    1. Within 5 miles
    2. 6-10 miles
    3. 11-15 miles
    4. 16-20 miles
    s. 21-25 miles
    6. Over 25 miles

17. How do your travel to the office of your main health care provider?
    1. Private automobile (your own)
    2. Public transportation (bus, taxi, etc.)
    3. Family member, not living at home takes us
    4. Neighbor or friend takes us
    5. Other _____

18. Which method best describes how your family pays for physical health services?
    1. Insurance
    2. Cash (self pay)
    3. Title 19 (Medicaid/Medicare)
    4. Preferred provider or HMO
    5. Other

CONCEPT OF FAMILY HEALTH

The following statements relate to families health and illness. Please check (X) the answer that best describes your family. There are no right or wrong answers.

		Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree
1.	In our familyy physical examinations are important even when one is healthy.	____	____	____	____	____
2.	Our family is able to take care of our sick members.	____	____	____	____	____
3.	Health is a high priority in our family.	____	____	____	____	____
4.	Our family is in control of our state of health.	____	____	____	____	____
5.	Members of my family actively look for health information.	____	____	____	____	____
6.	Members of my family go to a doctor only when absolutely necessary.	____	____	____	____	____
7.	My family is a partner with our doctor(s) in providinq health care to us.	____	____	____	____	____
8.	In our family, members are considered to be sick when they "just don't feel quite right", but don't have other symptoms.	____	____	____	____	____
9.	In our family, members are considered to be ill when they have symptoms like sore throats and/or headaches.	____	____	____	____	____
10.	In our family, members are considered to be ill when they can no longer work.	____	____	____	____	____
11.	We try to avoid letting illness interfere with our lives.	____	____	____	____	____

	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree
12. When a family member is sick, (s)he tries to just keep going as usual.	____	____	____	____	____
13. When someone in our family seems to be getting sick, we do things to fight it.	____	____	____	____	____
14. Members in our family seem to get sick a little easier than do those in other families.	____	____	____	____	____
15. When there is some illness "going around" someone in our family usually catches it.	____	____	____	____	____
16. Our family's physical health is as healthy as any family I know.	____	____	____	____	____
17. When someone in our family is sick, (s)he tries to keep it to her/his self.	____	____	____	____	____
18. The families I know seem to be healthier than our family.	____	____	____	____	____

FAMLY ATTITUDES TOWARD HEALTH AND ILLNESS

The following statements apply to regarding health and illness. People's opinions regarding them vary. I would like your thoughts regarding health and illness. There are no right or wrong opinions. Please check (X) the answer that best describes your thoughts/feelings about health and illness.

	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree
1. Illness is preventable.	____	____	____	____	____
2. Being healthy usually requires much effort.	____	____	____	____	____
3. If one has one's health, (s)he has everything.	____	____	____	____	____
4. Illness is a direct result of sin.	____	____	____	____	____
5. Illness is unpredictable.	____	____	____	____	____
6. Health begins in the family.	____	____	____	____	____
7. No matter how careful a person is, (s)he has to expect a good deal of illness in her/his lifetime.	____	____	____	____	____
8. Illness is inevitable.	____	____	____	____	____
9. Health is predictable.	____	____	____	____	____
10. Healthy people are happy people.	____	____	____	____	____
11. Health is God's reward for good behavior.	____	____	____	____	____
12. At times, it's fun to be ill.	____	____	____	____	____
13. Episodes of illness can be controlled.	____	____	____	____	____
14. Irresponsible people are ill more often.	____	____	____	____	____

	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree
15. People should do all they can to avoid becoming ill.	____	____	____	____	____
16. Health requires self discipline.	____	____	____	____	____
17. Illness is often used as a way to get attention.	____	____	____	____	____
18. Knowledge about health keeps one from getting ill.	____	____	____	____	____
19. Health indicates freedom from sin.	____	____	____	____	____
20. Foolish people are rarely healthy.	____	____	____	____	____
21. Lifestyle (health habits) has a significant effect on personal health.	____	____	____	____	____
22. Strong people are the healthiest people.	____	____	____	____	____
23. One can avoid becoming ill.	____	____	____	____	____
24. Hard working people are rarely ill.	____	____	____	____	____
25. Lifestyle (health habits) is over rated as a reason for health.	____	____	____	____	____
26. Illness is often an excuse to keep from working.	____	____	____	____	____
27. Illness is a sign of weakness.	____	____	____	____	____

FAMILY HEALTH LEADERSHIP ROLES

The following statements relate to families health and illness. Please check (X) the answer that best describes your family. There are no right or wrong answers.

	Almost Never	Once in a While	Sometimes	Often	Almost Always
1. Family members rely on friends/neiqhbors for health information.	_____	_____	_____	_____	_____
2. We shift household responsibilities when someone is ill.	_____	_____	_____	_____	_____
3. Family members know when another member is ill.	_____	_____	_____	_____	_____
4. One can rest when (s)he is ill.	_____	_____	_____	_____	_____
5. Father stays home when he isn't feeling well.	_____	_____	_____	_____	_____
6. Mother stays home or rests when she isn't feeling well.	_____	_____	_____	_____	_____
7. Children stay home from school when they don't feel well.	_____	_____	_____	_____	_____
8. Father stays home with a child when the child is ill.	_____	_____	_____	_____	_____
9. Mother stays home with a child when the child is ill.	_____	_____	_____	_____	_____
10. A neighbor/friend stays with a family member when one of us is ill.	_____	_____	_____	_____	_____
11. A family member calls home to "check up" on another family member who is home ill.	_____	_____	_____	_____	_____

APPENDIX D

FACES II

APPENDIX D

FACES II

Please check (X) the answer that best describes your family.

	Almost Never	Once in a While	Sometimes	Often	Almost Always
1. Family members are supportive of each other during difficult times.	____	____	____	____	____
2. In our family it is easy for everyone to express his/her opinion.	____	____	____	____	____
3. It is easier to discuss problems with people outside the family than with other family members	____	____	____	____	____
4. Each family member has input in major family decisions.	____	____	____	____	____
5. Our family gathers together in the same room.	____	____	____	____	____
6. Children have a say in their discipline.	____	____	____	____	____
7. Our family does things together.	____	____	____	____	____
8. Family members discuss problems and feel good about the solutions.	____	____	____	____	____
9. In our family everyone goes his/her own way.	____	____	____	____	____
10. We shift household responsibilities from person to person.	____	____	____	____	____
11. Family members know each other's close friends.	____	____	____	____	____

		Almost Never	Once in a While	Sometimes	Often	Almost Always
12.	It is hard to know what the rules are in our family.	_____	_____	_____	_____	_____
13.	Family members consult other family members on their decisions.	_____	_____	_____	_____	_____
14.	Family members say what they want.	_____	_____	_____	_____	_____
15.	We have difficult thinking of things to do as a family.	_____	_____	_____	_____	_____
16.	In solving problems, the children's suggestions are followed.	_____	_____	_____	_____	_____
17.	Family members feel very close to each other.	_____	_____	_____	_____	_____
18.	Discipline is fair in our family.	_____	_____	_____	_____	_____
19.	Family members feel closer to people outside the family than to other family members.	_____	_____	_____	_____	_____
20.	Our family tries new ways of dealing with problems.	_____	_____	_____	_____	_____
21.	Family members go along with what the family decides to do.	_____	_____	_____	_____	_____
22.	In our family everyone shares responsibilities.	_____	_____	_____	_____	_____
23.	Family members like to spend free time with each other.	_____	_____	_____	_____	_____
24.	It is difficult to get a rule changed in our family.	_____	_____	_____	_____	_____
25.	Family members avoid each other at home.	_____	_____	_____	_____	_____

		Almost Never	Once in a While	Sometimes	Often	Almost Always
26.	When problems arise we compromise.	_____	_____	_____	_____	_____
27.	We approve of each other's friends.	_____	_____	_____	_____	_____
28.	Family members are afraid to say what is on their minds.	_____	_____	_____	_____	_____
29.	Family members pair up rather than do things as a total family.	_____	_____	_____	_____	_____
30.	Family members share interests and hobbies with each other.	_____	_____	_____	_____	_____

APPENDIX E

FAMILY GENOGRAM

APPENDIX E

FAMILY GENOGRAM

Family Name _____ Date _____

Diagram three generations of immediate family beginning with grandparents, then parents, followed by children. List by each member age, chronic illnesses, causes of death. If extended parental absence (over one month) has occurred, list dates of separation and return, dates of marital separation and/or divorce on the side with any noticed illnesses occuring at that time. If a member is deceased, indicate cause of death by symbol and age at death. List children in birth order from left to right. Use the following coding system:

Male	Divorce
Female	Separation
Alive and Well	Cohabitation
Deceased	Twins
Miscarriage	Adoption
Abortion	

APPENDIX F

CORRESPONDENCE

March 22, 1985

Su An Arnn M.S.N.
15905 East 131st #2
Broken Arrow, OK 74011

Dr. David Olson
Dept. of Family Social Science
290 McNeil Hall
1985 Buford Avenue
St. Paul, Minnesota 55108

Dear Dr. Olson:

I am a doctoral student at Oklahoma State University presently working on my dissertation with Drs. Stromberg and Fournier. The topic of my research is family systems functioning and family physcial health practices. I would like your permission to use FACES II for data gathering purposes. The appropriate credit would be given to you on the instrument and with any publications that might arise from my dissertation.

Please return the enclosed postal card indicating your permission. Thank you.

Sincerely,

Su An Arnn R.N., M.S.N.

March 22, 1985

Su An Arnn M.S.N.
15905 East 131st #2
Broken Arrow, OK 74011

Dr. John E. Ware, Jr.
Research Psychologist,
Rand Corporation
1700 Main Street
Santa Monica, Cal. 90406

Dear Dr. Ware:

I am a doctoral student at Oklahoma State University presently working on my dissertation dealing with family functioning and family physcial health practices. I would like your permission to use eight of the items you developed and reported in Development and Validation of Scales to Measure Patient Satisfaction with Health Care Services: Vol. II. Final Report. Perceived Health and Patient Role Propensity, 1976. The items have been modified to reflect the family as opposed to the individual.

Please return the enclosed postal card indicating your permission. Thank you.

Sincerely,

Su An Arnn R.N., M.S.N.

_____ Permission granted with the understanding that credit for original instrumentation will be given in Ms. Arnn's dissertation and any resultant publications.

Signature _____

VITA 2

Su An Arnn

Candidate for the Degree of

Doctor of Philosophy

Thesis: FAMILY SYSTEMS FUNCTIONING AND FAMILY PHYSICAL HEALTH PRACTICES

Major Field: Home Economics-Family Relations and Child Development

Biographical:

Personal Data: Born in Ely, Nevada, October 5, 1949, daughter of Roy and Charlene Arnn.

Education: Graduated from Highland High School, Salt Lake City, Utah, in May, 1967; received Bachelor of Science degree in Nursing from the University of Utah in 1971; received the Master of Science in Nursing from the University of Arizona in 1977; and completed requirements for the Doctor of Philosophy degree in Family Relations and Child Development at Oklahoma State University in July, 1985; Postgraduate training from the Menninger Foundation, 1984 to present.

Professional Experience: Marriage and Family Therapist, Christian Family Institute, 1984 to present, Assistant Professor, Langston University, Tulsa Urban Center, 1982 to present; Instructor, Tulsa Junior College, 1982; Acting Associate Adminstrator, Nursing/Associate Dean, Nursing Practice, City of Faith Hospital, 1981; Instructor, Anna Vaughn School of Nursing, Oral Roberts University, 1977-1981; Pediatric Clinical Specialist, University of Utah Medical Center, 1975-1978; Clinical Instructor, University of Utah College of Nursing, 1976-1978; Head Nurse, Neonatal Intensive Care, University of Utah Medical Center, 1974-1975; Head Nurse, Pediatrics, Saint Mary's Hospital,

Tuscon, Arizona, 1973-1974; Staff Nurse, Psychiatry, Saint Mary's Hospital, Tuscon, Arizona, 1972-1973; Staff nurse, Neonatal Intensive Care, Salt Lake City, Utah, 1972.

Professional Organizations: National Council of Family Relations, Associate Member American Association for Marriage and Family Therapy, National League of Nursing, Oklahoma League of Nursing.