# CHILDREN'S PERCEIVED SELF-CARE HEALTH BEHAVIOR WITHIN DIFFERING FAMILY CONTEXTS

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ABSTRACT

CHILDREN'S PERCEIVED SELF-CARE HEALTH BEHAVIOR
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Variation in children's perceived self-care health behavior within the context of the family was investigated in this cross-sectional, descriptive study. The relationship between the children's behavior and their family context was approached from the ecological perspective through the ecology of human development model (Bronfenbrenner, 1979, 1986) and typology component of the T-Double ABCX Model (McCubbin, Thompson, Pirner, and McCubbin, 1988). Based upon the latter, family context was depicted as family typologies and types. A convenience sample of 236 fourth, fifth, and sixth grade children was surveyed in their classrooms utilizing the Child's Health Self-Concept Scale (Hester, 1984, 1987) and Children's Health Locus of Control scale (Parcel and Meyer, 1978). Parents of these children provided data for six variables: hardiness, coping, bonding, flexibility, time and routines, and valuing of time and routines. Based upon high and low scores, families were categorized as one of four family types in each of three family typologies: Regenerative, Resilient, and Rhythmic; an ideal enduring family type was formed also from a composite of the regenerative, resilient, and rhythmic types. Null hypotheses concerning

relationships between children's perceived self-care health behavior and their family types were rejected for the Regenerative and Resilient typologies and enduring family type; Pearson correlations were weak and positive. The Resilient typology and its bonding variable were found to predict the children's behavior, accounting for 12 and 13 percent of the variance respectively. Based upon analysis of variance test results, null hypotheses concerning differences in children's self-care health behavior according to family types were rejected for the Regenerative and Resilient typologies and the enduring family type. Post hoc Scheffé test results indicated most differences were between children of extreme types: regenerative and vulnerable, resilient and fragile, and enduring and nonenduring or most and least enduring. Children's age and grade and family life cycle developmental stage were not influential. Likewise, children's health locus of control was not influential with the children's self-care health behavior and family types. The findings supported the belief that family context is important for development and maintenance of self-care health behavior in children.

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# CHAPTER I

# INTRODUCTION

## Identification of the Problem

Improvement of health and well-being through health promotion and disease prevention is the ultimate goal for our nation (PHS, USDHHS, 1989). Success with strategies designed to achieve this goal by the year 2000 is reflected in the outcomes expressed in five broad national goals. They include: 1) reduction in infant mortality to no more than seven deaths per 1,000 live births, 2) increase in life expectancy to at least 75 years, 3) reduction in disability caused by chronic conditions to a prevalence rate of no more than six percent of the population, 4) increase in years of healthy life to at least 65 years, and 5) decrease in disparity in life expectancy between white and minority populations to no more than four years. These goals emphasize not only an increase in quantity of life, but also an increase in quality of life as well. Clearly, the implication is for better health habits to be practiced by more people at an increasingly early age, with a purpose greater than simply avoidance of disease. This is representative of the paradigm shift that is occurring, moving from what has been called the

Post-Medical Era to the Health Era (McClary, Zahrt, Montgomery, Walker, and Petry, 1985). This Health Era will require "different tools, actors, interests, and understandings of life. Process thinking and acting depends on seeing things as whole, all interrelated to one another" (McClary et al., 1985, p. 9); the wellness mode of this new paradigm involves the adoption of an holistic and ecological concept of health. Referring to this wellness focus as a movement, one author said, "it is clear that there can be no solution(s) to our national health problems without it. . . the history of wellness is still to be written because it has not occurred, as yet" (Ardell, 1985, p. 54). Among the future trends affecting this movement will be greater emphasis on learning good health habits by the young age groups (Ardell, 1985).

The contributing objectives to achieve the five national goals by the year 2000 are directed at a variety of populations, including several age groups. For example, there are at least 56 objectives that relate to the children's group either directly or indirectly. They reflect specific issues and risk factors concerning the lifestyle and health of this group. Additionally, services to children such as those that might be offered through the schools are emphasized. The emphasis on such services could be explained, at least in part, by the nature of the sponsoring organization. The family context, however, as it exists for children, positively

or negatively, causatively or remedially, is present more by implication than direct statement. The lack of stronger regard for the family as it influences and supports children is a serious omission.

There is growing recognition that disease prevention and health promotion efforts must be directed toward childhood when factors predisposing people to adult diseases actually begin (Margolis, Sparrow, and Swanson, 1988; Pender, 1987; PHS, USDHHS, 1989). Simultaneously, the importance of the family context is being recognized as the primary source of learning or influence for values, attitudes, and behaviors related to health and self-care (Blecke, 1990; Doherty and Campbell, 1988; Hill and Smith, 1985; Loveland-Cherry, 1989; Pender, 1987). This suggests the possibility that some family contexts may be more conducive to children's health related learning than others. More pointedly, a question can be raised concerning family types that predictably could be considered most optimal. It is evident, therefore, that greater understanding is needed regarding not only children's health related behavior, but also the family context in which that behavior is developed and practiced.

## Statement of the Problem

Wellness potential exists for everyone and there are wellness related tasks specific to the various age groups, including children (Bruhn and Cordova, 1977; Bruhn, Cordova,

Williams, and Fuentes, Jr., 1977). Similarly, the family's influence on the learning and performing of these tasks by children is viewed as important (Bruhn and Cordova, 1977; Bruhn and Parcel, 1982; Doherty and Campbell, 1988). There is, however, a paucity of research in the literature concerning children's wellness related tasks or health related behavior and their associated family context. Empirical evidence revealing possible variables in the family context is necessary to advance the notion of helping families initiate and/or maintain health related behavior in their children.

## Purpose of the Study

The purpose of this study was to investigate children's health related behavior, specifically their perceived self-care health behavior, as it occurs in different family contexts, otherwise referred to as family type(s). Relevant questions to be addressed included:

1. Is there a relationship between children's perceived self-care health behavior and their family types?
2. If there is a relationship, what family variables can be identified to predict the children's perceived self-care health behavior?
3. Are there differences in the children's perceived self-care health behavior according to their family types?

4. Is there a relationship between children's perceived self-care health behavior and their health locus of control?
5. Are there differences in children's perceived self-care health behavior according to their health locus of control and their family types?

## Research Objectives

Based upon review of the literature and experience with children and families in community health nursing, more information is needed concerning children's self-care health behavior as it occurs within the family context. The goal of this research, therefore, was to examine the perceived self-care health behavior of children in grades four through six according to their respective families' characteristics that were conceptualized as family types. More specifically, the objectives were to:

1. Determine if children's perceived self-care health behavior is related to their families' types and, if so, to identify the family variables most likely to influence the behavior.
2. Investigate the differences in the children's perceived self-care health behavior according to their family types.

3. Determine if children's perceived self-care health behavior is related to their health locus of control.
4. Investigate the differences in the children's perceived self-care health behavior according to their health locus of control and their family types.

## Conceptual Framework

In order to address the various aspects of the purpose of this research, it was necessary to select portions of three conceptual or theoretical frameworks. These included the human ecological model or ecological theory for study of the family (Andrews, Bubolz, and Paolucci, 1980; Bubolz, Eicher, and Sontag, 1979; Bubolz and Sontag, in press), the ecology of human development (Bronfenbrenner, 1979, 1986), and the T-Double ABCX Model or Typology Model of Family Adjustment and Adaptation (McCubbin and McCubbin, 1987b; McCubbin, Thompson, Pirner, and McCubbin, 1988). The latter two further explicate and operationalize the perspective of the first.

### Ecological Perspective

The ecological perspective reflects an holistic and multi- and interdisciplinary approach to the study of the family. The central concept of this approach is the human or family ecosystem which is defined as a living system in interaction and interdependency with its environments

(Andrews, Bubolz, and Paolucci, 1980; Bubolz, Eicher, and Sontag, 1979; Bubolz and Sontag, in press). A family is defined as a unit of individuals that is committed to a relationship by blood, marriage, adoption, or a sense of interdependence and shares common goals, resources, values and interests (Bubolz, Eicher, and Sontag, 1979; Bubolz and Sontag, in press). Two sets of rules guide the transactions between family and environment, namely, the immutable laws of nature and the mutable or human-derived laws. Among the outcomes of the interactions and transactions that occur are adaptation and optimal human development.

For research purposes the ecological perspective is helpful in identifying the unit of analysis; in fact, when this perspective is used, it is especially important to specify the unit of analysis. In this study the focus was on the child as an individual human ecosystem in interaction with his/her family environment. It is recognized, however, that other environments also interact directly with the child and the family and indirectly with the child through the family. For purposes of this study utilizing the ecological perspective, expectations regarding children's self-care health behavior arise from their environments, family and other. The child's actual learning and practice of the behavior then are influenced by the family system of which its types are a part; therefore, the family's types are possible predictors of the child's behavior.

The Ecology of Human Development

The child's development in relation to health behavior and the family's influence are elaborated further in the ecology of human development perspective (Bronfenbrenner, 1979, 1986). The focus in this perspective is on the developing person, the environment, and the evolving interaction between the two, i.e., "development-in-context" (Bronfenbrenner, 1979, p. 12). In relation to the developing person, molar activities are emphasized rather than tasks relevant to specific age levels, particular internal psychological processes, or mechanisms of socialization. A molar activity is defined as "an ongoing behavior possessing a momentum of its own and perceived as having meaning or intent by the participants in the setting" (Bronfenbrenner, 1979, p. 45). Of particular importance is the fact that it is ongoing which means that it is a continuous process involving more than just a beginning and an end. Additionally, the momentum feature contributes to its persistence over time and its resistance to interruption before its completion. The particular activities involved will vary in the degree and complexity of their intent. Determination of this variation as reflected in the dimensions of time perspective and goal structure depend upon the perception of the individual. In relation to the time perspective, the activity may have significance only for the present or it may be related to the past and/or the future. Similarly, the goal structure may

have a single, direct course or it may involve a series or complex network of steps. Molar activities can be carried out alone; however, many require interactions with others. For this study, children's perceived self-care health behavior was synonymous with molar activities.

In relation to the ecological environment, the conceptualization is a "nested arrangement of concentric structures, each contained within the next. These structures are referred to as the micro-, meso-, exo-, and macrosystems" (Bronfenbrenner, 1979, p. 22). The microsystem "is a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (p. 22). The home is an example of a microsystem setting and the activities, roles, and interpersonal relations are its essential elements. The term, experienced, is important in the definition because it reflects the individual's perception of the objective characteristics of the environment.

In contrast to the microsystem, the mesosystem involves settings beyond the immediate in which the individual participates, e.g., the school; whereas, the exosystem includes settings in which the person does not participate, e.g., parent's workplace. The macrosystem means "consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief

systems or ideology underlying such consistencies" (Bronfenbrenner, 1979, p. 26). An example of a macrosystem consistency is the expectation of health care professionals that children's practice of self-care health behavior will make a difference in life expectancy and overall quality of life. For purposes of this study, however, the focus was the child's microsystem, namely, the family.

A fifth system was proposed recently to examine the influence on the person's development of changes and continuities over time in the environments in which the person lives (Bronfenbenner, 1986). It is called the chronosystem. In its most simple form the focus is around a life transition; whereas, in a more advanced form the cumulative effects of a sequence of transitions over the person's life are examined.

T-Double ABCX Model

A major model designed to depict complex internal family processes is the T-Double ABCX Model or Typology Model of Family Adjustment and Adaptation (McCubbin and McCubbin, 1987b; McCubbin, Thompson, Pirner, and McCubbin, 1988). It is based on family stress theory which is designed to explain

> why some families are better able to negotiate their way through transitions and tragedies and to cope with and even thrive on life's hardships, while other families, faced with similar if not identical stressors or family transitions, give up

or are easily exhausted. (McCubbin and McCubbin, 1987b, p. 3)

Families representing certain types utilize their strengths to absorb the impact of stressful life events and facilitate change and adaptation. The introduction of the family types component and expansion of the family strengths component enlarged the former Double ABCX Model of Family Adjustment and Adaptation to the T-Double ABCX Model or Typology Model of Family Adjustment and Adaptation. Four assumptions about family life have guided research on family transitions, crises, and adaptation using the model, namely:

> (1) families face hardships and changes as a natural and predictable aspect of family life over the life cycle; (2) families develop basic strengths and capabilities designed to foster the growth and development of family members and the family unit and to protect the family from major disruptions in the face of family transitions and changes; (3) families develop basic and unique strengths and capabilities designed to protect the family from unexpected or non-normative stressors and strains and to foster the family's adaptation following a family crisis or major transition and change; and (4) families benefit from and contribute to the network of relationships and resources in the community, particularly during periods of family stress and crises. (McCubbin and McCubbin, 1987b, p. 3)

The Typology Model involves two phases of response for families during life changes or crises: adjustment and adaptation. The adjustment phase occurs when the changes are minor or the crisis is the result of a switch in the family unit's usual pattern of operation. The components of the model that interact to result in adjustment include a stressor

event or transition, family's vulnerability and pile up of demands, family's typology, family's resistance resources, family's appraisal of the event, and family's problem-solving and coping responses. The adaptation phase involves family reorganization to deal with major transitions and changes. The components of the model in the adaptation phase are greater in number and the interaction is more complex. Specifically, there is greater emphasis on the pile up of demands that interact with the family's level of regenerativity and components were added regarding the family's schema and social support.

For purposes of this study utilizing the T-Double ABCX or Typology Model, the stressor event or (normative) transition was the developmental need presented by all children to learn self-care health behavior over time with the assistance and support of their families. The outcome in relation to the children's perceived self-care health behavior was a reflection of their families' adjustment or adaptation to meeting that need.

The typology component of the model. Four typologies comprise the typology component of the model and each of the four is comprised of four types of family systems (see Figure 1 for a graphic representation). Definitions of a family's typology and the four types in each typology pertinent to this study are included in the next section. The typologies include the Regenerative, Resilient, Rhythmic, and

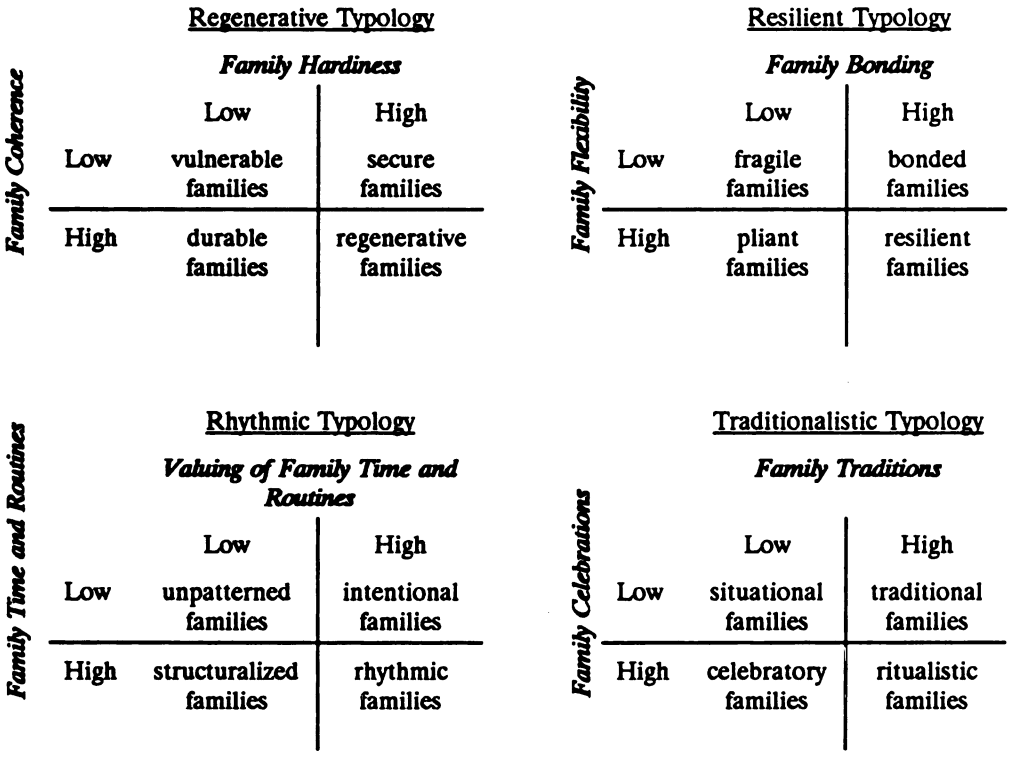



FIGURE 1

**Family Typologies and Types**

Traditionalistic. In each typology one of the four family system types has the same label, i.e., regenerative, resilient, rhythmic, and traditionalistic. The first three family types: regenerative, resilient, and rhythmic, represented the strongest of the types in their respective typologies as hypothesized in relation to the variable of family well being (McCubbin, Thompson, Pirner, and McCubbin, 1988).

The Regenerative family typology is based on the dimensions of hardiness and coherence resulting in a regenerative power or family integrity. It includes the family system types of vulnerable, secure, durable, and regenerative families. The Resilient family typology reflects the dimensions of bonding and flexibility which provide unity and changeability capabilities. It includes fragile, bonded, pliant, and resilient family system types. The Rhythmic family typology, which lends predictability and stability, involves a pattern of time and routines and the valuing of them. This typology includes unpatterned, intentional, structuralized, and rhythmic family system types. The Traditionalistic family typology is based on the maintenance of traditions and celebrations that link families with their past and future. It includes the situational, traditionalistic, celebratory, and ritualistic family system types. McCubbin et al. (1988) reported that pairs of the typologies were related and overlapped to a minimal degree (Cramer's V

values ranged from a low of .16 to the high of .23). They indicated, however, that there should be a more detailed examination of the relationships among them.

The model was utilized with the outcome variables of marital satisfaction, family satisfaction, health of family members, satisfaction with children's development, community satisfaction, and overall general family well being (McCubbin et al., 1988). The Regenerative, Resilient, and Rhythmic typologies were identified as important for identifying "critical dimensions of family functioning and adaptation" (p. 123).

Enduring family type. The enduring family type was created from an integration of the regenerative, resilient, and rhythmic family types from the three family typologies: Regenerative, Resilient, and Rhythmic. Composite profiles of this type then were prepared for four of the five family life cycle stages utilized earlier in the study by McCubbin et al. (1988). The profile characteristics of enduring families in the various stages were derived from an item analysis that identified the major discriminating items differentiating the family system types.

Characteristics identified from the three types for the enduring family type at the preschool and school age stage of the family life cycle included:

**Regenerative Families**

1. Being your own person and independent
2. Being loyal to our family
3. Counting on each other to stand by us in times of need
4. Believing we can survive if another problem hits us
5. Believing that life is interesting and meaningful
6. Children doing their homework at the same time each day or night of the week
7. At least one parent talking to his or her parents regularly
8. Family members checking in or out with each other
9. Expressing caring and affection for each other daily
10. Celebrating spouse's birthday

**Resilient Families**

1. Staying connected to each other
2. Expressing care and affection for each other daily
3. Children spending time with grand-parent(s)
4. Family eating one meal together daily
5. Children doing homework at a regular time
6. Believing life is interesting and meaningful
7. Believing our work and efforts are appreciated
8. Believing what happens to us is not due to luck
9. Celebrating children's birthdays
10. Sharing our feeling and concerns with close friends

**Rhythmic Families**

1. Trusting and confiding in each other
2. Family members being their own person and independent
3. Having pride in our family
4. Believing that life is interesting and meaningful
5. Children doing their homework at the same time almost every day
6. Children having special things they do or ask for each night at bedtime
7. Whole family eats one meal together daily
8. Family checking in or out with each other when someone leaves or comes home

9. Expressing caring and affection for each other daily
10. Mothers doing regular household chores (McCubbin et al., 1988, p. 125)

At the adolescent and launching family life cycle stage the characteristics from the three types that created the enduring type included:

Regenerative Families
1. Trusting and confiding in each other
2. Being loyal to the family
3. Feeling pride in our family
4. Having faith in God
5. Showing caring and understanding to each other
6. Believing that our lives are not controlled by accidents and luck
7. Believing our work and efforts are appreciated
8. Believing we can survive if another problem hits us
9. Parents spending time with teenagers for private talks
10. Mothers doing regular household chores

Resilient Families
1. Believing that our lives are not controlled by accidents and luck
2. Believing we can survive if another problem hits us
3. Believing that life is interesting and meaningful
4. Whole family eating one meal together daily
5. Having at least one parent talk to his or her parents regularly
6. Parent(s) having certain things they almost always do each time the children get out of line
7. Mothers doing regular household chores
8. Working together as a family to solve problems
9. Celebrating children's birthdays
10. Children's/Teen's suggestions are followed in solving problems

Rhythmic Families
1. Sharing similar values and beliefs as a family
2. Celebrating spouse's birthday
3. Celebrating relative's birthdays/ anniversaries
4. Family members staying connected
5. Not keeping problems to ourselves to avoid conflicts and tensions
6. Parents having time with each other
7. Children having special things they do or ask for each night
8. Expressing caring and affection for each other daily
9. Mothers doing regular household chores
10. Teenagers doing regular household chores (McCubbin et al., 1988, p. 126)

## Definitions

Conceptual definitions of the major variables involved in this study are provided in this section. Operational definitions are included in the instrumentation section of Chapter III. In this study, the children were nine to eleven years of age or in grades four through six of school. Gender, age, and grade of the children and family characteristics such as marital status, family role, ethnicity, employment status, income, and education were self-explanatory variables included in the study. Others included:

Children's perceived self-care health behavior. This behavior involves activities initiated, actually or potentially, on one's own behalf that are believed to promote or maximize one's well-being. Examples of such activities include or relate to, but are not limited to, nutrition, rest/sleep, exercise, hygiene, dental care, safety, and

relationships. The Child's Health Self-Concept Scale (CHSCS) was used to measure this variable. According to the author of that instrument, "health self-concept refers to what an individual perceives about his/her health and health-related behaviors" (Hester, 1985, p. 2). The definitions are compatible; however, for the sake of consistency, this author preferred to use the variable's label stated above.

Children's health locus of control. This is a quality of an individual that indicates the degree of self-responsibility for health behavior; it is categorized as internal or external health locus of control. The Children's Health Locus of Control (CHLC) scale developed by Parcel and Meyer (1978) was used to obtain children's responses concerning the origin of their health behavior and the influence they can exert on either preventing situations or doing something about them.

Family life cycle stage. Families develop over time by achieving developmental tasks that change with the birth, maturation, and departure of children. Based on the work of Hill and Rodgers (cited in McCubbin et al., 1988), a five stage process was established. The five stages included: single, couple, preschool and school age, adolescent and launching, and empty nest and retirement. Stage divisions were based on criteria related to the children's ages and family changes related to their maturation; specifically, they included: age of the oldest child, amount of transition or change required, and changes in family goal orientation and

direction. Families in this study had reached at least stage three, i.e., the preschool and school age stage. In this stage,

> children spend most of the waking hours in the home and the family is oriented toward their growth and nurturance. Parents are primary sources of information and control, and the family is seen as child-centered. As children move into school age the family becomes more focused on education and socialization of children. The oldest child in a family at this stage is between six and twelve years of age. (p. 33)

Some families also had reached stage four, i.e., adolescent and launching, where there is concern

> with preparing their teenager to be launched from home and therefore considerable demands are placed on the family due to the challenges of dealing with adolescents in the home. As the children begin to leave home to establish identities and roles outside the family unit, parental roles and rules are changed and the family is occupied with successfully launching its children. (p. 33)

Family typology and type. A family's typology is defined as a set of basic attributes about the family system which characterizes and explains how a family system typically appraises, operates and/or

> behaves. These predictable and discernible patterns of family behavior, which are reinforced by rules and routines, play an important role in explaining family behavior in the face of stressful life events and transitions (McCubbin et al., 1988, p. 6).

There are four typologies of families, three of which were utilized in this study. Each typology is constructed from two variables, the highs and lows of which then determine the four family system types in each typology. The first typology of Regenerative families is based on the dimensions of family coherence and family hardiness. Family coherence "is defined as a fundamental coping strategy families employ in the management of family problems" (p. 41). Family hardiness

> is defined as the family's internal strengths and durability characterized by an internal sense of control of life events and life's hardships, a sense of meaningfulness in life, involvement in activities, and a commitment to learn and to explore new and challenging experiences. (p. 41)

The four family systems of the Regenerative typology include vulnerable families (both low coherence and hardiness), secure families (low coherence and high hardiness), durable families (high coherence and low hardiness), and regenerative families (both high coherence and hardiness).

Vulnerable families. Families of the vulnerable type in general "are more complacent, less likely to try new and exciting things, tending to do the same things over and over, and are less likely to encourage each other to be active and to learn new things" (McCubbin et al., 1988, p. 42). Coping with problems in these families means getting upset, having less respect for one another, and blaming others; they show less caring, understanding, pride, loyalty, and acceptance of family hardships. They have lower sense of purpose, meaningfulness in life, and sense of being appreciated; they feel less in control and account for hardships as accidents, bad luck, and blame of self.

Secure families. Families of the secure type in general "are active, in control, but when faced with difficulties are also less supportive of each other, less caring and loyal, and less tolerant of hardships" (McCubbin et al., 1988, p. 42). Coping with problems in these families also means getting upset, having less respect for one another, and blaming others; they show less caring and understanding, pride, loyalty, and acceptance of family hardships. Their basic strength of hardiness, however, provides them with a sense of purpose, ability to plan ahead, a sense of value for their efforts, and a feeling that life is meaningful. Since they feel in control, they believe they can influence both the good and bad things that happen.

Durable families. Families of the durable type in general "may have less basic internal strengths, but they appear to compensate for this deficiency by having strong coping repertoire characterized by caring, respect, trust and reduced tension and calm" (McCubbin et al., 1988, p. 42). These families have a lower sense of purpose and meaningfulness in life and they lack being appreciated; they feel less in control, are less active, and do not encourage efforts by family members to learn new things. They do, however, regard their ability to cope positively and so they are less reactive and more caring. Development of trust and respect and maintenance of calm and emotional stability are important to them. Faith, acceptance of stressful life events and difficulties, and working together to solve problems are their coping strategies.

Regenerative families. Families of the regenerative type "are active, in control, and, when faced with difficulties, are also more caring, loyal and more tolerant of hardships" (McCubbin et al., 1988, p. 42). Coping for these families is to cultivate trust and respect and maintain emotional calm and stability; they have faith, accept stressful life events and difficulties, and work together to solve problems. They have a sense of purpose, ability to plan ahead, feel valued for their efforts, and feel that life is meaningful; they feel in control and have a sense that they can influence what happens to them, good or bad. These families are active, try new

things, and encourage others to address problems and concerns actively also.

The second typology of Resilient families is comprised of the dimensions of family bonding and family flexibility. Family bonding "is defined as the degree to which the family is emotionally bonded together into a meaningful and integral family unit" (McCubbin et al., 1988, p. 44). Family flexibility "is defined as the degree to which the family unit is able to change its rules, boundaries, and roles to accommodate changing pressures from within and outside of the family unit" (p. 44). The four family system types of the Resilient typology include fragile families (both low bonding and flexibility), bonded families (high bonding and low flexibility), pliant families (low bonding and high flexibility), and resilient families (both high bonding and flexibility).

Fragile families. Families of the fragile type

> are hesitant to depend upon the family for support and understanding, prefer to confide in persons outside the family, avoid other family members, have difficulty in doing things with the family and feel that the family emphasizes members going their own way. Additionally, these families perceive themselves as being closed in their communication, resistant to compromise, set in their ways and inexperienced in shifting responsibilities among family members, and not involving all family members in the making of major decisions (McCubbin et al., 1988, p. 45).

Bonded families. Families of the bonded type believe their sense of internal unity is their major source of strength. They depend upon one another for understanding and support, feel closeness with others and readily engage them,

and easily decide what to do as a family unit. Low flexibility, however, results in resistance to compromise, being set in their ways, lack of experience in shifting responsibilities among members, and failure to involve all family members in making major decisions (McCubbin et al., 1988).

Pliant families. Families of the pliant type have as their major strength the ability to change. Common qualities include ability to say what they want, shape family rules and practices, and compromise; they have input into major decisions, are experienced in shifting family unit responsibilities, and willingly try new ways to deal with problems and issues. With a limit to their sense of bonding, however, they hesitate to depend upon the family for support and understanding, preferring persons outside the family in which to confide; they avoid other family members, experience difficulty doing things with the family, and feel the family's emphasis is on members going their own way (McCubbin et al., 1988).

Resilient families. Families of the resilient type have both the ability to change and a sense of internal unity. They believe they can say what they want, have input into major decisions, and are able to shape family rules and practices as well as compromise; they shift responsibilities in the family unit easily and try new problem solving strategies. Understanding and support can be depended upon from one another and there are feelings of closeness with one another

and pleasure in engaging other family members; deciding what to do as a family unit is not difficult (McCubbin et al., 1988).

The third typology of Rhythmic families is comprised of the family time and routines and valuing of family time and routines dimensions. Family time and routines "is defined as those family behaviors and practices which families choose to adopt and maintain in an effort to orient and routinize family life into a predictable pattern of living" (McCubbin et al., 1988, p. 47). Valuing of family time and routines "is defined as the meaning and importance families attach to the value of family time and routines" (p. 47). The four family system types of the rhythmic typology include unpatterned families (both low time and routines and valuing of family time and routines), intentional families (low time and routines and high valuing of family time and routines), structuralized families (high time and routines and low valuing of family time and routines), and rhythmic families (both strong family time and routines emphasis and valuing family and routines investment).

Unpatterned families. Families of the unpatterned type "carry on their lives with little emphasis on family time or routines and place equally limited value on the importance of these routines or manifestations of investments in family life" (McCubbin et al., 1988, p. 47).

> Intentional families. Families of the intentional type carry on their lives with little emphasis on the actual practice of family time and routines, but with a greater emphasis upon the value of family time and routines. Seemingly, intentional families indicate a desiring and valuing of family time and routines, but a reluctance or inability to practice these expressions of family time and routines with any degree of regularity (McCubbin et al., 1988, p. 47).

Structuralized families. Families of the structuralized type "carry on their lives with a heavy investment in regularized activities designed to promote family time together but with a reluctance to embrace these behaviors and practices as being desirable or even valued" (McCubbin et al., 1988, p. 47).

> Rhythmic families. Families of the rhythmic type foster development of predictable activities and routines within the family unit involving relatives and with an added emphasis upon valuing these patterns in an effort to foster a shared Rhythmic sense of purpose and meaning of family togetherness, regularity, and predictability (McCubbin et al., 1988, pp. 47-48).

Enduring family type. The integration or composite of the regenerative, resilient, and rhythmic family types from

the three typologies created the enduring family type. Definitions for enduring type families in both family life cycle stages utilized in this study are presented here. For the preschool and school-age family life cycle stage, enduring families have capability which:

> is built upon a broad range of strengths. First, these families have a positive family life orientation characterized by family loyalty, dependability of family members, a sense of meaningfulness and interest, and having a sense of control over their lives. This orientation is complimented by a behavioral repertoire underscoring the importance of stability and predictability. These families emphasize regularity in times for children's homework, regular communication with parents/inlaws, children's bedtime routines, members checking in or out, mother's involvement in household chores, and regularity of meals and family meals together. . . (McCubbin, et al., 1988, p. 129)

At the adolescent and launching stage, enduring families exhibit:

> meaningful patterns of orientations, beliefs and practices designed to strengthen the family unit for the hardships associated with young adulthood and their transitions. These families underscore the family life orientation of loyalty, pride, faith in God, a sense of needing to gain control over what happens in the family, and sharing similar values and beliefs. The behavioral repertoire also points to the importance of family routines, including speaking to parents regularly, meals together, consistency in disciplining, mother's household chores, parents with time for each other, children's bedtime routines and teenagers with regular household chores. Problem solving behaviors also characterize this stage of the family cycle. These families emphasize working together as a family to solve problems, children's/teen's active involvement in decision-making, not keeping problems to themselves, expressing caring and affection, and trusting and confiding in each other. . . (McCubbin et al., 1988, p. 129)

## Hypotheses

Hypotheses that reflected the purpose, objectives, and conceptual framework for this study are presented in this section. The question of a relationship between children's perceived self-care health behavior and the family typologies or enduring family type is addressed in numbers one through four. Hypotheses 5, 8, 11, 14, and 17 have the focus of possible differences in the children's perceived self-care health behavior according to their family types; numbers 6, 7, 9, 10, 12, 13, 15, and 16 are similar but add the children's variables of sex and grade and the family variable of life cycle developmental stage. The remaining hypotheses, 18 through 27, reflect the previous variables and add the children's health locus of control variable. The null hypotheses were:

1. There is no relationship between the perceived self-care health behavior of children and the Regenerative family typology.
2. There is no relationship between the perceived self-care health behavior of children and the Resilient family typology.
3. There is no relationship between the perceived self-care health behavior of children and the Rhythmic family typology.
4. There is no relationship between the perceived self-care health behavior of children and the

enduring family type (composite of the regenerative, resilient, and rhythmic types from the three family typologies).

5. There are no differences in the perceived self-care health behavior of children by their family types in the Regenerative family typology.
6. There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Regenerative family typology.
7. There are no differences in the perceived self-care health behavior of children by their family types in the Regenerative family typology by family life cycle stage.
8. There are no differences in the perceived self-care health behavior of children by their family types in the Resilient family typology.
9. There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Resilient family typology.
10. There are no differences in the perceived self-care health behavior of children by their family types in the Resilient family typology by family life cycle stage.

11. There are no differences in the perceived self-care health behavior of children by their family type in the Rhythmic family typology.
12. There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Rhythmic family typology.
13. There are no differences in the perceived self-care health behavior of children by their family types in the Rhythmic family typology by family life cycle stage.
14. There are no differences in the perceived self-care health behavior of children from enduring (composite of regenerative, resilient, and rhythmic family types) and nonenduring type families.
15. There are no differences in the perceived self-care health behavior of children by sex and grade in enduring and nonenduring type families.
16. There are no differences in the perceived self-care health behavior of children in enduring type families by family life cycle developmental stage.
17. There are no differences in the perceived self-care health behavior of children from regenerative, resilient, rhythmic, and enduring (composite of regenerative, resilient, and rhythmic family types) family types.

18. There is no relationship between the perceived self-care health behavior of children and their health locus of control.
19. There are no differences in the perceived self-care health behavior of children according to their health locus of control.
20. There are no differences in the health locus of control of children by their family types in the Regenerative family typology.
21. There are no differences in the health locus of control of children by their family types in the Resilient family typology.
22. There are no differences in the health locus of control of children by their family types in the Rhythmic family typology.
23. There are no differences in the health locus of control of children in enduring and nonenduring families.
24. There are no differences in the perceived self-care health behavior of children by their health locus of control in the Regenerative family typology.
25. There are no differences in the perceived self-care health behavior of children by their health locus of control in the Resilient family typology.

26. **There are no differences in the perceived self-care health behavior of children by their health locus of control in the Rhythmic family typology.**

27. **There are no differences in the perceived self-care health behavior of children by their health locus of control in the enduring and nonenduring family types.**

# CHAPTER II

# REVIEW OF LITERATURE

To place the concept of children's self-care health behavior in context, it was necessary to examine the literature regarding health behavior more generally. A summary of that review is presented first along with a review of the associated concept of self-care. The presentation regarding children's self-care health behavior is next and incorporates the health locus of control concept. The family environment as an influential variable completes the review and includes the component of family life cycle developmental stage.

## Health Behavior

Most authors placed the beginning of the study of health behavior in the mid 1950's when the Health Belief Model was developed (Rosenstock, 1974). Its emphasis was on preventive health behavior which was behavior believed to prevent disease or detect it in its early stage. Later, Kasl and Cobb (1966) were credited with differentiating between three types of health behavior: illness prevention or early detection, known as health behavior; diagnosis and treatment when symptoms occur, known as illness behavior; and, when illness was

defined, treatment to restore health or stop the progression of the disease, known as sick-role behavior.

Also in the 1950's and 1960's major longitudinal studies were initiated to identify risk factors related to chronic illnesses and the major causes of death (Berkman and Breslow, 1983; Pinsky, Branch, Jette, Haynes, Feinleib, Cornoni-Huntley, and Bailey, 1985). From one of these studies seven health habits were identified and related to longevity, namely: never smoking cigarettes, regular physical activity, moderate or no use of alcohol, seven to eight hours of sleep regularly, maintenance of proper weight, eating breakfast, and not eating between meals (Belloc and Breslow, 1972; Breslow and Enstrom, 1980).

Over time a number of models and approaches have been developed and utilized attempting to define and/or categorize health behavior (Becker and Maiman, 1983; Gochman, 1988; Green, 1984; Kirscht, 1983; Kulbok, 1983; Laffrey, Loveland-Cherry, and Winkler, 1986; and Langlie, 1979). A typology of health related behaviors by Kolbe reflected the continued diversity of the term (cited in Green, 1984). The typology consisted of nine behaviors and their respective definitions: wellness behavior, preventive health behavior, at-risk behavior, illness behavior, self-care behavior, sick-role behavior, family planning behavior, parenting behavior, and health-related social action. An argument in favor of the

differentiation was improved scientific measurement and analysis, as well as program targeting.

A concept analysis of preventive health behavior was completed by Kulbok (1983). In addition to the criteria of intersubjectivity, abstractness, and empirical relevance, the four models of health presented by Smith (1983) were utilized as the organizing framework. Each model was defined in terms of its health and illness extremes. Health definitions of the four models were: 1) the clinical model, which is concerned with the absence of signs and symptoms of disease or disability; 2) the role-performance model, which has the maximum performance of social roles as its focus; 3) the adaptive model, which reflects optimal benefit from flexible adaptation to the environment; and 4) the eudaimonistic model, which emphasizes general well-being and self-actualization. According to Kulbok (1983), most of what has been presented in the literature would be classified within the clinical and role-performance models. The major limitation of the clinical model is its malfunction emphasis with no attention to well function. The focus on fixed patterns of interaction limits the role-performance model because it does not consider the inevitable process of change. The adaptive and eudaimonistic models were viewed as more expansive since they incorporate lifestyle and concern for quality of life. A definition of health-protective behavior by Harris and Guten (1979) began to express this view: "any behavior performed by a person,

regardless of his or her perceived or actual health status, in order to protect, promote, or maintain his or her health, whether or not such behavior is objectively effective toward that end" (p. 18).

The different views reflected in the models also were evident in the dual paradigms that have evolved (Laffrey, Loveland-Cherry, and Winkler, 1986). One is the pathogenic or disease paradigm in which the view of human beings and their behavior is mechanistic. In contrast, the view in the second health paradigm is organismic; human beings

> are seen as autonomous, responsible, and having potential for growth. Humans are considered unique and unpredictable, able to exercise free choice in their actions. Health is a fluid, flexible process, a subjective phenomenon of each human being. Disease is not excluded from this view; rather it is part of the entire life process and may affect that process in various ways. The emphasis is not on any one part of the process but on the entire life situation of the individual. . . Within the health paradigm, persons do not merely react to environmental stimuli. They are self-determining and interact continuously with the environment, affecting it and being affected by it. (pp. 96-97)

Kulbok's (1983) concept analysis also included discussion of the idea that the concept of health behavior may not be unidimensional. There are variations to consider, for example, in the target of the action, e.g., primary or secondary prevention; the effort required based upon the context, e.g., time or cost; and the frequency, e.g., one time versus daily repetition (Williams and Wechsler, 1972). A study by Langlie (1979) suggested the possibility of

bidimensionality or direct and indirect risk behaviors. Direct risk behavior such as driving recklessly or smoking is contrary to what is known regarding cause and effect; therefore, noncompliance results in direct risk. In contrast, noncompliance with seat belt use or dental care results in indirect risk because these behaviors are not hazardous in and of themselves.

To date a complete or conclusive list of health behaviors has not been presented in the literature. In 1983 the American public was surveyed regarding the state of preventive behaviors. The sample of 1254 respondents was contacted via random digit dialing. The four regions of the country as well as metropolitan and non-metropolitan areas were represented. Twenty-one behaviors were identified:

(1) not smoking,
(2) drinking alcohol in moderation (or not at all),
(3) socializing regularly with close friends or family,
(4) not smoking in bed (or living with someone who does),
(5) not driving after drinking,
(6) not driving in excess of the speed limit,
(7) taking special precautions to avoid home accidents,
(8) having regular blood pressure checks,
(9) seeing a dentist regularly,
(10) owning a smoke detector
(11) trying hard to avoid too much cholesterol,
(12) trying hard to avoid too much fat,
(13) trying hard to avoid consuming too much salt,
(14) trying hard to avoid consuming too much sugar,
(15) trying hard to consume sufficient vitamins and minerals,
(16) trying hard to consume enough fiber,
(17) exercising strenuously at least three times per week,
(18) maintaining body weight within recommended ranges,
(19) getting sufficient sleep,
(20) taking steps to reduce stress,
(21) always wearing seatbelts. (Bausell, 1985, pp. 4-5)

It was suggested that this list is actually a set of national norms to which groups of individuals could be compared. Any form of the list could be utilized from single items to the total Prevention Index.

As labelled, the 21 items were more prevention or health protection oriented. They did not reflect what Pender (1987) called health-promoting behavior. Health-protecting and health-promoting behavior are complementary processes through which people's dual tendencies for stabilization and actualization are realized. Through stabilization with health protection they are able to maintain a steady state for continued existence; whereas, through actualization with health promotion, they change, grow, and mature. A 48 item instrument, The Health-Promoting Lifestyle Profile, was developed to measure primarily the health-promoting behavior (Walker, Sechrist, and Pender, 1987). Health-promoting lifestyle was defined as "a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization, and fulfillment of the individual" (p. 77). The instrument included six subscales from the original 10: self-actualization, health responsibility, exercise, nutrition, interpersonal support, and stress management. The alpha coefficients for internal consistency ranged from .702 to .904; it was .922 for the entire scale. In the factor

analysis, the self-actualization scale was both the first and the strongest factor extracted.

## Self-Care

A concept closely related to health behavior is self-care. Over time people learn to assume the responsibility for initiating and implementing health behavior to greater and lesser degrees; this is known as self-care. According to Pender (1987, p. 185), "self-care is a universal requirement for sustaining and enhancing life and health. The competence with which this task is accomplished determines the quality of life experienced and has significant impact on longevity." The self-care philosophy refutes the idea that others can protect one's health, specifically, physicians or other health care personnel or agencies. The goal of self-care is to prevent "the atrophy of 'natural rugged resistance and health'" (Beasley and Swift, 1989, p. 455). Medical care then is utilized more effectively.

Self-care is not new and perspectives concerning it are diverse (Green and Moore, 1980; Levin, 1976; Levin, Katz, and Holst, 1976). It was a topic of discussion at the International Symposium on The Role of the Individual in Primary Health Care held in Copenhagen, Denmark during August, 1975 (Levin et al., 1976). The definition of self-care presented by Levin both at that and another symposium was "a process whereby a layperson can function effectively on his own behalf

in health promotion and prevention and in disease detection and treatment at the level of the primary health resource in the health care system" (Levin, 1976, p. 206). In 1980 self-care was referred to as a "growing movement" by Green and Moore (p. 872) and it could be divided into three general areas. They were symptom-related self-care for either acute or chronic problems and asymptomatic self-care related to lifestyle and risk factor alteration.

These three areas coincided with the meanings of the four models of health described earlier. Woods (1989) indicated, however, that most of what has been published in the professional literature would be classified according to the clinical model. Some would be classified according to the role-performance model and there has been an increase in literature reflecting the adaptive model. There is, however, little published to which the eudaimonistic model has been applied. This may, in fact, be the case until there is more evidence that links self-care practices to an outcome called health.

There were some wellness models in which the concept of self-care or self-responsibility was incorporated. It was one of the five dimensions in Ardell's Wellness Model, one of the nine life processes that could be used to reach wellness in Blattner's Holistic Nursing Model, and one of the individual's five dimensions in the Bellin College of Nursing Model (cited in Westphal, 1989).

One of the major conceptual frameworks in nursing had self-care as its central concept (Orem, 1991). The individual's ability to perform self-care was known as self-care agency and this ability was essential to meet one's therapeutic self-care demands which emanate from universal, developmental, and/or health deviation requisites. Intervention by the health care professional was initiated only when the self-care agency was inadequate or the self-care demand exceeded the agency. Interventions then were classified as wholly compensatory, partly compensatory, or supportive-educative and primary, secondary, or tertiary prevention. Over time the model incorporated a health promotion component in the requisites, demands, and interventions.

Both health behavior and self-care could be viewed in a developmental, life span sense. For example, as noted in Chapter I, the age groups of the life span were the targets in the objectives to achieve the five national goals by the year 2000 (PHS, USDHHS, 1989). Green (1984) illustrated this point further with the division of the life span into five stages. For children, ages one to fourteen years, chief concerns included injuries from accidents and exercise improvement. Additionally, the major coping and adaptation tasks and health consequences were described for each age group. Again, for the children's stage, ages one to fourteen years, the major coping and adaptation task for preschool and school age was selection of foods to avoid dental caries, obesity, and

nutritional deficiencies. The tasks for the elementary school child and early adolescent were the resistance to peer pressure and dealing with changing bodily functions. Their group needed to avoid smoking, alcohol, drugs, and pregnancy. Similarly, health promotion activities were proposed for the various age groups in settings such as schools, worksites, health care agencies, and communities. For the children's group the focus in the school setting was: 1) comprehensive health education curricula emphasizing positive health behaviors; 2) physical fitness testing, training, and awards programs; 3) health screening and immunization programs; and 4) healthful snacks in the vending machines.

In relation to self-care or self-responsibility, Erikson's eight stages of personality development could be used as a guide (cited in Fromm and Trustem, 1989). In middle childhood, six to twelve years, for example, learning skills and being creative and productive are important. Positive experiences in this regard contribute to a good self-concept and a sense of trust in one's own actions and decisions. The result should be a greater willingness and ability to accept the responsibility for one's own wellness and corresponding lifestyle.

## Children's Self-Care Health Behavior

Study of children's self-care health behavior can be traced to the late 1960's when the Health Belief Model that

had been developed for adults was utilized with children (Dielman, Leech, Becker, Rosenstock, and Horvath, 1980, 1982; Gochman, 1971; Gochman, 1972; Gochman and Saucier, 1982). The applicability of this model to children, however, has begun to be questioned (Bush, Davidson, and Iannotti, 1985; Kirscht, 1988).

According to Bush et al., four theories have been utilized to explain children's acquisition of health orientations and behaviors. One was the Health Belief Model discussed above. Another was cognitive developmental theory, most notably Piaget's. Authors have analyzed the beliefs and behaviors of children in this framework chiefly to benefit the development of educational programs and strategies (Bibace and Walsh, 1980; Mickalide, 1986; Natapoff, 1982). Two of the four stages of cognitive development were pertinent here in relation to the children's concept of health. The concrete operational stage occurs between the ages of seven or eight and ten or eleven. Here health means being able to perform activities desired. The relationship between cause and effect is beginning to be understood by the child so behavior and health status can be related. The belief in the possibility of being partly healthy and partly not healthy becomes evident; the ability now to think in opposite directions permits them to change from health to illness and back to health. In the formal operational stage which begins at age 10 or 11, the children still see health as performing

activities desired. Differences occur, however, with the development of future orientation and the ability to formulate hypotheses, consider abstractions, and reason deductively. These children can begin to consider mental health, to view health as long term and illness as short term, and to consider future health. These changes that occur over time are the result of the processes of assimilation and accommodation which help to regulate the human's interaction with the environment (Mickalide, 1986; Natapoff, 1982).

The analysis by Natapoff was based in part on a previous study in which a sample of 264 first, fourth, and seventh grade children was interviewed regarding how they defined health (Natapoff, 1978). The data revealed that children define health in a positive way, seeing it "as feeling good and being able to participate in desired activities" (p. 999). Also, of the variables compared (age, gender, intelligence, and SES), only age was significant; ideas the children expressed about health matured with age.

A third theory used to explain children's acquisition of health orientation and behavior was behavioral intention theory, most notably the conceptualization by Fishbein and Ajzen (cited in Bush et al., 1985). Although it has not been used widely, it holds promise

> because it recognizes behavioral intentions as important predictors of behavior, because it includes both reference group norms and the child's

> motivation to comply with them, and because its emphasis on specific behaviors may prove more useful to children, most of whom are not prepared cognitively to deal with abstractions and inferences, than models relying on general health values and health saliences. (Bush et al., 1985, p.76)

The fourth theory utilized was social learning theory which emphasizes the child's environment as the source of influence versus the child's subjective perception or construction of it. In this theory, the gradual acquisition of behavior is a function of positive and negative feedback. Role modeling, reinforcement, and punishment consequences by parents, peers, siblings, and teachers shape and maintain the child's behavior throughout the developmental process. With maturation the system of rewards and punishment becomes internalized so that they are self-administered (cited in Bush et al., 1985).

Social learning theory was first explicated by Rotter and an outgrowth of it was the personality variable of locus of control (Rotter, 1966; Wallston and Wallston, 1984). The I-E Scale (Internal versus External Control of Reinforcement) was developed to measure this concept (Rotter, 1966). Additional scales have been developed since to address the need for greater situational specificity, e.g., health, and the realization that locus of control is multidimensional. The result was the Multidimensional Health Locus of Control (MHLC)

Scales which include an independent measure of internality (IHLC) and two dimensions of externality, namely, chance (CHLC) and powerful other control (PHLC) (Wallston and Wallston, 1984). Similar rationale, namely, specificity with regard to children's health as well as multidimensionality, guided the development of the Children's Health Locus of Control scale (Parcel and Meyer, 1978).

In relation to the prediction of health behavior based upon locus of control, a person with an internal locus of control and high valuing of health would most likely engage in a health behavior. Likewise, someone with a low belief in chance should engage in health behavior. People with high beliefs in powerful others would be likely to follow recommendations made by health professionals. All of these were considered by the authors to be responsible internals (Wallston & Wallston, 1984).

Another model or conceptual framework was worth noting, namely, the developmental (Bruhn, 1988). Its focus was a wellness oriented lifestyle which humans can teach, learn, and modify throughout the life span. It was based on the belief that humans have some influence on the degree of their healthiness. Erikson's framework of eight developmental stages was utilized as a beginning to try to understand this process. Wellness tasks were proposed for the various stages (Bruhn and Cordova, 1977; Bruhn, Cordova, Williams, & Fuentes, 1977). During the stage of late childhood, for example, the

tasks for the child included: refining psychomotor and cognitive skills, developing the self-concept, learning attitudes of competition and cooperation with others, and learning social, ethical, and moral differences and responsibilities. In the stage of early adolescence, the tasks were to learn that health is an important value; learn the self-regulation of basic physiological needs: sleep, rest, food, drink, and exercise; and learn risk-taking and its consequences. Four concepts were presented as important to the developmental process. One was the development of an awareness of wellness from role models. The second was the need for information in order to assess one's life and make choices. Third was the encouragement to shape one's life through active participation and fourth was the reinforcement necessary to practice wellness behavior.

Major conferences have been held to discuss the research progress and direction for health and health behavior of children and their families (Bruhn and Parcel, 1982). The goal to set guidelines at the conference, "The Health Behavior of Young Children: Research Findings and Directions," in 1981 could not be accomplished because theory development had been slow, application of the theory had not been good, and identification of the essential variables had been difficult. A conceptual framework was outlined for the purpose of identifying the knowledge gaps. In the model, predisposing, enabling, and reinforcing factors were conceptualized as

family influences and child developmental and psychological characteristics interacting with one another to result in behavioral factors or the health behavior of the child. These factors then would result in outcome factors or health status indicators for the child.

The research reviewed that generally was more recent and most directly related to children's self-care health behavior could fit this model. It was not, however, the model selected for the studies. Much of the research has been directed toward gaining an understanding of the concept itself and beginning to identify the factors that influence its practice; most has focused on particular age groups.

Preschool Children

In relation to young children, Lasky and Eichelberger (1985) studied the extent to which they have developed concepts about health, their particular self-care practices, and the levels of dependence and independence involved in self-care decisions and actions. A picture vocabulary test and health vignettes were used in interviews with children (4-6 years). Their parents were asked about reasons given to the children to perform three health activities and about the children's independence in initiating and performing a list of ten common self-care behaviors. The children's results were congruent with developmental theory in that preschoolers "have some understanding of health, can provide rationale for health behavior, and can discuss their own health behavior" (p. 17).

Also, the parents reported differences in the level of independence among the ten common self-care behaviors.

A study by Flaherty (1986) "explored preschool children's ability to conceptualize health and to identify behaviors that they considered helpful or hazardous to health" (p. 206). Health was defined as "the state of physical well being," health behavior as "an action which maintains or promotes physical well being," and health belief as "the opinion that specific behaviors are related to health status" (p. 207). The Preschool Health Picture Interview instrument was developed for data collection with 41 children in four day care centers. Differences in age, gender, and SES were considered in the research questions. The children's conception of health seemed to be multidimensional and they were able to relate the abstract idea of health to the health status of the person shown in the photograph. In relation to the research question concerning behaviors identified most frequently to be health promoting, eating was ranked highest over visiting doctor, washing hands, sleeping, brushing teeth and running. A portion of the instrument was related to the question of specific adults helping the children to stay healthy and included the options (pictures) of mother, father, teacher, doctor, and nurse. The mean ranking of these by the children in decreasing order of importance was: doctors, nurses, fathers, teachers, and mothers; adult helpers performed instrumental and nurturing activities. According to

Flaherty, a limitation of the study was that patterns of health promotion in the families of the children were unknown.

A longitudinal analysis of preschool children's health and safety behavior was done by Parcel, Bruhn, and Cerreto (1986). Mothers of children in intervention and comparison groups were interviewed regarding "their children's practice of 11 selected, age-appropriate, health and safety behaviors to promote health and avoid health dangers" (p. 265). There was a difference between patterns for the health and safety behaviors; "the number of children practicing safety behaviors increased with age (except for seat-belt use), but there was no age-related pattern of the health behaviors" (p. 266). It was concluded that the intervention program (health education) was effective for increasing the practice of safety behaviors, but not for influencing health behaviors.

School Age Children

Six to eleven year old children were the focus of a study to identify the wellness components of this group in order to increase their wellness opportunities (Dane, Sleet, Lam, and Roppel, 1987). The researchers used a structured inquiry approach "to identify and describe physical, social, and emotional characteristics of healthy children" (p. 14). Consideration was given to variability in the characteristics of healthy children according to age, gender, race, or ethnicity. A ranked list of 35 attributes of healthy children was compiled for 10 health and wellness related areas in the

three categories of health: 1) physical (nutrition-related characteristics, personal body characteristics, substance use and misuse, and safety-related behavior), 2) social (relationships in the home, school, and community), and 3) emotional (values/attitudes/beliefs, stress and stress management, and emotional/sexual maturity).

Using a form comprised of free and fixed responses to questions about "reasons people become ill or stay healthy, knowledge of common illnesses, and demographic variables such as age and gender," Green and Bird (1986, p. 326) interviewed and surveyed school children in grades 1, 3, 5, and 7. The findings indicated that when comparing causes of health and illness, children ranked highest those health practices under their control, e.g., eating and exercise. Additionally, there was partial support for the hypothesis regarding significant correlations of rankings of health and illness causes by older children but not by younger children.

Hester's (1984, 1987) work with 225 school-age children in relation to their perceptions about healthy and unhealthy children led to the development of the Child's Health Self-Concept Scale (CHSCS). The findings from the initial descriptive study involving an inductive inquiry revealed that health was perceived from a multidimensional perspective. Twelve categories of health were evident from this study and half of those were supported by the findings of other studies. Four were not supported by others and Hester indicated they should

be examined further; two of these were the categories of friends and family and were referred to as social support. The family category was of particular interest here; the description indicated "statements regarding happiness of families and goodness of homes" and the examples listed were "gets along with mother and father. Happy families; good home life" (Hester, 1987, p. 141). The twelve categories of health were utilized to develop the Child's Health Self-Concept Scale.

Development of a child's understanding of health was the focus of a study by Rashkis (1965). Four to nine year old well children were interviewed about "the meaning of health, personal and social responsibility for health maintenance, the attitudes of others towards the child's health, and the prevalence of health" (p. 10). Among the findings was an age related conceptualization of health as a positive-toned feeling state, a recognition of the many restrictions upon health and the limitations in ability to keep themselves well, and a protective image of the adult who provides the defense against threats to good health. Eating was viewed as the most important self-care activity to stay well.

In a study by Altman and Revenson (1985) with school age children (8-14 years) the relationship of age, gender, and illness experience to health and illness concepts was examined. Age was the only variable of the three for which differences were observed. For example, greater concern about

their health, stronger external locus of control, and more positive rating of their current health were characteristic of the younger children. A relevant finding was that 72 percent indicated that becoming ill was influenced by behavior such as incorrect eating, inadequate sleep, or improper clothing; staying healthy required such behavioral factors as eating nutritious food and exercising regularly. It was recommended that the development of health beliefs and attitudes should be assessed through longitudinal research and attention should be directed to the influence of family and society on their development.

Gender, as well as grade differences were found through a needs assessment in preparation for the Minnesota Heart Health Program (Perry, Griffin, and Murray, 1985). Youth from two communities in grades four through eleven participated; thirty-eight percent were in grades four through six. In relation to eating patterns, significantly more healthful food choices consistently were made by girls than boys. Children in the elementary grades also showed tendencies toward more healthful food choice preferences. In relation to physical activity patterns, more boys, especially high school boys, than girls exercised outside of school. The preference for boys was team sports, whereas, for girls it was individual activities. Best friends were preferred as exercise partners versus family members. Activities with family members were more sedentary: "eating, television viewing, housework, and

church attendance" (p. 387). The third area assessed was environmental influences. Most students indicated their primary source of health education to be their mother, but school became more important as they got older. Of ten possible topics, exercise, drugs, nutrition, and body functioning were of greatest interest to the students. Gender differences were evident in that older boys were more interested in exercise and drugs, younger boys in exercise and body functioning, older girls in nutrition and drugs, and younger girls in nutrition. Preferences in the printed media were comics and sports for boys and comics and fashion for girls.

A preparatory study for a school-based comprehensive cardiovascular risk reduction program also showed gender and grade differences (Cohen, Brownell, and Felix, 1990). The researchers surveyed a population of 3,933 children in grades three through twelve; 1,981 were boys and 1,952 were girls. The setting for the study was a large school district (population approximately 118,000) located in a city of 35,000 in north central Pennsylvania. The children in grades three through five completed a 39 item instrument and those in grades six through twelve completed a 68 item instrument, which included the 39 items for the younger children. Included in the instrument were five factors: smoking habits, family thinking about health, family discussion of health, nutritional habits, and health locus of control. Items from other scales were utilized for the instruments; for example,

the health locus of control items were from the scale by Parcel and Meyer (1978) utilized in this study. More comparisons were made between the younger and older groups than between individual grades; the older group was considered here since it included the sixth grade. Results from multivariate analysis of variance (MANOVA) tests with the independent variables of sex and grade revealed significant differences for the younger children. For the first of the five factors, smoking, there were differences by both sex and grade. Younger girls had better habits than the boys in relation to smoking; whereas, the reverse was true in the older group. Third grade children had better habits than fifth, and sixth grade children had better habits than those in five grades with older children. In relation to the food habits factor, again, there were significant differences for both variables. Girls had healthier habits than boys in both age groups. Grade was significant for only the older age group where all grades had better habits than ninth grade children. Interesting results were evident with two items related to nutrition. One item assessed snacking between meals; children in grades three through six snacked less often than children in grades eight through twelve. Also, girls, especially those in grades three through six and ten through twelve, snacked less than boys. The second item assessed eating at fast food restaurants; children in grades three through six ate fast food less often than those in grades nine

through twelve. Boys in all grades ate fast food more recently than girls. For the factor, family thinking about health, there was a significant difference for sex (families of girls spent more time thinking about health than families of boys). The difference for grade pertained only to the older group. Results were similar for the factor, family discussion about health.

There were significant differences also for sex and grade in the health locus of control factor for both the younger and older groups of children. In relation to sex, boys had more internality than girls in the younger groups; whereas, the reverse was true in the older group. For grade, the results revealed that grade three children were less internal than grades four and five, and grade six children were more internal than grade seven but less than grades eight through twelve.

The Child's Health Self-Concept Scale was used along with interviews in a study that explored children's concept of health and health self-concept in relation to the effects of age, handicap presence or absence, and school placement (Natapoff and Essoka, 1989). The convenience sample was comprised of 240 handicapped and able-bodied children, ages six to fourteen, from several public schools and the waiting room of a hospital clinic for well children. The handicapped children were not mainstreamed and, therefore, did not spend much time in the regular classroom. Based upon significant

chi-square coefficients, differences were evident in a concept of health by age. Physical fitness was highest in the oldest group as was defining health as not being sick (12-14 years). Defining health as ability to do wanted things aside from that required to perform daily activities was highest for the 10-11 year old group. There were no significant differences between the groups regarding seeing themselves as healthy and defining the concept. There were no significant differences either in health self-concept, and this did not vary by age, ethnicity, or handicap. Ethnicity did play a part in defining health as white children were more likely than black or Hispanic children to define health as not sick. Black children more frequently selected health practices as the meaning of health, whereas, Hispanic children viewed it as the ability to carry out daily activities.

Attitudinal differences toward health between white and black children were found also in a study of 106 fourth grade children (Marshall, Hassanein, Hassanein, and Paul, 1970). The sample represented widely different socioeconomic groups as the black children attended an inner city school and the white children were from a school in an affluent area of the city. It could not be concluded that the differences were due to ethnicity in view of the socioeconomic condition. The semantic differential instrument did serve its purpose, however, by identifying the presence or absence of differences so that further hypotheses might be generated.

## Family Context

The importance of the family to health and health care is not a new idea (Litman, 1974; Mauksch, 1974), nor has it diminished through time (Doherty, 1985; Doherty and Campbell, 1988; Doherty and McCubbin, 1985). Some of the focus has been on the family environment as it relates to chronic illness problems in children (Evans and Hughes, 1987; Marteau, Bloch, and Baum, 1987; Patterson and McCubbin, 1983). In relation to health behavior, many authors have been concerned with the similarities between parents and their children and educating parents to promote and/or support health behavior in their children (Arcus, 1987; Baranowski, Nader, Dunn, and Vanderpool, 1982; Crockett, 1987; Dahlquist and Gil, 1986; Hagerman and Lauver, 1987; Haydon, 1987; Hertzler, 1988; Nader, Sallis, Patterson, Abramson, Rupp, Senn, Atkins, Roppe, Morris, Wallace, and Vega, 1989; Nicklas, Johnson, Arbeit, Franklin, and Berenson, 1988; Norton, 1988; Perry, Luepker, Murray, Hearn, Halper, Dudovitz, Maile, and Smyth, 1989; Wood, 1990).

Of particular relevance was the Norton (1988) study regarding children's (9-12 years) self-esteem, perceived health status, health beliefs, and health behaviors as related to parental health-promoting lifestyles. Based upon quantitative findings from a sample of 60 children and their parents, positive relationships were found between parental lifestyles (fathers' only) and children's self-esteem and health

behaviors, children's self-esteem and their health behaviors, and children's belief in the importance of health and their frequency of health behaviors. Additionally, children's self-esteem, perceived health status, and belief in the importance of health behaviors were found to be predictive of children's health behaviors. Qualitative findings from interviews with a subsample of eight families revealed health beliefs and behaviors of children and parents to be influenced by or learned from parents. Parents were aware of other competing influences on the children but hoped that their influence eventually would prevail.

There is no question that parents influence their children's health behavior (Duffy, 1988; Mechanic, 1964; Mullen, 1983). Their influence is strongest during the first 11-12 years of the children's lives and diminishes as the peer group becomes more important. The school's influence also diminishes at about the same time. As the major socializer of children in the development of health promotion practices, the family's influence is both direct and indirect. Behavior related to food choices or exercise, for example, is direct; whereas, decision-making and problem-solving skills are more indirect and relate to parenting style. Pratt (1973), for example, found that children had better health practices if their parents provided reasons, used rewards, and granted autonomy rather than using a more disciplinary approach.

The family environment with its different styles of interaction and patterns of organization also would be considered indirect in its potential influence on the children's self-care health behavior. This notion was supported by Pratt's (1976) seminal study concerning the structure of families and the effectiveness of their health behavior. Pratt hypothesized that an energized family would be the form that would function most effectively to support the health of its members, i.e.,

> Energized refers to the sheer energy or exchange that occurs between family members who interact a great deal, the stimulation that comes from interacting with outside groups, the generation of ideas and problem-solving effort that results from family interaction, and the freeing of people to develop themselves. Energized families promote their members' capacities to function fully as persons and develop their capability for taking care of themselves, including their ability to deal with formal organizations. This type of family is an effective social group, both in the sense that it develops its individual members' capabilities, and in the sense that it provides backing and resources to take care of its members. (p. 4)

The energized family was placed on a continuum opposite the traditional family, recognizing that this conceptualization was not approved as the normative pattern. Family structure concepts included:

Extent and variety of interaction among family members

Extent of family links to other social systems

Extent of freedom and responsiveness to individual members of the family

Flexibility-rigidity of family role relationships (p. 78)

The health and health-behavior concepts included:

Level of health and illness

Quality of personal health practices

Extent and appropriateness of use of professional medical services (p. 78)

Personal health practices, particularly those of young children (9-13 years), was the dimension of interest to Pratt. Of special interest was the idea that personal health practices reflect a form of personal competence. Personal health practices were defined as comprising "all body care activities, including protection and development of the body's capacities and resources" (p. 92). The measure of these was composite and separate indices "of practices in seven health care areas: sleep, exercise, elimination, dental hygiene, smoking, alcohol, and nutrition" (pp. 92-93).

The hypothesis that "the energized family form will foster, develop, facilitate, and reinforce sound health practices among its members to a greater extent than a nonenergized form" (p. 84) was supported. Characteristics of this as opposed to the traditional family form included:

all members are actively engaged in varied and regular interaction with each other; the family has ties to the broader community through the active participation of its members; there is a high

> degree of autonomy and a tendency to encourage individuality; and the family engages in creative problem-solving and active coping. (pp. 103-104)

Only ten percent of the 273 families in the sample demonstrated these characteristics, however, and only eight percent reflected the opposite form; although 20-30 percent were considered semi-energized since they demonstrated some of the characteristics, there was no indication of a differentiation of family forms along the continuum.

Loveland-Cherry (1986) utilized portions of Pratt's instruments for a study concerning personal health practices being related to family type (single versus two parent), socialization practices, social networks, family SES, and health training efforts by parents. Personal health practices were conceptualized as "the competent participation of the individual, or family unit, as an actor in the process of meeting health needs" (p. 134). There were no significant differences in personal health practices related to family type, SES, or health training efforts by parents; however, there was partial support for the hypotheses relating them to family socialization practices and social networks.

The original work by Loveland-Cherry (1982) also involved the use of the Moos' Family Environment Scale (FES) to test three hypotheses concerning the relationships between both family cohesion and promotion of autonomy and health directed behavior. Control variables were family SES and family type,

single versus two-parent. Ninety-two families living in a town in southeastern Michigan constituted the sample. The children ranged in age from nine through fourteen; 42 were males and 50 were females. Weak but significant positive relationships were found between family cohesiveness and family members' physical activity, nutrition, and total health behaviors. Weak but significant positive relationships were found also between family promotion of autonomy and members' physical activity and total health behaviors. In regression analyses, 2.4 percent ($R^2$ = .024) of the total health behavior variance was accounted for by family cohesiveness and promotion of autonomy together; whereas, it was 1.2 percent ($R^2$ = .012) for family cohesiveness alone and 1.9 percent ($R^2$ = .019) for family promotion of autonomy alone. The health behavior of sleep was not related to either independent variable and was not utilized in the regression equations.

The FES was designed to assess the social environments of families in the three areas of relationships, personal-growth, and system-maintenance (Moos and Moos, 1976). Ten dimensions were included in these three areas and six family clusters were formed from the test results. The usefulness of the scale has been acknowledged; however, one study was cited that found the FES lacking in construct validity for the dimension of family cohesion (Olson, McCubbin, Barnes, Larsen, Muxen, and Wilson, 1983).

The family environment conceptualized according to the family types component of the Typology Model utilized for this study is relatively new and has not been tested widely, especially with a dependent variable such as children's perceived self-care health behavior. The model was mentioned by McCubbin (1988) in the report of a study concerning chronic illness in children and the family variables of stress, resources, and types. At that point, family type was operationalized with the Family Adaptability and Cohesion Evaluation Scales (FACES I) developed by Olson, Bell, and Portner (cited in McCubbin, 1988). Two scales, cohesion and adaptability, were utilized to determine three family types: balanced, moderate range for both; midrange, moderate level on one scale and either high or low on the other; and extreme, extremes of high or low on both dimensions. The intent was to identify family characteristics that explained the variance in two measures of a chronically ill child's health. For children with either mild or moderate levels of disease severity, the family type variable was not a predictor. For the severely impaired child, however, the balanced family type was significant ($F = 7.585$, $p = .007$), accounting for 13 percent of the variance in the child's health status. The balanced family type, which represented moderate levels of cohesion and adaptability, was described as being located in the center of the Circumplex Model. Reference was made in that report to the construction in process of multidimensional

typologies that would incorporate concepts from both this model and the Typology Model of Adjustment and Adaptation. It was suggested that these typologies would help to develop a profile of the most resilient and least vulnerable families to deal with the long-term stress of chronic illness.

Again, in 1989, McCubbin reported a study using the model and operationalizing the family types component with the FACES I instrument. The research focus was the difference between single- and two-parent families in relation to their family stressors, resources, types, parental coping patterns and health indices of handicapped children. In one of the five hypotheses it was suggested that there would be more midrange and extreme family types in single-parent families and less balanced types than in two-parent families. This hypothesis was not supported ($\underline{X}^2$ = .072, $\underline{df}$ = 1, $\underline{p}$ = .789). The two dimensions constituting the family types then were examined separately. For cohesion there were no significant differences between single- and two-parent families but, for adaptability, single-parent families scored higher than two-parent families ($\underline{t}$ = 2.31, $\underline{df}$ = 21, $\underline{p}$ = .03). This finding was viewed as a critical difference between the two groups of families; due to the characteristics of adaptability, single-parent families of handicapped children could be considered functional rather than stigmatized as dysfunctional. Again, the Circumplex Model was included in the

discussion in relation to its applicability to certain populations.

The Circumplex Model was developed as a tool for clinical diagnosis and identification of treatment goals, particularly in family therapy (Olson, Sprenkle, and Russell, 1979). Its dimensions included cohesion and adaptability which were concepts prevalent in the family therapy and social science literature. Cohesion was defined as "the emotional bonding members have with one another and the degree of individual autonomy a person experiences in the family system" (p. 5). A balanced degree of family cohesion was believed to be "the most conducive to effective family functioning and to optimum individual development" (p. 6). The adaptability dimension was drawn from general systems theory and was defined as "the ability of a marital/family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress" (p. 12). It was believed that with

> a more free-flowing balance between morphogenesis and morphostasis, there will be a mutually assertive style of communicating; equalitarian leadership; successful negotiation; positive and negative feedback loops; role sharing and role-making; and rule-making, with few implicit rules and more explicit rules (p. 13).

The two dimensions were placed on the vertical and horizontal planes to form the Circumplex Model. Each dimension was a continuum divided into four categories. Sixteen family types then were evident from the various combinations of these variables. The model was viewed as dynamic, allowing for families to move in directions necessitated by the particular situation, family life cycle developmental stage, or family member socialization.

A third dimension of communication that became part of the model was considered a facilitating dimension since it assisted the movement of families on the other two dimensions. It was not included graphically in the model but was evident rather in the positive and negative characteristics listed for the other two dimensions (Olson, Russell, and Sprenkle, 1983).

The Family Adaptability and Cohesion Evaluation Scales (FACES) was a self-report instrument developed to test the dimensions of the model. Based upon tests for validity and reliability, it has since been revised to upgraded versions of the instrument; FACES III was the most recent (Olson, 1986). As indicated previously, an adaptation of the FACES II version was utilized for the Typology Model, specifically the Resilient family typology.

Both the Circumplex and Double ABCX Models provided the theoretical framework for a study by Olson, McCubbin, Barnes, Larsen, Muxen, and Wilson (1983). The original theoretical work by Reuben Hill related to family stress was recognized,

as well as that by Hill and Rodgers concerning family life stages across the life cycle (cited in Olson et al.). Specifically, "family systems at seven stages of the family life cycle were systematically studied on five major theoretical dimensions: family types, family resources, family stress and changes, family coping, and family satisfaction" (p. 14). Of the five dimensions, family types based on the Circumplex Model was considered the major linking dimension.

Twelve questions were to be answered by the study, three of which pertained to this study: "How do the family types (Balanced, Mid-Range, Extreme) vary across the family life cycle?", "what are the personal health practices of various family members across the family life cycle?" and "What are the characteristics (background and family) that distinguish Balanced from Extreme families at the various stages of the family life cycle?" (pp. 15-16). The sample consisted of 2,692 individuals from 31 states who responded to the survey; 2280 of these were adults (1140 couples) and 412 were adolescents, 206 each of males and females. All family life cycle stages were represented with at least 100 couples at every stage except the adolescent for which the goal of 200 was exceeded. Michigan was one of the 31 states and contributed 6.3 percent to the study sample. The FACES II version of the instrument was utilized for the family types dimension and the seven-item health behavior list developed by

Belloc and Breslow (1972) was utilized to assess the health practices of family members.

Results related to the question regarding variation in family types across the life cycle demonstrated first that not all members from the same family perceived the nature of their family life similarly. In relation to the two dimensions, perception of family cohesion differed both between husbands and wives and at the various stages of the family life cycle. Except for the launching stage where the mean for wives dropped slightly below the mean for the husbands, wives generally rated their families higher on cohesion. The highest degree of family cohesion was in the first two stages, young married couples without children and families with preschoolers. It began to decline with the third stage, families with school-age children, and continued to do so through the fourth, families with adolescents in the home, to the fifth, launching families. Family cohesion was high again for the sixth and seventh stages, empty nest and retirement families; however, it was not as high as earlier.

For the dimension of family adaptability, the results were similar to family cohesion in relation to husbands and wives except that the differences between the two were not as pronounced. In contrast to cohesion, however, the low on adaptability for husbands was at the adolescent stage, whereas, for wives it was the launching stage. Again, there was a progressive decrease in scores for family adaptability

from the first family life cycle stage to the fifth and the last two stages were high but not as high as at the first stage.

In relation to the three categories of family types: balanced, mid-range, and extreme, formed by these two dimensions, the distribution across the family life cycle stages differed. The differences, however, were not significant. It was concluded, therefore, that some consistency was apparent in the number of these family types across the stages.

When couple scores were utilized for the two dimensions and the family type categories across the family life cycle stages, the results were the same as those for the individuals. The empirical validity of the findings, therefore, was supported by the same results with different sources of scores.

Results for the second question regarding the personal health behaviors of family members across the family life cycle stages were presented according to the seven individual items on the health behavior index. In general, the health practices of wives were significantly higher than those of the husbands, and the practices of the adolescent children were significantly higher than those of the parents. The differences between wives and husbands were greater at the beginning of the life cycle, however, than at the end and health practices for the adolescents did drop some at the launching stage.

Although the health practices were assessed to be generally good, improvement was possible in all seven areas. Approximately one-third of the parents and adolescents seldom ate breakfast; one-third of the parents and 14 percent of the adolescents did not stay within ten pounds of ideal weight; over one-half of the parents and about one-third of the adolescents seldom or never exercised; six percent of the parents and four percent of the adolescents frequently or always drank two or more alcoholic beverages per day; 17 percent of the adults and six percent of the adolescents smoked; over one-half of the adolescents and about one-third of the parents ate between meals; and 14 percent of the adults and nine percent of the adolescents seldom or never got seven to eight hours of sleep each night.

The third question of relevance to this study integrated the two previous questions, "What are the characteristics (background and family) that distinguish Balanced from Extreme families at the various stages of the family life cycle?" (Olson et al., 1983, p. 16). First, to set the stage, the distribution of the families in the quadrants of the Circumplex Model was determined. The seven family life cycle stages were collapsed into four: couples without children, families with young children, families with adolescents, and older couples. The highest percentages for all the stages fell into quadrants two (high cohesion and high adaptability) and three (low cohesion and low adaptability). The rank by

percent, high to low, in quadrant two was couples without children, older couples, families with young children, and families with adolescents. In quadrant three the rank by percent (high to low) was families with adolescents, older couples, families with young children, and couples without children.

Quadrants one and four had the lowest percentages of the families in the four stages. In quadrant one (low cohesion and high adaptability), the rank by percent, high to low, was families with adolescents, older couples, and both families with young children and couples without children. In quadrant four (high cohesion and low adaptability), the rank by percent, high to low, was families with young children, couples without children, families with adolescents, and older couples.

The second step in the analysis was to determine variables predicting the balanced or extreme family types in the various quadrants. Of the variables utilized, personal health behaviors was not useful in discriminating among the groups. In general, however, it could be concluded from the variables that were predictive that, since balanced families have more resources and coping skills, they have greater ability to deal with stress and they end up more satisfied. Predictability was the highest and most accurate within the family life cycle stages (range of 80 to 100 percent);

whereas, it was lower when all stages were combined due to the differences across the stages.

## Summary

In summary, there is evidence in the literature that children's self-care health behavior is an important component of the overall concept of health behavior and deserves individual attention. It has been demonstrated that children have the ability to articulate at least a beginning definition of health and can differentiate between it and illness. Their perception of causality becomes less external as they mature as does their locus of control. They also can identify behaviors that contribute to health. There is little consistency in the behaviors utilized among the studies. At this point, nutrition is the most prevalent behavior mentioned along with physical activity and the children's ability seems to vary primarily according to age. Significant others such as parents have been recognized as influential, however, the variables of the family context generally were not the focus. Likewise, in studies regarding the family context conceptualized as family types, either health behavior was not the concern or it was utilized as a predictor variable. The lack of empirical evidence regarding the influence of family context variables on children's self-care health behavior supported the need and purpose for this study.

# CHAPTER III

# METHODOLOGY

## Research Design Overview

The purpose of this study was to investigate children's perceived self-care health behavior according to their family types. The research objectives were achieved through a descriptive, non-experimental, cross-sectional, survey design. The unit of analysis was individuals, namely, children in families in their local natural setting. The specific procedures related to instrumentation, sampling, data collection, and data analysis are elaborated in this chapter.

## Instrumentation

Operational definitions for the variables included in this study are presented in this section along with the description of the instruments utilized. Two instruments were prepared, one to be completed by children at school and one by their families at home.

### Children's Instrument

Two standardized instruments constituted the instrument to be administered to the sample of children (see Appendix A).

The first was the Child's Health Self-Concept Scale (CHSCS) developed by Hester (1984, 1985, 1987). The CHSCS evolved from the results of a descriptive study involving inductive inquiry concerning descriptions of healthy and unhealthy children by a convenience sample of 225 children, ages six to thirteen. The premise for its development and goal for its use focused on beliefs about healthy lifestyles being established and promoted during childhood. The CHSCS was designed to be used with school-age children to determine how each child perceives her/himself in relationship to health. After empirical testing with 22 children, ages seven to ten, forty-five items remained on the CHSCS from the original 58. The original items reflected 12 categories of behavior, namely: nutrition, physical health, sleep, dental health, friends, healthiness, family, play, activity and exercise, personal grooming, emotional, and nonspecific; the category of play was omitted in the revision (Hester, 1984). The instrument items were constructed according to the structured alternative format developed by Harter (cited in Hester, 1985). It requires two levels of decision making, i.e., first is the group she/he is most like, and second is whether what is described about that group is really true or sort of true for her/him. Each item is bipolar thus representing opposing health perceptions with a positive or negative health self-concept. The mean scale score (summation of the score for each item divided by the number of items completed) ranged

between one and four with one representing a negative perception of self-care health behavior and four representing a positive perception. The CHSCS has been administered to varying size groups of children and it can be completed independently by older children. In relation to the psychometric properties of the CHSCS (Hester, 1985), initial content validity was based on the item content originating from the sample of school-age children, three sources of expert review, and empirical testing with the group of 22 children previously mentioned. With content validity there is beginning evidence of construct validity; however, further estimates indicated that there is limited evidence of construct validity. The scale's internal consistency reliability was estimated to be high at .85 (Cronbach's alpha). Standardization data for the CHSCS came from a sample of 470 primarily white and Hispanic children, ages seven through twelve, from two rural mountain school communities with a representation of lower to upper-middle class families. The instrument was selected for this study because it was designed specifically for children, it was current and related to the conceptual definition of the variable, and it was relatively short and could be administered with groups, using self-report if necessary or desired.

The second portion of the children's instrument was the Children's Health Locus of Control (CHLC) scale (Parcel & Meyer, 1978). It was designed to measure "perceived sources of reinforcement for health-related outcomes in younger

children" (Parcel, 1988, p. 19). The CHLC contained 20 items, worded in either the internal or external direction, to which the respondent answered yes or no. Scores of two and one were assigned to all internal and external responses respectively and absent or multiple responses received a score of 1.5; the score for the scale was derived from the sum of the item values. Reliability and validity determinations for the revised version of the instrument were based on a study with 140 children from one elementary school, grades three through five. The Kuder-Richardson coefficients for the test-retest administrations of the scale were reported to be .72 and .75. In relation to validity, the findings indicated that the scale was related to locus of control, i.e., the scale items had face but questionable discriminant validity for health. The instrument was selected for the study because of its brevity, relatedness to locus of control, focus on and appropriateness for children, possible relatedness to health, and stability over time (Parcel & Meyer, 1978; O'Brien, Bush, and Parcel, 1989).

Family Instrument

The instrument for the families of the children was comprised of five scales, one of which required two sets of responses, thus providing the data necessary for the six variables of the three family typologies (see Appendix B). The first scale for the Regenerative typology was the Family Coherence Index (McCubbin, Thompson, Pirner, & McCubbin,

1988); this was a modification of the Family Crisis Oriented Personal Evaluation Scales (F-COPES) (McCubbin, Olson, & Larsen cited in McCubbin & Thompson, 1987). This coherence dimension was "operationalized as the family's emphasis on acceptance, loyalty, pride, faith, trust, respect, caring and shared values in the management of tension and strain" (McCubbin et al., 1988, p. 41). Two major subscales comprised this 15 item index, namely, family pride and caring and trust. Based upon a scale of one to five for the Likert type responses to each item, each respondent's score was a sum of the values for all the items. In relation to reliability, the Cronbach's alpha for this index was .85.

The second scale for the Regenerative typology was the Family Hardiness Index (FHI) (McCubbin et al., 1987). The operational definition for this hardiness dimension was "the strengths families have to manage the impact of family stressors and strains, and to recover from a family crisis" (McCubbin et al., 1988, p. 42). The index contained 25 items measuring four subscales: 1) co-oriented commitment measuring "the family's sense of internal strengths, dependability and ability to work together", 2) confidence measuring "the family's sense of being able to plan ahead, being appreciated for efforts, their ability to endure hardships and experience life with interest and meaningfulness", 3) challenges measuring "the family's efforts to be innovative, active and to experience new things and to learn", and 4) control measuring

"the family's sense of being in control of family life rather than being shaped by outside events and circumstances" (McCubbin & Thompson, 1987, p. 125). The range of values assigned for the responses regarding the degree of truth or falseness of the statements was zero to three. The sum of the item responses was considered the score for family hardiness. Internal reliability for the FHI was .82 (Cronbach's alpha) and test results indicated it had construct and concurrent validity.

For the Resilient typology involving the dimensions of bonding and flexibility, the FACES IIa questionnaire was utilized (McCubbin et al., 1988); this was an adaptation of the FACES II by Olson, Portner, & Bell (cited in McCubbin & McCubbin, 1987a; McCubbin & McCubbin, 1987b; McCubbin et al., 1988). The operational definition for its family bonding dimension was "open to discussion of problems, feeling close to family members, desirous of staying connected to other family members, and involved in doing things together as a family unit" (McCubbin et al., 1988, p. 44). This index included 14 items "designed to obtain the respondent's assessment of the degree (Strongly Agree to Strongly Disagree) to which each statement about the family sense of unity and togetherness fits their assessment of how the family functions" (p. 30). The Cronbach's alpha for this index was .85. The questionnaire's second dimension regarding family flexibility was operationalized "as having an open

communication pattern, a willingness to compromise, experience in shifting responsibilities among family members, and active participation by family members in decision-making" (p. 44). This index also contained 14 items similarly structured but concerned with assessment about the fit between the family's flexibility and how it functions. The Cronbach's alpha for this index was .86. Total scores for each of these dimensions were derived from the sums of the values assigned (one to five) to each of the scale items.

The Rhythmic typology was measured by one scale which required two sets of responses; it was the Family Time and Routines Index (McCubbin et al., 1987; McCubbin et al., 1988). The operational definition of its family time and routines dimension emphasized "the importance of routines to promote parent-child togetherness, husband-wife togetherness, family unit togetherness, and family-relative togetherness" (McCubbin et al., 1988, p. 47). Its valuing of family time and routines dimension was operationalized as "the degree to which families believe in the value of such practices designed to promote family unity and predictability" (p. 47). The index included 34 items representing eight subscales: 1) parent-child togetherness measuring "the family's emphasis on establishing predictable communications between parent and children and adolescents", 2) couple togetherness assessing "the family's emphasis on establishing predictable routines to promote communication between couples", 3) child routines evaluating

"the family's emphasis on establishing predictable routines to promote child/teens sense of autonomy and order", 4) family togetherness measuring "the family's emphasis on family togetherness to include special events, caring, quiet time and family time", 5) family chores assessing "the family's emphasis upon establishing predictable routines to promote child and adolescent responsibilities in the home", 6) meals together evaluating "the family's efforts to establish predictable routines to promote togetherness through family mealtimes", 7) relatives connection measuring "the family's effort to establish predictable routines to promote a meaningful connection with relatives", and 8) family management evaluating "the family's efforts to establish predictable routines to promote a sense of family organization and accountability needed to maintain family order in the home" (McCubbin et al., 1987, pp. 133-134). Respondents assessed both the degree of truth or falseness in the statements describing their family behavior and the importance attached to the particular routine; thus, two scores were obtained: one for the extent to which the routine was true and one for its importance. Values assigned to the degree of truth or falseness ranged from zero to three, whereas, for the importance attached, the range was zero to two. Again, a respondent's scores were the sums of values. Internal reliability for the FTRI was .88 (Cronbach's alpha) and test results indicated it had validity.

To obtain data regarding family life cycle stage, questions were asked in the demographic section about the number of children in the family, ages of the oldest and youngest children, number of children living at home, and age of the oldest child at home. This section also included questions regarding age(s) of the parent(s); sex, marital status, and family role of the respondent; family ethnicity; employment status and education of the respondent and spouse; and estimated combined family income (see Appendix B).

## Sampling Procedures

Intermediate School District offices in east central Michigan counties were contacted for information regarding school districts that had not implemented the Michigan Model for Comprehensive School Health Education (Valone, Steele-Kefgen, Engelberg, and Unsinger, 1984). This is a program developed and implemented recently by the coordinated efforts of state agencies in cooperation with community, professional, and volunteer groups. Its goal is for children to incorporate health-related knowledge, attitudes, and skills into their lives to promote the adoption of a healthy lifestyle and reduce the risk of developing a variety of health problems. Materials ("Families Learning Together") are provided to parents. The program is coordinated at the local level by the Intermediate School District offices of the counties and has

been implemented at varying levels (i.e., not at all to completely) by individual districts.

A very limited number of districts was available in the geographic region of the investigator. Telephone contacts were made to the principals and/or superintendents of these districts to explore their willingness to review the research proposal and approve its implementation in their elementary school(s). In the school district utilized, both the superintendant and the principals reviewed the proposal and gave their consent, subject to approval by UCRIHS (University Committee on Research Involving Human Subjects; see Appendix C for application and approval form). When that was received and the superintendant was notified accordingly, the principals then could be contacted to proceed with the actual sampling in the schools.

The county in east central Michigan in which the sample families reside covers 360 square miles or 230,711 land acres. It is bordered on one side by one of the great lakes and is traversed by two rivers. The county is primarily rural with some land designated as state forest. Five major state or national routes serve the county and state, providing access to resident and tourist destinations both in the county and further north and west in the state. Its name means sandy place and it became a county of the state in 1883. There are three small cities in the county, one of which is the county seat and another which boasts of being the smallest city in

the state with a population of 403; the latter was formerly the county seat. One of the elementary schools utilized in this study is located in the county seat and the other is located in one of three incorporated villages. The school district is one of three in the county; some children near the county borders attend school in neighboring counties. The county's estimated population in 1988 was 15,174 people, 2,873 (18.9%) of which were youth five through seventeen years of age (MSU Cooperative Extension Service, 1988; personal communication, MSU Cooperative Extension Service county office, March 4, 1991).

The target population was children in grades four, five, and six, and their families. At the suggestion of the school for the sake of convenience, all of the children in these grades were tested and the family instrument was sent home with every child. Children were known only by class designation and number assigned and family instruments were coded for the match with the children's instruments. Families who received more than one instrument were instructed to complete only one but return all they received so the original form could be duplicated as necessary.

Originally it was planned that a stratified by grade, systematic random sample of 200 children would be drawn from the total number of children, with the number for each grade based upon its relative proportion of the total number available. The 200 families of the children drawn would

comprise that portion of the sample. The plan was changed when 261 (52.6%) families returned the survey and there were 236 child-family matches. Since this number was close to 200, it was decided to use a convenience sample of those 236 children and their families for the study.

## Data Collection

The data for this study were collected once from the fourth, fifth, and sixth grade children and their parents in one school district of the county. After orientation meetings early in May, 1990 with the principal and teachers at each of the two schools utilized for the study, teachers distributed envelopes containing the family instrument and cover letter to the children to take home. They had matched the code numbers to numbers kept in their individual class record books so they were not known to the investigator. The cover letter explained the purpose, requested participation, assured anonymity and confidentiality, and provided instructions for completing the family instrument. It also provided the procedure for exempting themselves and their children from the study if they wished (see Appendix D for cover letter). The return date for the family instrument was set for one week immediately preceding the scheduled testing time for the children in the particular school; however, returned instruments were accepted until the children's testing was completed. At the suggestion of one of the principals and

agreement from the other, the children were given small rewards as an incentive to take the envelopes home and return them, i.e., all children received small paper game prizes for taking them home and those who returned them received an additional game prize (see Appendix E for samples of paper game prizes utilized).

From May 15 to 23, 1990, surveys were administered to the children in 17 classrooms of grades four, five, and six in the two elementary schools. Total enrollment in the three grades of these schools was 496 children with 173 in six classrooms of fourth grade, 155 in five classrooms of fifth grade, and 168 in six classrooms of sixth grade. A total of 442 children was surveyed; the balance (54) of the children enrolled either was absent or elected not to participate; it was possible to make up some absences on subsequent days of testing. Generally children who elected not to participate either remained at their seats doing lessons or were sent by the teachers to do other activities in other rooms such as the library. The procedure used by the investigator involved orienting the children to the first instrument (Child's Health Self-Concept Scale), reading the statements aloud, and allowing time for the children to respond. The second instrument (Children's Health Locus of Control scale) was handled similarly. The time required to survey each classroom ranged from 25 to 40 minutes for an average of 33 minutes per classroom; generally the longer testing time was related to more

questions from the children and/or additional orientation explanation. Questions from the children regarding instrument items were recorded either during or immediately after the testing for future use. Such information would be helpful later in the event that it became necessary to explore the validity of a particular scale item or make a decision regarding eliminating an item. Notes regarding the behavior of the children also were kept; they indicated a generally high degree of attentiveness and cooperation. School personnel had been oriented to the purpose and testing procedure and were asked to remain in the classroom to assist as necessary; they were observed generally to monitor the children's behavior and performance.

The school administrators and teachers were very cooperative and helpful during the entire process of orientation, scheduling, family survey distribution and collection, children's testing, and follow-up. One teacher did express opposition to the study and during the survey time in the classroom, in spite of administrative directives to cooperate fully, interrupted with comments or questions and also indicated that the children had been instructed to inform their parents that the survey was not anonymous/confidential. Only nine of the children in this classroom participated in the survey and only seven parent forms were returned resulting in only one family-child match for this classroom.

## Data Analysis

This study was designed to determine relationships between the major dependent variable, children's perceived self-care health behavior, and the independent variables of family types from the Typology Model; differences in children's perceived self-care health behavior according to family type also were to be identified. There was no attempt, however, to interpret causality. All variables were treated as interval level data.

The data were entered into the computer by the statistical consultant and then checked and confirmed for accuracy by the investigator and a third party, i.e., responses on the original instruments were compared with computer printouts. All data analyses that followed were completed with the assistance of the SPSSx computer program and statistical consultation.

A descriptive analysis of the data was done first to confirm normal distribution of the variables and determine central tendency and dispersion, i.e., means and standard deviations. Also, the reliability of the scales was estimated utilizing the Cronbach's alpha test. Relationships among the children's and families' variables were assessed first with correlational techniques, i.e., Pearson's Product-Moment and regression analysis. The first is designed to determine the relationship that exists between two variables. The range for interpretation of values utilized to analyze the

results obtained was: .80 to .99, very strong positive correlation; .60 to .79, strong; .40 to .59, moderate; .20 to .39, weak; and .01 to .19, very weak. (Presentation by M. Harwell, CEP 904, Michigan State University, Spring 1987.) Given that there were relationships, regression analysis then provided the mechanism to determine what combination of family variables predicted the variation in the children's variable. To test for differences among the means for the children's perceived self-care health behavior according to family types, one-, two-, and three-factor Analysis of Variance (ANOVA) was utilized. The ANOVA is an appropriate test for determining differences among two or more sample means. The single factor ANOVA involves the multiple means of the dependent variable and one independent variable; whereas, the multiple factor ANOVA involves the effects on the dependent variable of more than one independent variable in combined forms. Significant one-factor results were then tested with the post hoc Scheffé Procedure to identify the pairs of groups that were significantly different (Glass and Hopkins, 1984; Williams, 1986). For all statistical tests the level of significance to reject the null hypothesis was set at .05.

# CHAPTER IV

# RESULTS

## Context for the Children's Data

As indicated previously, the plan was to contact schools that had not implemented the Michigan Model for Comprehensive Health Education. It was recognized, however, that the schools or individual teachers might be utilizing other educational programs related to self-care health behavior. The teachers, therefore, were given a brief survey regarding their educational practices (see Appendix F for copy). All 17 teachers returned their forms. Eleven of the 17 (64.7%) said they did include the topic of health and health behavior in their classroom curriculum. Generally the information was both integrated with other topics and treated separately. The most frequently mentioned subtopics addressed were food/nutrition and exercise/fitness; others mentioned were digestion, circulation, respiration, excretion, taking care of yourself (care of the body generally and avoiding drug/substance abuse), sleep, safety, and communicable disease. Any measurement of outcome behavior related to health was achieved chiefly within unit tests. One teacher, however, indicated observing the overall health of the children and

their lunches and another mentioned observation as well as discussion with the parents. Thirteen of the 17 teachers (76%) considered themselves to be people who are particularly interested in or conscious of health so that they find themselves mentioning or discussing it with individual or groups of children with some regularity.

In relation to an organized program to which all the children were exposed, the Duncan Series Life Skills Program was mentioned frequently by the teachers, as well as Project D.A.R.E. (Drug Abuse Resistance Education). The Area Health Center that provides the instruction was contacted for information regarding The Duncan Series. It is a curriculum involving six prevention strategies, namely, providing basic alcohol/drug information, developing life skills, creating alternatives, influencing social policy, and involving and training impactors (telephone and mail communication with Pam Templin, Area Health Center, September and December, 1990; see Appendix G for brochure and further detail).

## Sample Characteristics

The convenience sample was comprised of 236 child-family pairs. This number represented the actual number of families who returned the survey, i.e., families of 53.4 percent of the 442 children tested or 47.8 percent of the 496 children enrolled in the schools.

As indicated in Table 1, 110 (46.6%) of the children in the sample were males and 126 (53.4%) were females. Eighty-one (34.3%) were ten years old or younger, 85 (36.0%) were 11 years old, and 70 (29.7%) were 12 or more years old. The age

TABLE 1

Sex, Age, & Grade Distribution of the Sample Children

| | Number | Percent | Number | Percent | Number | Percent |
|---|---|---|---|---|---|---|
| Males | 110 | 46.6 | | | | |
| Females | 126 | 53.4 | | | | |
| Ten years (or less) | | | 81 | 34.3 | | |
| Eleven years | | | 85 | 36.0 | | |
| Twelve years (or more) | | | 70 | 29.7 | | |
| Fourth grade | | | | | 80 | 33.9 |
| Fifth grade | | | | | 75 | 31.8 |
| Sixth grade | | | | | 81 | 34.3 |
| Totals | 236 | 100.0 | 236 | 100.0 | 236 | 100.0 |

distribution for the children was collapsed from five to three groups due to the small number who were nine years old and 13 or more years old. This decision was supported by checking birthdates, i.e., for the nine year old children, the majority would have been 10 within the next three months and all except one would have been 10 within the next five months. For the 13 or more years old children, most had turned 13 in the

previous four months and all within the previous six months. Eighty (33.9%) of the children were in the fourth grade, 75 (31.8%) were in the fifth grade, and 81 (34.3%) were in the sixth.

Responses for the families were completed by 208 females (88.9%) and 26 (11.1%) males. The age range of the respondents was 25 to 61 years with 91.0 percent between 25 and 44 years. For the spouses the age range was 22 to 68 years with 81.7 percent between 25 and 44. This is the usual childbearing/childrearing age for children of these ages and reflects the two largest age groups (25-34, 35-44) in the population of the state (MSU Cooperative Extension Service, 1988). In this county the numbers of people in these age groups are smaller and are exceeded dramatically by the 65+ age group (MSU Cooperative Extension Service, 1988).

As indicated in Table 2, in relation to marital status, 76.5 percent were married, 15.0 percent were single parents, 4.7 percent were remarried, and 3.8 percent were living with significant others. The most frequent role indicated by the respondents was mother (87.6%) with father second (10.7%); grandparents comprised a small percentage (1.3).

The number of children in the sample families ranged from one to eight with an average of three children per family. More specifically, 72 (30.9%) of the families had three

TABLE 2

Marital Status of the Sample Respondents/Families

| Marital Status | Frequency | Percent |
|---|---|---|
| Married | 179 | 76.5 |
| Single parent, divorced | 25 | 10.7 |
| Single parent, separated | 5 | 2.1 |
| Single parent, widowed | 2 | .9 |
| Single parent, never married | 3 | 1.3 |
| Remarried | 11 | 4.7 |
| Living with Significant Other | 9 | 3.8 |
| Totals | 234 | 100.0 |

children, 67 (28.8%) had two, and 43 (18.5%) had four (see Table 3).

In relation to the age of the oldest child in these families, the range was nine to 36 years. There were 115 (49.1%) families in which the oldest child was in the nine to 13 years age range specified for this study. Family life cycle developmental stage for the study was determined by the age of the oldest child; there were 101 (42.8%) families in the preschool and school age stage (oldest child 12 years or younger) and 135 (57.2%) in the adolescent and launching stage (oldest child greater than 12 years).

The age of the youngest child in the families ranged from one to 13. There were 133 (57.6%) families in which the

TABLE 3

Number of Children in the Sample Families

| Number of Children | Frequency | Percent |
|---|---|---|
| 1 | 23 | 9.9 |
| 2 | 67 | 28.8 |
| 3 | 72 | 30.9 |
| 4 | 43 | 18.5 |
| 5 | 16 | 6.9 |
| 6 | 6 | 2.6 |
| 7 | 4 | 1.7 |
| 8 | 2 | .9 |
| Totals | 233 | 100.0 |

youngest child was in the nine to 13 years age range specified for this study.

Family ethnicity was reported to be Caucasian by 216 (96.9%) of those who responded; for the county this percentage is 97.8 (MSU Cooperative Extension Service, 1988). There were four families of American Indian and one of African American heritage.

As indicated in Table 4, eighty-three (35.2%) respondents reported being housewives-husbands; whereas, 94 (39.8%) were employed full-time, 63 (26.7%) part-time, and 24 (10.2%) in another arrangement (total of 76.7 percent employed). Twenty-four (10.2%) spouses indicated they were housewives-husbands;

TABLE 4

Employment Status of the Families

| | Respondents | | Spouses | |
|---|---|---|---|---|
| Employment Status | Frequency | Percent | Frequency | Percent |
| Housewife/househusband | 83 | 35.2 | 24 | 10.2 |
| Employed full-time (35 hours or more per week) | 94 | 39.8 | 144 | 61.0 |
| Employed part-time (less than 35 hours per week) | 63 | 26.7 | 8 | 3.4 |
| Unemployed, laid-off, looking for work | 21 | 8.9 | 13 | 5.5 |
| Other | 24 | 10.2 | 27 | 11.4 |

whereas, 144 (61.0%) were employed full-time, eight (3.4%) part-time, and 27 (11.4%) in another arrangement (total of 75.8 percent employed). Twenty-one (8.9%) of the respondents and 13 (5.5%) of the spouses were unemployed; the average unemployment rate was 8.2 percent in the county and 7.2 percent in the state in 1988 (MSU Cooperative Extension Service, 1988).

Sixty (27.4%) families reported their income to be under $15,000. Of the remaining families, 48 (21.9%) earned $15-24,999, 53 (24.2%) reported earnings of $25-34,999, 41 (18.7%) earned $35-49,999, and 17 (7.8%) had an income of $50,000 or more (see Table 5). In the county all age groups have the greatest number of households earning less than $15,000. For the 25-44 age group, which corresponds to one of those for this study, the number of households is quite similar for the

first four income brackets and then declines sharply at the $50,000 level. For the 45-64 age group, which also corresponds to one of those for this study, the number of households gradually declines in the income brackets between $15,000 and $50,000; there is a sharp decline in earnings for this age group after $50,000 (MSU Cooperative Extension Service, 1988).

TABLE 5

Combined Family Income (Estimated)

| Family Income | Frequency | Percent |
|---|---|---|
| Under $15,000 | 60 | 27.4 |
| $15,000-24,999 | 48 | 21.9 |
| $25,000-34,999 | 53 | 24.2 |
| $35,000-49,999 | 41 | 18.7 |
| $50,000-74,999 | 10 | 4.6 |
| $75,000 or more | 7 | 3.2 |
| Totals | 219 | 100.0 |

In relation to education (see Table 6), 103 (44.2%) of the respondents and 109 (52.6%) of the spouses completed some or all of high school; 112 (48.1%) of the respondents and 84 (40.6%) of the spouses completed vocational training or some or all of college. Twelve (5.2%) of the respondents and 9 (4.3%) of the spouses had a graduate degree. The median level of education for the county was 12.1 years for residents over 25 years of age and 12.5 years for the state; 6.1 percent of the county residents were college graduates compared with 14.2

percent for the state (MSU Cooperative Extension Service, 1988). The population of the county was considered to be 100 percent rural (MSU Cooperative Extension Service, 1988).

**TABLE 6**

Education Levels of Respondents and Spouses

| | Respondents | | Spouses | |
|---|---|---|---|---|
| Education Level | Frequency | Percent | Frequency | Percent |
| Grade school | 6 | 2.6 | 3 | 1.4 |
| Some high school | 24 | 10.3 | 33 | 15.9 |
| High school graduate | 79 | 33.9 | 76 | 36.7 |
| Vocational training | 24 | 10.3 | 14 | 6.8 |
| Some college | 62 | 26.6 | 49 | 23.7 |
| College graduate | 26 | 11.2 | 21 | 10.1 |
| Graduate degree | 12 | 5.2 | 9 | 4.3 |
| Totals | 233 | 100.0 | 207 | 100.0 |

In summary, the sample consisted of approximately half of the children enrolled in the schools and their respective families. The children had some previous orientation to health related information and practices from their teachers and the Area Health Center. In relation to the sample children, there were more girls than boys. The grade distribution was fairly close; however, the number of younger children did exceed the number of older children. Most respondents for the families were females and most of those were mothers between 25 and 44 years of age. Many were married and a few were remarried, however, 15.0 percent were single parents and 3.8

percent were living with significant others. Almost 70.0 percent of the families had between one and three children; whereas, another 25.4 percent had four or five and the remainder had six to eight children. More than half of the families were in the adolescent and launching family life cycle developmental stage so most sample children from these families did not represent the oldest child in the family. In contrast, most of the children from the families in the preschool and school age stage were the oldest children in the families. Ethnicity of the families was predominantly Caucasian. More respondents than spouses were unemployed. Only approximately one-third of the respondents claimed to be housewives/househusbands. Income for over one-fourth of the families was under $15,000; there was almost an even split between families earning less than $25,000 and those earning $25,000 to 49,000; less than 10.0 percent earned $50,000 or more. The pattern for education of the respondents and spouses was reversed, i.e., more respondents had preparation beyond high school than high school or less, whereas, more spouses had high school or less preparation than beyond high school.

## Description of the Study Variables

### Children's Variables

The major variable for the children was their perceived self-care health behavior. The range of mean scores on the

Child's Health Self-Concept Scale which measured this variable was 1.81 to 3.91 with an overall mean of 3.068 and standard deviation of .404 (see Table 7 for all descriptive statistics). The overall means for the boys and girls were 3.05 and 3.09 respectively. For the three grades, the overall means were 2.99, 3.12, and 3.09 respectively. The overall means by family life cycle developmental stage were 3.12 and 3.03 for the preschool and school age and the adolescent and launching stages respectively.

**TABLE 7**

Descriptive Statistics for the Children's Variables

| Variable | Possible Range | Actual Range | Mean | Median | Mode | Standard Deviation |
|---|---|---|---|---|---|---|
| Perceived Self-Care Health Behavior | 1.0–4.0 | 1.814–3.911[a] | 3.068 | 3.116 | 3.333 | .404 |
| Health Locus of Control | 20.0–40.0 | 25.0–40.0[b] | 35.379 | 36.0 | 36.0 | 2.818 |

[a]N = 235. [b]N = 236.

For the purpose of establishing groups representing positive and negative perceived self-care health behavior, the following limits were set for the children's scores: 1.00-1.74 = most negatively perceived self-care health behavior, 1.75-2.49 = negatively perceived self-care health behavior, 2.50-3.24 = positively perceived self-care health behavior, and 3.25-4.00 = most positively perceived self-care

health behavior. The rationale for these criteria was based on the fact that the scale had been constructed with a score of one representing a negative health self-concept and a score of four representing a positive; divisions, therefore, could be made on either side of the 2.5 midpoint that would represent degrees of positive and negative. No child scored below 1.75, therefore there were only three groups of children; twenty-four (10.2%) children scored between 1.75 and 2.49, 126 (53.6%) children scored between 2.50 and 3.24, and 85 (36.2%) scored between 3.25 and 4.00. The alpha for this scale for this sample was .898 indicating strong internal consistency.

The second variable for the children was their health locus of control. The range of scores for the Children's Health Locus of Control instrument which measured this variable was 25.0 to 40.0 with an overall mean of 35.379 and standard deviation of 2.818 (see Table 7 for all descriptive statistics). The means for the boys and girls were 35.67 and 35.16 respectively. For the three grades, the means were 34.92, 34.97, and 36.35 respectively. By family life cycle developmental stage, the means were 35.57 and 35.26 for the preschool and school age and the adolescent and launching stages respectively.

Again, based upon rationale similar to that above, groups were established for this variable according to the following criteria: 20.0-24.99 = most external health locus of control, 25.0-29.99 = external health locus of control, 30.0-34.99 =

internal health locus of control, and 35.0-40.0 = most internal health locus of control. No child scored below 25.0, therefore, there were only three groups; five (2.1%) children scored between 25.0 and 29.99, 78 (33.1%) scored between 30.0 and 34.99, and 153 (64.8%) scored between 35.0 and 40.0. The alpha for this scale for this sample was .679 which was slightly lower than that reported by the authors (Parcel and Meyer, 1978). The alpha coefficient did not improve to .7 or better with the elimination of any item nor did it decrease to less that .65 by retaining any item. The scale, therefore, was utilized in its original and complete form.

Family Variables

Variables for the families were the three family typologies: Regenerative, Resilient, and Rhythmic. Each typology was constructed from two variables creating four family types in every family typology (see Figure 1). The median split was utilized to divide each variable scale into a high and low group to create the four types in each typology; those with scores at the median were placed in the low group since the mean was slightly lower than the median for all the scales. An additional family type (enduring) was formed from a composite of the regenerative, resilient, and rhythmic types from each of the three family typologies.

Variability in the typologies was achieved by assigning numbers one through four to the four family types. Families assigned number one had scored low on both variables

comprising the typology, whereas, families assigned number four had scored high on both variables. It was recognized that either order was possible to assign the numbers two and three to the two middle family types in each typology. The decision was made arbitrarily, therefore, to use number two for the family types in all upper right quadrants of the typologies and number three for all family types in the lower left quadrants. This also was the order in which the family types were listed by the authors of the model, although this issue was not included in the methodology presentation (McCubbin, Thompson, Pirner, McCubbin, 1988).

The Regenerative family typology consisted of the two variables, hardiness and coping. Scores for the families on the hardiness scale ranged from 21.0 to 70.0 with a median of 57.0 (see Table 8 for scale frequencies for this typology). The numbers of families in the low and high groups were 126 (53.4%) and 110 (46.6%) respectively. The alpha for this scale for this sample of families was .837.

Scores for the families on the coping variable scale ranged from 38.0 to 75.0 with a median of 62.0. The numbers of families in the low and high groups were 123 (52.1%) and 113 (47.9%) respectively. The alpha for this scale for this sample of families was .815.

The Resilient family typology was comprised of the bonding and flexibility variables. Scores for the families on the bonding scale ranged from 00.0 to 69.0 with a median of

TABLE 8

Frequencies for the Family Variable Scales

| Variable | Possible Range | Actual Range[a] | Mean | Median | Mode |
|---|---|---|---|---|---|
| Hardiness | 0 - 75 | 21.0–70.0 | 55.91 | 57.0 | 57.0 |
| Coping | 0 - 75 | 38.0–75.0 | 61.98 | 62.0 | 62.0 |
| Bonding | 0 - 70 | 00.0–69.0 | 55.87 | 57.0 | 60.0 |
| Flexibility | 0 - 70 | 29.0–62.0 | 47.59 | 48.0 | 48.0 |
| Time & Routines | 0 - 102 | 00.0–102.0 | 70.90 | 72.0 | 69.0 |
| Valuing Time & Routines | 0 - 68 | 00.0–65.0 | 48.61 | 50.0 | 48.0 |

[a]N = 236

57.0 (see Table 8 for scale frequencies for this typology). The numbers of families in the low and high groups were 119 (50.4%) and 117 (49.6%) respectively. The alpha for this scale for this sample of families was .842.

Scores for the flexibility variable ranged from 29.0 to 62.0 with a median of 48.0. The numbers of families in the low and high groups were 128 (54.2%) and 108 (45.8%) respectively. The alpha for this scale for this sample of families was .654.

The Rhythmic family typology consisted of the time and routines and valuing of time and routines variables. Scores for the families on the time and routines scale ranged from 00.0 to 102.0 with a median of 72.0 (see Table 8 for scale frequencies for this typology). The numbers of families in

the low and high groups were 123 (52.1%) and 113 (47.9%) respectively. The alpha for this scale for this sample of families was .843.

Scores for the valuing of time and routines scale ranged from 00.0 to 65.0 with a median of 50.0. The numbers of families in the low and high groups were 125 (53.0%) and 111 (47.0%) respectively.

In relation to the alpha coefficients for reliability of the family variable scales, all were greater than .8 except for the flexibility scale which was .654. The elimination of items 12 and 14 would have increased it to .734 or .720, however, since the purpose of the scales was to form the family type groups within the typologies, the entire scale was utilized.

Family types created by the two variables in the Regenerative family typology included the vulnerable (low hardiness and low coping), secure (high hardiness and low coping), durable (low hardiness and high coping), and regenerative (high hardiness and high coping). Means and standard deviations for the children's perceived self-care health behavior in these types were 2.952, .378; 3.001, .401; 3.068, .374; and 3.180, .412 respectively. Additional data regarding numbers of families and children corresponding to these values and the family types in this typology are noted in Table 9.

TABLE 9

Values for the Children's Perceived Self-Care Health Behavior in the Regenerative Family Typology

| Group/Family Type | No. of families | % of families | No. of children | % of children | $\bar{X}$ | SD |
|---|---|---|---|---|---|---|
| Group 1 (vulnerable) | 68 | 28.8 | 68 | 28.9 | 2.952 | .378 |
| Group 2 (secure) | 35 | 14.8 | 35 | 14.9 | 3.001 | .402 |
| Group 3 (durable) | 40 | 17.0 | 40 | 17.0 | 3.068 | .374 |
| Group 4 (regenerative) | 93 | 39.4 | 92 | 39.2 | 3.180 | .412 |
| Totals | 236 | 100.0 | 235 | 100.0 | | |

For the Resilient family typology the four family types created by the two variables included the fragile (low bonding and low flexibility), bonded (high bonding and low flexibility), pliant (low bonding and high flexibility), and resilient (high bonding and high flexibility). Means and standard deviations for the children's perceived self-care health behavior in these types were 2.942, .386; 3.121, .383; 2.896, .336; and 3.218, .401 respectively. Additional data regarding the numbers of families and children corresponding to these values and the family types are presented in Table 10.

The four family types in the Rhythmic family typology included the unpatterned (low time and routines and low

**TABLE 10**

Values for the Children's Perceived Self-Care Health Behavior in the Resilient Family Typology

| Group/Family Type | No. of families | % of families | No. of children | % of children | $\bar{X}$ | SD |
|---|---|---|---|---|---|---|
| Group 1 (fragile) | 68 | 28.8 | 68 | 28.9 | 2.942 | .386 |
| Group 2 (bonded) | 41 | 17.4 | 40 | 17.0 | 3.121 | .383 |
| Group 3 (pliant) | 39 | 16.5 | 39 | 16.6 | 2.896 | .334 |
| Group 4 (resilient) | 88 | 37.3 | 88 | 37.5 | 3.218 | .401 |
| Totals | 236 | 100.0 | 235 | 100.0 | | |

valuing of time and routines), intentional (low time and routines and high valuing of time and routines), structural-ized (high time and routines and low valuing of time and routines), and rhythmic (high time and routines and high valuing of time and routines). Means and standard deviations for the children's perceived self-care health behavior in these types were 3.011, .391; 3.163, .315; 3.004, .412; and 3.111 respectively. The numbers of families and children corresponding to these values and the family types in this typology are presented in Table 11.

The additional enduring family type was created from the composite of regenerative, resilient, and rhythmic family types from the three typologies, i.e., these families' scores

TABLE 11

Values for the Children's Perceived Self-Care Health Behavior in the Rhythmic Family Typology

| Group/Family Type | No. of families | % of families | No. of children | % of children | $\bar{X}$ | SD |
|---|---|---|---|---|---|---|
| Group 1 (unpatterned) | 83 | 35.2 | 82 | 34.9 | 3.011 | .391 |
| Group 2 (intentional) | 30 | 12.7 | 30 | 12.8 | 3.163 | .315 |
| Group 3 (structuralized) | 32 | 13.6 | 32 | 13.6 | 3.004 | .412 |
| Group 4 (rhythmic) | 91 | 38.6 | 91 | 38.7 | 3.111 | .433 |
| Totals | 236 | 100.0 | 235 | 100.0 | | |

were high on all six variables. Thirty-four (14.4%) families were included in this enduring family type. Both family developmental life cycle stages were represented in the group with 13 (38.2%) in the preschool and school age stage and 21 (61.8%) in the adolescent and launching stage. In relation to the children of these families, all three grades were represented, i.e., eight families (23.5%) had fourth, 12 (35.3%) had fifth, and 14 (41.2%) had sixth grade children; sixteen (47.1%) of the children were boys and 18 (52.9%) were girls. The mean for the children's perceived self-care health behavior in this family type was 3.219 (SD = .451).

## Hypothesis Testing

The general focus of the hypotheses for this study was the relationships among the children's and families' variables and the differences in the children's variables according to the family variables. In some instances, children's sex and grade and family life cycle stage were included as control variables.

The theme in hypotheses one through four was the relationships between the children's perceived self-care health behavior and the family typology or type variables. The correlation matrix of values for the Pearson Product-Moment tests utilized for the analyses is presented in Table 12; those that were significant are noted.

**Ho-1. There is no relationship between the perceived self-care health behavior of children and the Regenerative family typology.**

As reported in Table 12, the correlation between the variables in this hypothesis was weak but significant ($r$ = .239, $p$ = .001), indicating that there is a relationship. This null hypothesis, therefore, was rejected. Correlations between the children's perceived self-care health behavior and both of the variables comprising this typology also were weak but significant (hardiness, $r$ = .207, $p$ = .001 and coping, $r$ = .243, $p$ = .001).

TABLE 12

Correlation Matrix for the Children's & Family Variables[a]

| | Children's Perceived Self-Care Health Behavior | Children's Health Locus of Control | Regenera-tive Family Typology | Resilient Family Typology | Rhythmic Family Typology | enduring family type |
|---|---|---|---|---|---|---|
| Children's Perceived Self-Care Health Behavior | 1.000 | .2549** | .2389** | .2389** | .0843 | .1537* |
| Children's Health Locus of Control | .2549** | 1.000 | .0324 | .0679 | .0342 | .0820 |
| Hardiness | .2071** | .0694 | .6574** | .4704** | .3002** | .3606** |
| Coping | .2426** | .0691 | .8091** | .4858** | .2923** | .4363** |
| Bonding | .3225** | .1106 | .3789** | .4301** | .1555* | .3309** |
| Flexibility | .1152 | .0823 | .4317** | .7841** | .3219** | .4101** |
| Time & Routines | .1805* | .0402 | .3694** | .3615** | .6769** | .4407** |
| Valuing Time & Routines | .0523 | .0397 | .1625* | .2583** | .6499** | .3413 |

[a]N = 183

p = .01* & .001**

**Ho-2. There is no relationship between the perceived self-care health behavior of children and the Resilient family typology.**

The correlation between the variables in this hypothesis was weak but significant ($r$ = .239, $p$ = .001), indicating that there is a relationship; therefore, this null hypothesis was rejected. Of the two variables constituting this typology, the correlation between the children's perceived self-care health behavior and the bonding variable was weak and significant ($r$ = .323, $p$ = .001); whereas, the very weak correlation with the flexibility variable was not significant ($r$ = .115).

**Ho-3. There is no relationship between the perceived self-care health behavior of children and the Rhythmic family typology.**

There was no significant correlation ($r$ = .084) between the variables in this hypothesis; therefore, this null hypothesis was supported. Of the two variables included in this typology, however, there was a weak but significant correlation between the perceived self-care health behavior of children and the time and routines variable ($r$ = .181, $p$ = .01), but there was no significant correlation with the valuing of time and routines variable ($r$ = .052).

**Ho-4. There is no relationship between the perceived self-care health behavior of children and the enduring family**

type (composite of the regenerative, resilient, and rhythmic types from the three family typologies).

There was a weak but significant correlation ($r$ = .154, $p$ = .01) indicating a relationship between the variables. This null hypothesis, therefore, was rejected.

Regression analyses. Since there were significant relationships between the children's perceived self-care health behavior and some of the family variables, the analysis was expanded to answer the second research question: if there is a relationship, what family variables can be identified to predict the children's perceived self-care health behavior? The family typology variables, the variables creating the typologies, and demographic variables were entered into stepwise multiple regression equations to identify those predicting the dependent variable, children's perceived self-care health behavior. The four family types within each typology were collapsed into three levels to form the continuous typology variables, i.e., the middle two family types were combined into one since they represented a mix of highs and lows and the combination created more balance in numbers of families in each of the three resulting groups. In the first equation that included the family typology variables and the demographic variables of children's age, grade, and sex, family developmental stage, and spouse's education, only the Resilient family typology, spouse's education, and grade entered the equation, accounting for 12 percent of the

variance ([$R^2$ = .120] $F$ = 9.203, $df$ = 3,202; $p$ = <.001); values for the independent variables predicting the dependent variable are presented in Table 13. The Regenerative family typology approached significance at the second step in the equation ($t$ = 1.857, $p$ = .065); however, since the typology variables were correlated with one another, it might be expected that no others entered the equation.

TABLE 13

Predictor Variables for the Children's Perceived Self-Care Health Behavior

| | B | SE B | Beta | t | Sig t |
|---|---|---|---|---|---|
| **Equation 1** | | | | | |
| Resilient | .11555 | .03388 | .22857 | 3.411 | .001 |
| Spouse's Education | .05332 | .01812 | .19705 | 2.943 | .004 |
| Grade | .06479 | .03232 | .13242 | 2.005 | .046 |
| **Equation 2** | | | | | |
| Bonding | .01279 | 2.99721E-03 | .27964 | 4.266 | .000 |
| Spouse's Education | .05763 | .01774 | .21299 | 3.249 | .001 |

In the second regression equation that included the variables creating the typologies and the demographic variables of children's age, sex, and grade, spouse's education, and family developmental stage, only the variables of bonding and spouse's education entered the equation, accounting for 13 percent of the variance ([$R^2$ = .132] $F$ = 15.458, $df$ = 2,203;

p = <.001); values for the independent variables predicting the dependent variable are presented in Table 13. It should be noted that bonding is one of the variables creating the Resilient family typology and there was a weak and significant correlation with the children's perceived self-care health behavior; whereas, there was no correlation between the second variable creating this typology, flexibility, and the children's variable. The variable of coping from the Regenerative typology approached significance (t = 1.844, p = .067); however, since the variables creating the typologies were correlated with one another, it might be expected that no others entered the equation. The variable of children's grade also approached significance (t = 1.773, p = .078).

The focus of hypotheses 5, 8, 11, 14, and 17 was the possible differences in the children's perceived self-care health behavior according to the family types in the three family typologies and the enduring family type. Analyses were based upon tests of the means with the one-factor ANOVA and, where there were significant differences, the Scheffé Procedure was utilized to identify the pair(s) of groups to be significantly different at the .05 level.

**Ho-5. There are no differences in the perceived self-care health behavior of children by their family types in the Regenerative family typology.**

According to the one-factor ANOVA test results, there were significant differences among the means for the

children's perceived self-care health behavior in this typology ($F$ = 4.780, $df$ = 3,231; $p$ = .003). Means and standard deviations for the family types were: vulnerable, 2.952, .378; secure, 3.001, .402; durable, 3.068, .374; and regenerative, 3.180, .412 (see Table 9 for additional relevant values). This null hypothesis was rejected. Results of the Scheffé Procedure revealed the pair of groups to be significantly different was group four, children of regenerative type families, and group one, children of vulnerable type families.

**Ho-8. There are no differences in the perceived self-care health behavior of children by their family types in the Resilient family typology.**

The one-factor ANOVA test results revealed significant differences among the means for the children's perceived self-care health behavior in this typology ($F$ = 9.858, $df$ = 3,231; $p$ = <.001. Means and standard deviations for the family types were: fragile, 2.942, .386; bonded, 3.121, .383; pliant, 2.896, .334; and resilient, 3.218, .401 (see Table 10 for additional relevant values). This null hypothesis was rejected. Results of the Scheffé Procedure indicated the pairs of groups to be significantly different were: group four, children of resilient type families, and group three, children of pliant type families; and group four, children of resilient type families, and group one, children of fragile type families.

**Ho-11. There are no differences in the perceived self-care health behavior of children by their family types in the Rhythmic family typology.**

No significant differences were evident in the one-factor ANOVA test results for the children's perceived self-care health behavior in this typology ($F$ = 1.724, $df$ = 3,231; $p$ = .163). Means and standard deviations for the family types were: unpatterned, 3.011, .391; intentional, 3.163, .315; structuralized, 3.004, .412; and rhythmic, 3.111, .433 (see Table 11 for additional relevant values). This null hypothesis was supported.

**Ho-14. There are no differences in the perceived self-care health behavior of children from enduring (composite of regenerative, resilient, and rhythmic family types) and nonenduring type families.**

A significant difference was evident in the one-factor ANOVA test results for the perceived self-care health behavior of children from enduring families ($F$ = 5.638, $df$ = 1,233; $p$ = .018). The means for enduring and nonenduring families were 3.219 ($SD$ = .451, $n$ = 34) and 3.043 ($SD$ = .391, $n$ = 201) respectively. This null hypothesis was rejected.

**Ho-17. There are no differences in the perceived self-care health behavior of children from regenerative, resilient, rhythmic, and enduring (composite of regenerative, resilient, and rhythmic family types) family types.**

It was recognized that several possible combinations of family types existed in the regenerative, resilient, and rhythmic types that remained in those quadrants of the typologies after the families comprising the enduring family type were removed. To test the hypothesis, therefore, it was necessary to create new variables that reflected those combinations so that each would be independent see Figure 2 for a graphic representation). In addition to the enduring type families, the variables were: regenerative only type families, resilient only type families, rhythmic only type families, regenerative and resilient type families, regenerative and rhythmic type families, and resilient and rhythmic type families.

For the first one-factor ANOVA test, these six variables were collapsed into one variable and labelled the less enduring family type; means for the children of these families and the enduring type families then were tested for differences. No significant difference was found ($F = 1.617$, $df = 1,146$; $p = .206$); the mean for the children of the enduring type families was 3.219 ($SD = .451$); whereas, for the less enduring, it was 3.118 ($SD = .393$).

In the second one-factor ANOVA, children's means for the enduring type families, the six less enduring family types, and all other family types (labelled nonenduring) were tested for differences; the last group, however, was not part of the hypothesis (see Table 14 for means and standard deviations for

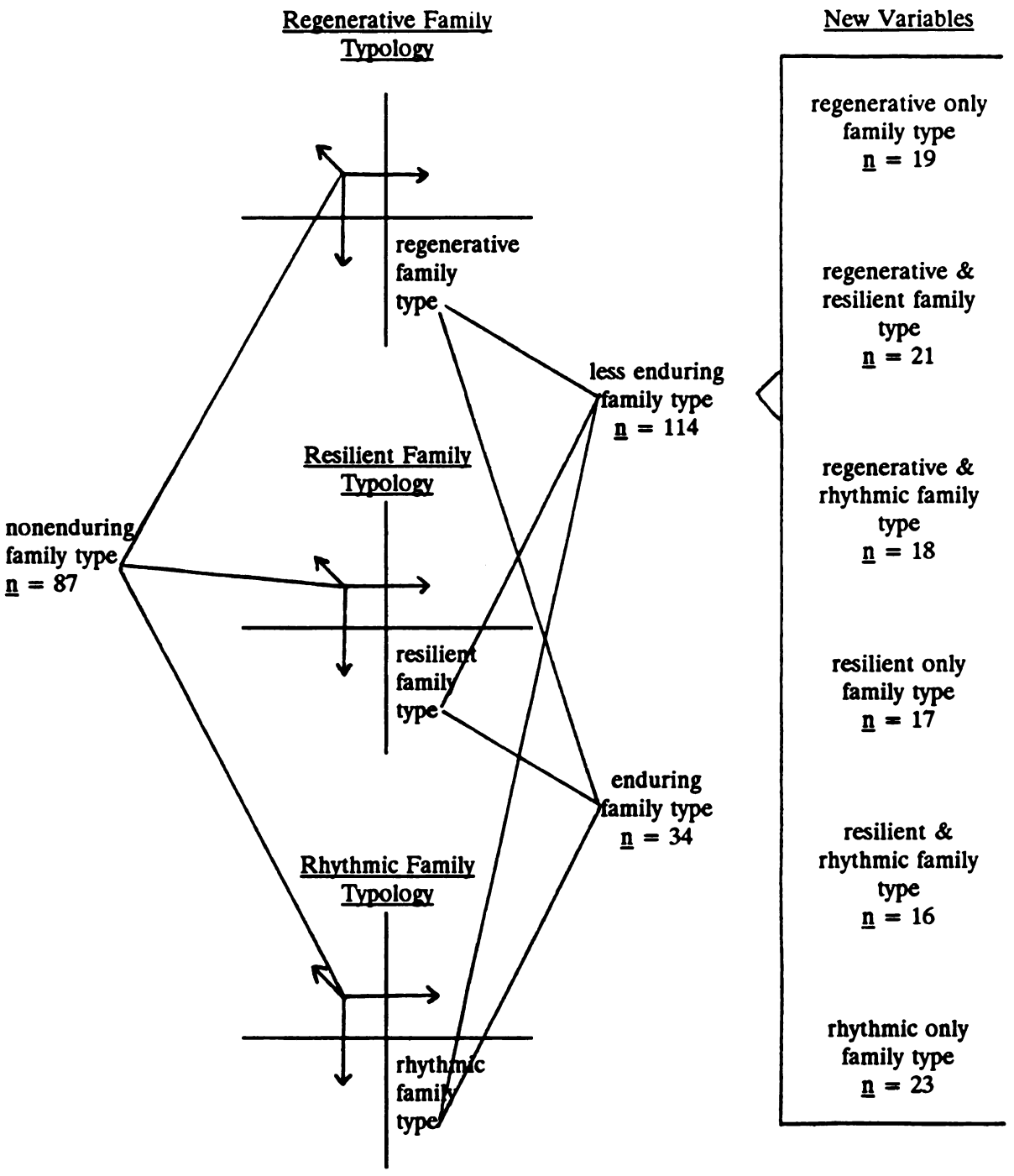



FIGURE 2

**Family Types Created from the Three Typologies**

**TABLE 14**

Values for Variables Created for Hypothesis 17

| Group/Family Type | | n | $\bar{X}$ | SD |
|---|---|---|---|---|
| 0 | nonenduring | 87 | 2.944 | .369 |
| 1 | enduring | 34 | 3.219 | .451 |
| 2 | regenerative | 19 | 3.067 | .346 |
| 3 | resilient | 17 | 3.074 | .379 |
| 4 | rhythmic | 23 | 3.035 | .412 |
| 5 | regenerative & resilient | 21 | 3.393 | .272 |
| 6 | regenerative & rhythmic | 18 | 2.978 | .431 |
| 7 | resilient & rhythmic | 16 | 3.142 | .402 |

these variables). The test was significant ($F$ = 4.415, $df$ = 7,227; $p$ = <.001) and it was followed with the Scheffé Procedure. The pair of means identified to be significantly different was group five, children of the combination regenerative and resilient type families ($M$ = 3.393, $SD$ = .272), and group zero, children of nonenduring families ($M$ = 2.944, $SD$ = .369).

This null hypothesis was rejected; however, children of enduring type families were not identified as the group to be different from any of the other groups as anticipated. By comparison, there were 21 of the regenerative and resilient combination family type and 34 of the enduring. The range of means for the children of the regenerative and resilient combination was 2.69 to 3.78 ($M$ = 3.393, $SD$ = .272); whereas, for the children of the enduring it was 1.81 to 3.91 ($M$ =

3.219, SD = .451); only two children in the enduring group had a mean score higher than those in the combination regenerative and resilient. Eighteen (52.94%) of the 34 enduring family children had mean scores of 3.25 or greater (most positively perceived self-care health behavior), whereas, 13 (61.90%) children of the 21 regenerative and resilient combination had mean scores in that group.

For hypotheses 6, 7, 9, 10, 12, 13, 15, and 16 the theme also was the possible differences in the children's perceived self-care health behavior according to the three family typologies and the enduring family type, however, the variables of children's sex and grade, as well as family life cycle stage were added. Analyses were based upon tests with the two- and three-factor ANOVA. These tests involve the effects of combinations of multiple independent variables at the various levels of interaction. A significant interaction prohibits interpretation of main effects as independent of one another and suggests the need for further testing (Williams, 1986).

**Ho-6. There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Regenerative family typology.**

Results from the three-factor ANOVA test indicated no significant three-way interaction ($F$ = .467, $df$ = 6,211; $p$ = .832); two-way interactions (sex/grade, $F$ = .371, $df$ = 2,211; $p$ = .690; type/grade, $F$ .146, $df$ = 6,211; $p$ = .990; type/sex,

F = .095, df = 3,211; p = .962); or main effects for grade (F = 1.986, df = 2,211; p = .140) or sex (F = .567, df = 1,211; p = .452). There was, however, a significant main effect for the Regenerative family typology (F = 4.349, df = 3,211; p = .005); means for the four family types were the same as those cited in Table 9 for hypothesis five. This null hypothesis was supported; a similar null hypothesis with family type and either children's sex or grade also would be supported. Any interpretation of the lack of two- and three-way interactions should be done with caution, however, since cell size in a number of instances was less than 10 which violates an assumption of the test.

**Ho-7. There are no differences in the perceived self-care health behavior of children in the Regenerative family typology by family life cycle stage.**

The two-factor ANOVA test results revealed no significant two-way interaction (F = .080, df = 3,227; p = .971) and no significant main effect for developmental stage (F = 1.730, df = 1,227; p = .190). Again, there was a main effect for the Regenerative typology (F = 4.278, df = 3,227; p = .006) and the means were the same as those cited in Table 9 for hypothesis five. This null hypothesis was supported.

The family life cycle stage variable was added to three-factor ANOVA tests with the typology and sex and with the typology and grade variables. There was a significant three-way interaction for the Regenerative family typology, family

developmental stage, and children's sex ($F$ = 3.209, $df$ = 3,219; $p$ = .024); means for these groups are included in Table 15 and it should be noted that some cell sizes were less than 10 (see Figure 3 for the graph of the three way interaction). There were no significant two-way interactions involving developmental stage (with sex, $F$ = .272, $df$ = 1,219; $p$ = .603; with types, $F$ = .136, $df$ = 3,219; $p$ = .938) and the main effect for developmental stage was not significant ($F$ = 2.017, $df$ = 1,219; $p$ = .157). The main effect for the Regenerative family typology again was significant ($F$ = 4.256, $df$ = 3,219; $p$ = .006). It should be interpreted, however, in light of the three-way interaction; means for the children in the regenerative type families are the highest for girls in both family developmental stages and for boys in the preschool and school age family developmental stage. This group of boys, in fact, has the highest mean of any group in any type for this typology. In contrast, boys in regenerative families in the adolescent and launching family developmental stage have not only the lowest mean of any group in this type, but also the lowest for their four family types of the typology. Means for boys in the preschool and school age stage and girls in the adolescent and launching stage in general did decrease over the four family types in this typology. These groups also had the highest means for the regenerative family type. Means for the girls in the preschool and school age stage and boys in

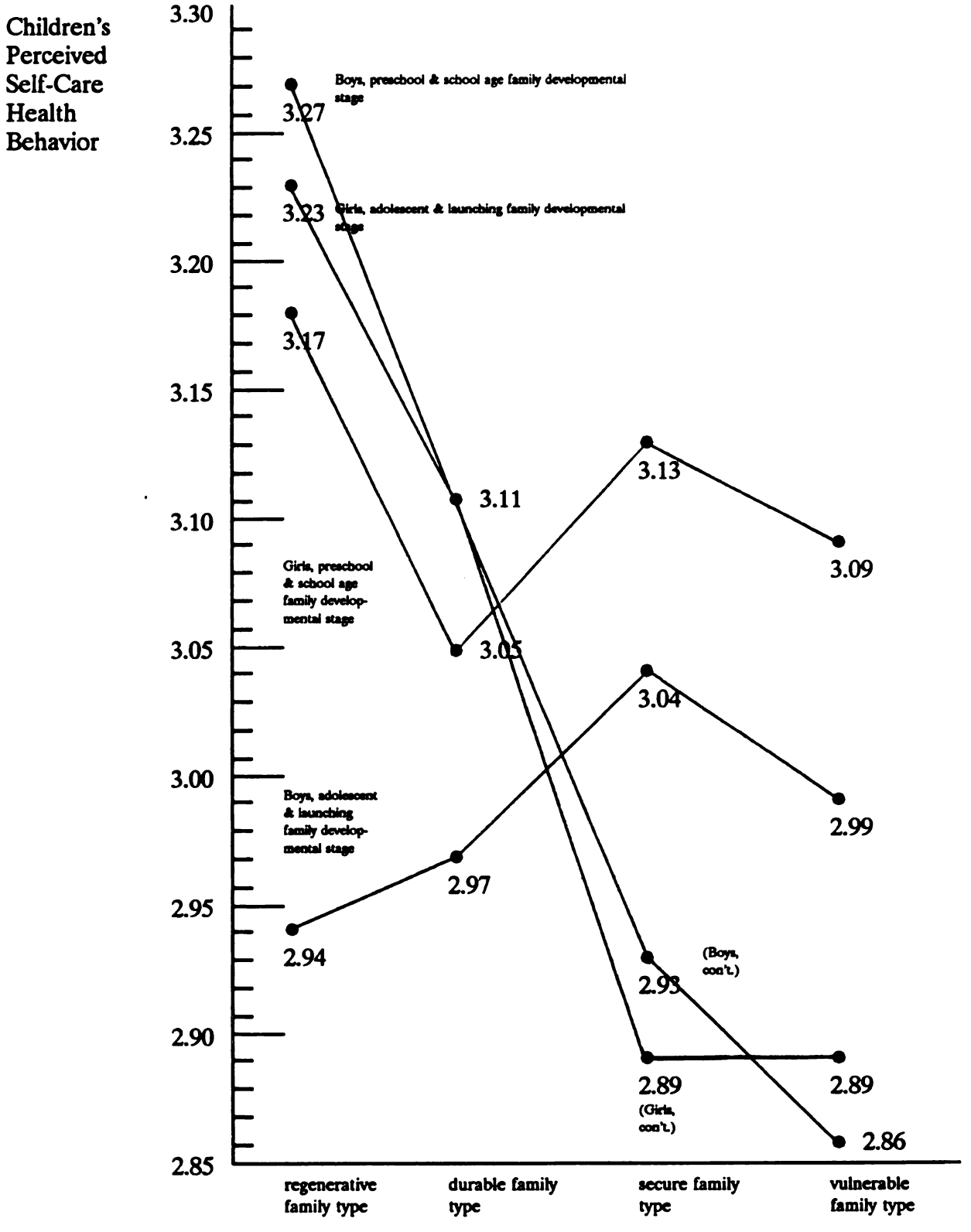



FIGURE 3

**Graph of the Three-way Interaction for Hypothesis 7**

**TABLE 15**

Values for the Three-way Interaction for Hypothesis 7

| | | Males | | | Females | |
|---|---|---|---|---|---|---|
| family type | | Pre-school & School Age Stage | Adolescent & Launching Stage | | Pre-school & School Age Stage | Adolescent & Launching Stage |
| vulnerable | M | 2.86 | 2.99 | M | 3.09 | 2.89 |
| | n | 9 | 25 | n | 10 | 24 |
| secure | M | 2.93 | 3.04 | M | 3.13 | 2.89 |
| | n | 8 | 6 | n | 11 | 10 |
| durable | M | 3.11 | 2.97 | M | 3.05 | 3.11 |
| | n | 11 | 9 | n | 8 | 12 |
| regenerative | M | 3.27 | 2.94 | M | 3.17 | 3.23 |
| | n | 25 | 16 | n | 19 | 32 |

the adolescent and launching stage, however, did not show a pattern that was desired or could be explained.

In the three-factor ANOVA test with family developmental stage, children's grade, the Regenerative family typology, and the dependent variable, there were no significant three-way interactions ($F$ .696, $df$ = 6,211; $p$ = .653) or two-way interactions (stage/grade, $F$ = .858, $df$ = 2,211; $p$ = .425; type/grade, $F$ = .145, $df$ = 6,211; $p$ = .990; type/stage, $F$ = .214, $df$ = 3,211; $p$ = .886). There also were no main effects for grade ($F$ = 2.073, $df$ = 2,211; $p$ = .128) or family developmental stage ($F$ = 1.894, $df$ = 1,211; $p$ = .170). The main effect for the Regenerative family typology again was significant ($F$ = 3.940, $df$ = 3,211; $p$ = .009) and means for the children's perceived self-care health behavior in the

family types of this typology were the same as those listed in Table 9 for hypothesis five. Similar null hypotheses with family typology, family developmental stage, and children's grade also would be supported; whereas, with the two family variables and children's sex it would be rejected.

**Ho-9. There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Resilient family typology.**

The three-factor ANOVA test results revealed no significant three-way interactions ($F$ = .381, $df$ = 6,211; $p$ = .891); two-way interactions (sex/grade, $F$ = .768, $df$ = 2,211; $p$ = .465; type/grade, $F$ = .763, $df$ = 6,211; $p$ = .600; type/sex, $F$ .624, $df$ = 3,211; $p$ = .600); or main effects for grade ($F$ = 2.159, $df$ = 2,211; $p$ = .118) or sex ($F$ = .406, $df$ = 2,211; $p$ = .525). There was, however, a main effect for the Resilient family typology ($F$ = 9.386, $df$ = 3,211; $p$ = <.001); means for the family types in this typology were the same as those cited in Table 10 for hypothesis eight. This null hypothesis was supported; a similar null hypothesis with family type and either sex or grade also would be supported. Again, any interpretation of the lack of two- and three-way interactions should be done with caution since cell size in a number of instances was less than 10.

**Ho-10. There are no differences in the perceived self-care health behavior of children in the Resilient family typology by family life cycle stage.**

The two-factor ANOVA test results for this hypothesis showed no significant two-way interactions ($F$ = .998, $df$ = 3,227; $p$ = .394) and no significant main effect for developmental stage ($F$ = .762, $df$ = 1,227; $p$ = .384). Again, there was a main effect for the Resilient typology ($F$ = 8.992, $df$ = 3,227; $p$ = <.001) and means were the same as those presented in Table 10 for hypothesis eight. This hypothesis was supported.

The family developmental stage variable was added to tests using the three-factor ANOVA with the typology and sex and typology and grade variables. In relation to family developmental stage and the typology and sex variables, there were no significant three-way interactions ($F$ = .220, $df$ = 3,219; $p$ = .883) or two-way interactions (stage/sex, $F$ = .405, $df$ = 1,219; $p$ = .525; type/sex, $F$ = 1.112, $df$ = 3,219; $p$ = .345; type/stage, $F$ = 1.256, $df$ = 3,219; $p$ = .291). The main effects were not significant for sex ($F$ = .538, $df$ = 1,219; $p$ = .464) or family developmental stage ($F$ = .892, $df$ = 1,219; $p$ = .346). The main effect was significant, however, for the Resilient family typology ($F$ = 8.693, $df$ = 3,219; $p$ = <.001); means for the children's perceived self-care health behavior in these family types were the same as those listed previously in Table 10 for hypothesis eight.

In relation to the family developmental life cycle stage and the family typology and grade variables, there were no significant three-way interactions ($F$ = .907, $df$ = 6,211; $p$ =

.491) or two-way interactions (stage/grade, F = .233, df = 2,211; p = .793; type/grade, F = .970, df = 6,211; p = .446; type/stage, F = 1.405, df = 3,211; p = .242). The main effects were not significant for grade (F = 2.392, df = 2,211; p = .094) or family developmental stage (F = 1.140, df = 1,211; p = .287). Again, the main effect for the Resilient family typology was significant (F = 8.836, df = 3,211; p = <.001) and the means for the children's perceived self-care health behavior in the family types were the same as those listed in Table 10 for hypothesis eight. Null hypotheses that would include family typology, family developmental stage, and either children's sex or grade also would be supported.

**Ho-12. There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Rhythmic family typology.**

The three-factor ANOVA test provided no significant three-way (F = .663, df = 6,211; p = .680) or two-way interactions (sex/grade, F = .378, df = 2,211; p = .686; type/grade, F = 1.229, df = 6,211; p = .292; type/sex, F = .233, df = 3,211; p = .873). The main effects also were not significant for the grade (F = 2.246, df = 2,211; p = .108), sex (F = .558, df = 1,211; p = .456), or typology (F = 1.682, df = 3,211; p = .172) variables. This null hypothesis was supported; however, some cell sizes again were less than 10; similar null hypotheses with the family type and either sex or grade also would be supported.

**Ho-13. There are no differences in the perceived self-care health behavior of children in the Rhythmic family typology by family life cycle stage.**

The results of the test with the two-factor ANOVA showed no significant two-way interactions ($F$ = 1.090, $df$ = 3,227; $p$ = .354). The main effect for developmental stage approached significance ($F$ = 3.589, $df$ = 1,227; $p$ = .059); the mean for the preschool and school age stage children was 3.12, whereas, it was 3.03 for the adolescent and launching stage, a difference of .09. The main effect for the Rhythmic typology was not significant ($F$ = 1.922, $df$ = 3,227; $p$ = .127). This hypothesis was supported.

The family developmental stage variable was added to tests using the three-factor ANOVA with the family typology and children's sex and family typology and children's grade variables. In relation to the family developmental stage, typology, and sex variables, there was no significant three-way interaction ($F$ = .176, $df$ = 3,219; $p$ = .913). There were no significant two-way interactions (stage/sex, $F$ = .561, $df$ = 1,219; $p$ = .455; typology/sex ($F$ = .896, $df$ = 3,219; $p$ = .444; typology/stage, $F$ = 1.343, $df$ = 3,219; $p$ = .261). The main effects were not significant for sex ($F$ = .834, $df$ = 1,219; $p$ = .362) or the Rhythmic family typology ($F$ = 1.848, $df$ = 3,219; $p$ = .139). The main effect for family developmental stage approached significance ($F$ = 3.863, $df$ = 1,219;

p = .051); the means for the stages were the same as those above.

In relation to the family typology, family developmental stage, and grade variables, there were no significant three-way (F = .891, df = 5,212; p = .488 or two-way interactions (stage/grade, F = 1.136, df = 2,212; p = .323; typology/grade, F = 1.294, df = 6,212; p = .261; typology/stage, F = .710, df = 3,212; p = .547). There were no significant main effects for grade (F = 2.556, df = 2,212; p = .080) or the Rhythmic typology (F = 1.995, df = 3,212; p = .116). The main effect for developmental stage was significant (F = 4.163, df = 1,212; p = .043). The mean for the preschool and school age family developmental stage was 3.12 and 3.03 for the adolescent and launching stage, again a difference of .09. Similar null hypotheses with family typology, family developmental stage, and either children's sex or grade also would be supported.

**Ho-15. There are no differences in the perceived self-care health behavior of children by their sex and grade in enduring and nonenduring families.**

The test results for the three-factor ANOVA indicated no significant three-way interaction (F = 1.965, df = 2,223; p = .143). The two-way interactions involving grade were not significant (sex/grade, F = .446, df = 2,223; p = .641; type/grade, F = .341, df = 2,223; p = .712). There was, however, a significant two-way interaction with the enduring

family type and children's sex ($F$ = 5.242, $df$ = 1,223; $p$ = .023); the mean for boys in enduring families was 3.04 and for girls it was 3.38 versus 3.05 and 3.04 respectively in nonenduring families (see Figure 4 for the graph of this interaction). The higher mean for girls in enduring families held for all three grades, although it should be noted that cell sizes were small. There were no significant main effects for grade ($F$ = 1.923, $df$ = 2,223; $p$ = .149) or sex ($F$ = .760, $df$ = 1,223; $p$ = .384), but there was a significant main effect for the enduring family type ($F$ = 4.998, $df$ = 1,223; $p$ = .026). As in hypothesis 14, means for this variable were: enduring family type, 3.22 and nonenduring, 3.04. This main effect should be interpreted in light of the two-way interaction; girls contribute more than boys to the higher mean for the children's perceived self-care health behavior in enduring families. With no significant three-way interaction, the null hypothesis was supported. A similar null hypothesis with only family type and children's sex, however, would be rejected; with family type and children's grade, it would be supported.

**Ho-16. There are no differences in the perceived self-care health behavior of children in enduring type families by developmental stage.**

The two-factor ANOVA test results showed no significant two-way interaction ($F$ = .164, $df$ = 1,231; $p$ = .686). The main effect for developmental stage approached significance

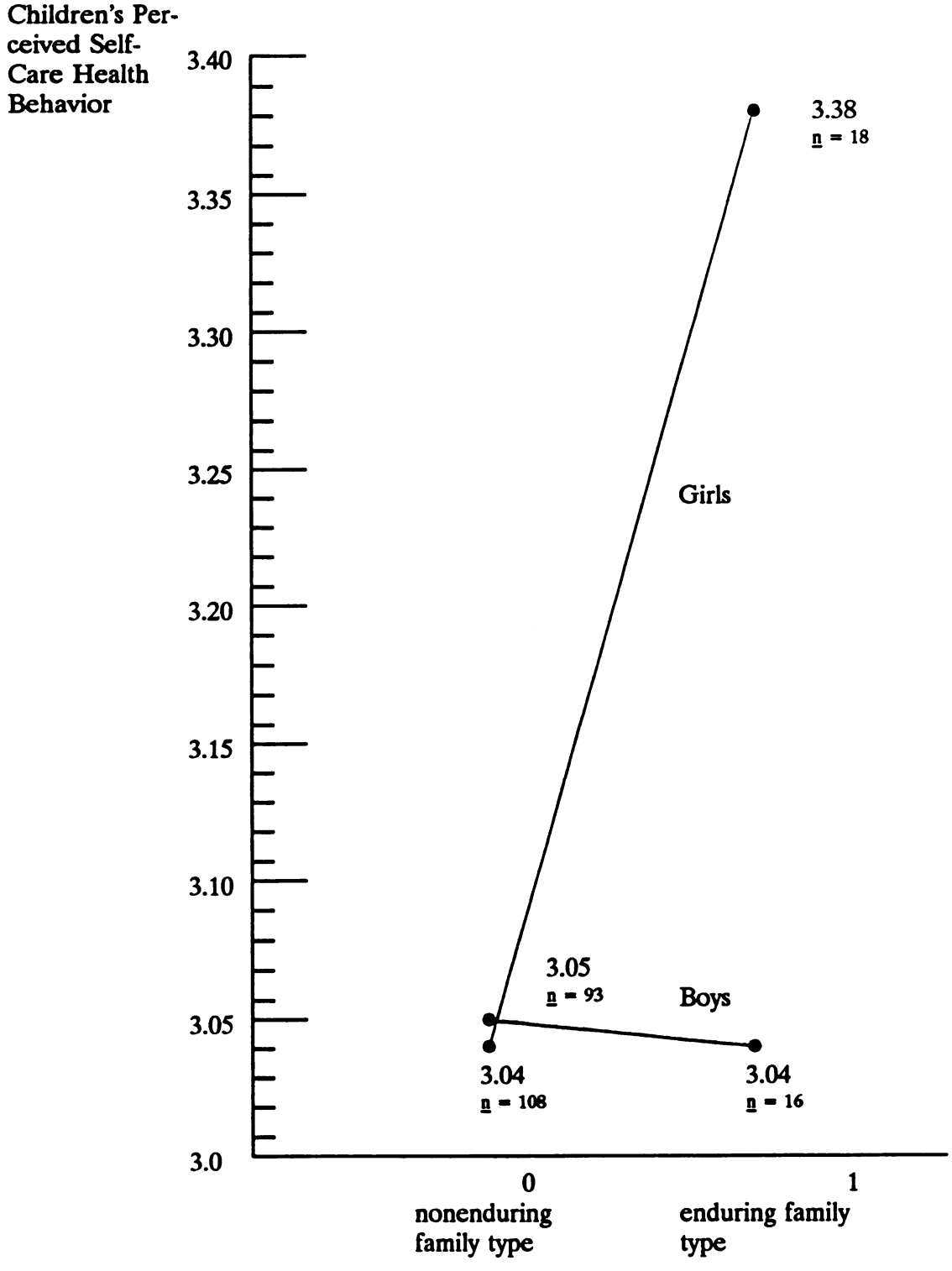



FIGURE 4

**Graph of the Two-way Interaction for Hypothesis 15**

($F$ = 3.415, $df$ = 1,231; $p$ = .066), whereas, the main effect for enduring family type was significant, ($F$ = 6.020, $df$ = 1,231; $p$ = .015). The means for these families were the same as those cited above for hypothesis 15. This null hypothesis was supported.

The family developmental stage variable was added to tests using the three-factor ANOVA with the family type and children's sex and family type and children's grade variables. In relation to the family developmental stage, type, and sex variables, there were no significant three-way ($F$ = .389, $df$ = 1,227; $p$ = .533) or two-way interactions for stage/sex ($F$ = .266, $df$ = 1,227; $p$ = .607) or type/stage ($F$ = .964, $df$ = 1,227, $p$ = .327). There was a significant two-way interaction for enduring family type and children's sex ($F$ = 6.788, $df$ = 1,227; $p$ = .010); the graphing for this interaction was the same as that for hypothesis 15). The main effect for sex was not significant ($F$ = 1.059, $df$ = 1,227; $p$ = .305); however, it approached significance for family developmental stage ($F$ = 3.863, $df$ = 1,227; $p$ = .051). The main effect for enduring family type was significant ($F$ = 6.191, $df$ = 1,227; $p$ = .014). Again, any interpretation of this main effect should take into account the two-way interaction; it would be the same as that for hypothesis 15.

In relation to the family developmental stage, enduring family type, and children's grade variables, there were no significant three-way ($F$ = .364, $df$ = 2,223; $p$ = .696) or

two-way interactions (type/grade, F = .438, df = 2,223; p = .646; stage/grade, F = .691, df = 2,223; p = .502; stage/type, F = .528, df = 1,223; p = .468). The main effect for grade was not significant (F = 2.027, df = 2,223; p = .134). The main effect for the enduring family type was significant (F = 5.138, df = 1,223, p = .024); the means for the children's perceived self-care health behavior again were 3.22 and 3.04 for the enduring and nonenduring family types respectively. The main effect for family developmental stage approached significance (F = 3.769, df = 1,223; p = .053); the means for the children's perceived self-care health behavior again were 3.12 and 3.03 for the preschool and school age stage and adolescent and launching stage respectively. With no significant three-way interactions, a null hypothesis with family type, family developmental stage, and either children's sex or grade would be supported.

Hypotheses 18 through 27 include the children's health locus of control variable, either alone or with previous variables. In some instances it is the dependent variable and in others it is a control variable.

**Ho-18. There is no relationship between the perceived self-care health behavior of children and their health locus of control.**

As indicated in the correlation matrix in Table 12, there was a weak but significant correlation between the children's

variables ($r$ = .255, $p$ = .001). This null hypothesis was rejected.

**Ho-19. There are no differences in the perceived self-care health behavior of children according to their health locus of control.**

Only two categories of health locus of control were utilized for the one-factor ANOVA to test this hypothesis, i.e., those scoring 30 to 34.99 and 35 to 40. No child scored below 25 and only five scored between 25 and 29.99, therefore that group was omitted. There was a significant difference between the two remaining groups ($F$ = 12.155, $df$ = 1,228; $p$ = <.001); the mean for the children's perceived self-care health behavior in the internal health locus of control group was 2.946 ($SD$ = .420); whereas, it was 3.183 ($SD$ = .383) for those in the most internal health locus of control group. This null hypothesis was rejected.

**Ho-20. There are no differences in the health locus of control of children by their family type in the Regenerative family typology.**

Results for the one-factor ANOVA test indicated no significant difference ($F$ = .336, $df$ = 3,232; $p$ = .800). Means and standard deviations for the family types in this typology were: vulnerable, 35.368, 2.682; secure, 34.957, 3.152; durable, 35.500, 2.242; and regenerative, 35.495, 3.027. Additional relevant values are included in Table 16. This hypothesis was supported.

TABLE 16

Values for Children's Health Locus of Control According to Family Type

| family type | n | M | SD |
|---|---|---|---|
| (Regenerative Typology) | | | |
| vulnerable | 68 | 35.368 | 2.682 |
| secure | 35 | 34.957 | 3.152 |
| durable | 40 | 35.500 | 2.242 |
| regenerative | 93 | 35.495 | 3.027 |
| (Resilient Typology) | | | |
| fragile | 68 | 35.257 | 2.614 |
| bonded | 41 | 35.488 | 3.003 |
| pliant | 39 | 34.346 | 3.037 |
| resilient | 88 | 35.881 | 2.695 |
| (Rhythmic Typology) | | | |
| unpatterned | 83 | 35.223 | 2.951 |
| intentional | 30 | 35.617 | 2.377 |
| structuralized | 32 | 35.219 | 2.896 |
| rhythmic | 91 | 35.500 | 2.833 |

**Ho-21. There are no differences in the health locus of control by their family type in the Resilient family typology.**

The one-factor ANOVA test results indicated a significant difference ($F = 2.801$, $df = 3,232$; $p = .041$); means for the family types were: fragile, 35.257; bonded, 35.488; pliant, 34.346; and resilient, 35.881. These and all other relevant values are included in Table 16. This hypothesis was rejected.

**Ho-22. There are no differences in the health locus control of control of children by their family type in the Rhythmic family typology.**

Results of the one-factor ANOVA revealed no significant difference ($F$ = .244, $df$ = 3,232; $p$ = .866). Means and standard deviations for the family types in this typology were: unpatterned, 35.223, 2.951; intentional, 35.617, 2.377; structuralized, 35.219, 2.896; and rhythmic, 35.500, 2.833. Additional relevant values are presented in Table 16. This hypothesis was supported.

**Ho-23. There are no differences in the health locus of control of children in enduring and nonenduring families.**

No significant difference was evident in the one-factor ANOVA test results ($F$ = 1.583, $df$ = 1,234; $p$ = .210). The mean for the children of enduring families was 35.941 ($SD$ = 3.005); whereas, it was 35.285 ($SD$ = 2.782) for those of the nonenduring. This hypothesis was supported.

This analysis was extended to explore the possible differences in the health locus of control of children in enduring families, the six family types created in hypothesis 17, and the remaining nonenduring families (see Figure 2 for the diagram of these variables). The one-factor ANOVA test results again indicated no significant difference ($F$ = .982, $df$ = 7,227 $p$ = .445); values for these family types are presented in Table 17.

TABLE 17

Values for Children's Health Locus of Control According to Family Type in Hypothesis 23

| family types | n | M |
|---|---|---|
| nonenduring | 87 | 35.22 |
| enduring | 34 | 35.94 |
| regenerative | 19 | 34.37 |
| resilient | 17 | 35.76 |
| rhythmic | 23 | 35.26 |
| regenerative & resilient | 21 | 36.31 |
| regenerative & rhythmic | 18 | 35.14 |
| resilient & rhythmic | 16 | 35.31 |
| | 235 | |

**Ho-24. There are no differences in the perceived self-care health behavior of children by their health locus of control in the Regenerative family typology.**

Only the two categories of health locus of control described with hypothesis 19 again were utilized to test this hypothesis. Results of the two-factor ANOVA test indicated no two-way interactions ($F$ = 1.430, $df$ = 3,222; $p$ = .235). There were, however, significant main effects with the health locus of control ($F$ = 12.591, $df$ = 1,222; $p$ = <.001) and with the Regenerative family typology ($F$ = 4.542, $df$ = 3,222; $p$ = .004). Values for the children's perceived self-care health behavior by the two levels of health locus of control were 2.95 ($n$ = 77) and 3.14 ($n$ = 153) respectively. For the family

typology types the means were: vulnerable, 2.96 (n = 66); secure, 3.02 (n = 34); durable, 3.07 (n = 40); and regenerative, 3.18 (n = 90). This null hypothesis was supported.

**Ho-25. There are no differences in the perceived self-care health behavior of children by their health locus of control in the Resilient family typology.**

The two-factor ANOVA test results revealed no significant two-way interaction (F = .203, df = 3,222; p = .894). There were, however, significant main effects with the children's health locus of control (F = 8.248, df 1,222; p = .004) and the Resilient family typology (F = 7.678, df 3,222; p = <.001). Values for the children's perceived self-care health behavior by the two levels of health locus of control again were 2.95 (n = 77) and 3.14 (n = 153). For the four family types in the typology they were: fragile, 2.95 (n = 67); bonded, 3.12 (n = 39; pliant, 2.91 (n = 37); and resilient, 3.22 (n = 87). This null hypothesis was supported.

**Ho-26. There are no differences in the perceived self-care health behavior of children by their health locus of control in the Rhythmic family typology.**

The two-factor ANOVA resulted in no significant two-way interactions (F = .355, df 3,222; p = .785). There was a significant main effect for the children's health locus of control (F = 12.082, df = 1,222; p = .001) but no main effect for the Rhythmic family typology (F = 1.518, df = 3,222; p = .211). The mean for those in the internal health locus of

control group was 2.95 (n = 77) and it was 3.14 (n = 153) for those in the most internal group. This null hypothesis was supported.

**Ho-27. There are no differences in the perceived self-care health behavior of children by their health locus of control in the enduring and nonenduring families.**

Results of the two-factor ANOVA test indicated no significant two-way interactions (F = .146, df = 1,226; p = .703). There were, however, main effects for both children's health locus of control (F = 11.054, df = 1,226; p = .001) and the enduring family type (F = 4.551, df = 1,226; p = .034). Mean values for the children's perceived self-care health behavior for the two levels of health locus of control again were 2.95 (n = 77) and 3.14 (n = 153). The mean for the enduring family type was 3.23 (n = 33) and 3.05 (n = 197) for the nonenduring. This null hypothesis was supported.

## Additional Analyses

Neither of the children's instruments provided the anticipated results in relation to indicating fine differences among the children; none of the children's mean scores fell in the lowest groups and very few scores fell in the next lowest groups, i.e., 24 (10.2%) for the children's perceived self-care health behavior, 1.75-2.49, and only 5 (2.1%) for the children's health locus of control, 25.0-29.99. Both scales, therefore, were subjected to factor analyses to redefine the

larger number of variables within each scale into fewer clusters containing intercorrelated variables. These clusters then were labelled and utilized in further tests to attempt to achieve finer distinction among the children.

Children's Perceived Self-care Health Behavior Variable

For the children's perceived self-care health behavior variable, two factors accounted for 27.1 percent of the variance; see Table 18 for the items with a factor weight of .5 or higher in these and three additional factors. All five factors accounted for 39.7 percent of the variance. The alpha for the first factor's 18 item scale was .891 and, for the second factor's three item scale, it was .707; when a fourth item regarding dentist checkups (factor weight = .351) was added to the second factor's three item scale, the alpha was .665. When four items related to sleep and bedtime were added to the third single item factor regarding the bed decision, the alpha for this five item scale was .573, representing a progressive increase from .449 with each item added; the factor weights for these additional items ranged from .220 to .451. The alpha for the two item scale regarding illness was .510. When five items related to food and weight were added to the eighth single item factor regarding snacks, the alpha was .544 which was higher than the .499 for the single item; the factor weights for these additional items ranged from -.074 to .324. Labels for these five new variables were sense

TABLE 18

Factor Analysis for Children's Perceived Self-Care Health Behavior

| Scale Items & Themes | Factor Weights | Scale Items & Themes | Factor Weights |
|---|---|---|---|
| **Factor 1** | | **Factor 2** | |
| #6–Lots of friends | .515 | #2–Keep teeth clean | .510 |
| 13–Weigh right amount | .512 | 4–Brush teeth | .524 |
| 15–Feel lonely | .584 | 32–Floss teeth | .513 |
| 18–Enjoy life | .704 | | |
| 20–Feel good inside | .694 | **Factor 3** | |
| 21–Sleep amount | .527 | #10–Bed decision | .587 |
| 24–Exercise frequency | .526 | | |
| 26–Happy families | .663 | **Factor 4** | |
| 28–Feel good | .641 | #12–Sick frequency | .545 |
| 29–Liked by others | .647 | 16–Colds frequency | .590 |
| 30–Adults listen | .525 | | |
| 35–Fight other kids | .540 | **Factor 8** | |
| 36–Get along with father | .523 | #1–Snacks | .505 |
| 38–Home life good | .600 | | |
| 39–Happy | .680 | | |
| 41–Keeping up with other kids | .558 | | |
| 43–Think healthy | .569 | | |
| 45–Feel about health | .544 | | |

of self, dental, sleep/bedtime, illness, and food/weight respectively.

Relationships between these new variables and the three family typologies and enduring family type were tested and the correlation matrix is presented in Table 19. As indicated, only the sense of self ($r$ = .209, $p$ = .001), sleep/bedtime ($r$ = .223, $p$ = .001), and food/weight ($r$ = .182, $p$ = .01) variables were correlated with the Regenerative family typology and they were weak but significant. Similarly, only the sense of self ($r$ = .226, $p$ = .001) and food/weight ($r$ = .199, $p$ = .01) variables were correlated with the Resilient family typology.

TABLE 19

Correlation Matrix for the Family and New Children's Variables

| | Regenerative typology | Resilient typology | Rhythmic typology | enduring family type |
|---|---|---|---|---|
| Factor 1 (Sense of Self) | .2089** | .2264** | .0593 | .1372 |
| Factor 2 (Dental) | .0654 | .0486 | .0367 | .0274 |
| Factor 3 (Sleep/Bedtime) | .2225** | .1496 | .1275 | .1375 |
| Factor 4 (Illness) | .0336 | -.0295 | .0373 | .0372 |
| Factor 8 (Food/Weight) | .1818* | .1989* | .1192 | .1147 |

$p$ = .01* & .001**

These new variables were tested also with the three family typologies and the enduring family type using the one-factor ANOVA. There were significant differences for the sense of self variable with the Regenerative ($F$ = 3.522, $df$ = 3,231; $p$ = .016) and Resilient ($F$ = 6.593, $df$ = 3,231; $p$ = <.001) typologies and the enduring family type ($F$ = 4.468, $df$ = 1,233; $p$ = .036). For the sleep/bedtime variable, there were differences with the Regenerative ($F$ = 4.844, $df$ = 3,231; $p$ = .003), Resilient ($F$ = 6.449, $df$ = 3,231; $p$ = <.001), and Rhythmic ($F$ = 4.852, $df$ = 3,231; $p$ = .003) family typologies and the enduring family type ($F$ = 4.490, $df$ = 1,233; $p$ = .035). For the food/weight variable, there were differences with the Regenerative ($F$ = 3.518, $df$ = 3,231; $p$ = .016) and Resilient ($F$ = 8.434, $df$ = 3,231; $p$ = <.001) family typologies. Neither the dental nor the illness variables showed any significant differences with the typologies or the enduring family type. Test values for all of the children's and family variables are presented in Table 20. Means and standard deviations for those variables with significant differences are included in Table 21.

The Scheffé Procedure again was utilized with these variables to identify the pair(s) of groups to be significantly different at the .05 level. In the Regenerative family typology, children of regenerative type families were different from children of vulnerable type families for all three new children's variables. Similarly in the Resilient family

TABLE 20

Results for the Family and New Children's Variables

| | Regenerative Typology | | | Resilient Typology | | | Rhythmic Typology | | | enduring family type | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | df | p | F | df | p | F | df | p | F | df | p |
| Factor 1 (Sense of Self) | 3.522 | 3,231 | .016 | 6.593 | 3,231 | <.001 | 1.381 | 3,231 | .249 | 4.468 | 1,233 | .036 |
| Factor 2 (Dental) | 1.174 | 3,231 | .321 | .668 | 3,231 | .572 | .731 | 3,231 | .534 | .175 | 1,233 | .676 |
| Factor 3 (Sleep/ Bedtime) | 4.844 | 3,231 | .003 | 6.449 | 3,231 | <.001 | 4.852 | 3,231 | .003 | 4.490 | 1,233 | .035 |
| Factor 4 (Illness) | .387 | 3,230 | .763 | 1.428 | 3,230 | .253 | .639 | 3,230 | .591 | .322 | 1,232 | .571 |
| Factor 8 (Food/ Weight) | 3.518 | 3,231 | .016 | 8.434 | 3,231 | <.001 | 2.160 | 3,231 | .094 | 3.106 | 1,233 | .079 |

typology, children of resilient type families were different from children of fragile families for all three variables. Additionally, however, in this typology, children of resilient type families were different from those of pliant families for all three variables, children of bonded families were different from children of pliant families for the sleep/bedtime and food/weight variables, and children of bonded families were different from those of fragile families for the food/weight variable. In the Rhythmic family typology children of both rhythmic and intentional families were different from children of structuralized families for the sleep/bedtime variable.

TABLE 21

Values for the New Children's Variables Achieving Significance with the Family Variables

| | | | Factor 1 (Sense of Self) | | Factor 3 (Sleep/Bedtime) | | Factor 8 (Food/Weight) | |
|---|---|---|---|---|---|---|---|---|
| Family Variables | | n | M | SD | M | SD | M | SD |
| Regenerative Family Typology | vulnerable | 68 | 2.944 | .624 | 2.562 | .576 | 2.614 | .496 |
| | secure | 35 | 3.051 | .520 | 2.853 | .679 | 2.645 | .711 |
| | durable | 40 | 3.129 | .527 | 2.788 | .531 | 2.625 | .573 |
| | regenerative | 92 | 3.237 | .576 | 2.921 | .616 | 2.869 | .545 |
| Resilient Family Typology | fragile | 68 | 2.949 | .614 | 2.648 | .541 | 2.526 | .488 |
| | bonded | 40 | 3.108 | .586 | 2.921 | .631 | 2.896 | .619 |
| | pliant | 39 | 2.933 | .491 | 2.524 | .600 | 2.521 | .496 |
| | resilient | 88 | 3.304 | .543 | 2.943 | .616 | 2.879 | .577 |
| Rhythmic Family Typology | unpatterned | 82 | | | 2.668 | .603 | | |
| | intentional | 30 | | | 2.980 | .524 | | |
| | structuralized | 32 | | | 2.555 | .538 | | |
| | rhythmic | 91 | | | 2.905 | .641 | | |
| enduring family type | enduring | 34 | 3.300 | .609 | 2.990 | .680 | | |
| | nonenduring | 201 | 3.073 | .575 | 2.750 | .599 | | |

Children's Health Locus of Control Variable

For the children's health locus of control variable, the factor analysis revealed three factors that accounted for 28.5 percent of the variance. Scale items with factor weights close to .5 were selected for three new scales (see Table 22). The first scale was comprised of five items with the theme of others telling or helping them in some way related to health. All of these items were part of the original subscale(s) described by Parcel and Meyer (1978) and O'Brien, Bush, and Parcel (1989) as powerful others, general and specific. The second scale included three items with the theme of the child making a decision. Item nine (When I am sick, I can do things to get better.) was part of the original subscale for control of self, whereas, items 14 (I always go to the nurse right away if I get hurt at school.) and 18 (Whenever I feel sick I go to see the teacher right away.) were regarded as powerful others items. The items were regarded as control of self items in this study, however, because it is possible to interpret these statements as decisions made by the child. The third scale consisted of two items with the theme of being lucky or things just happening. These were regarded originally as chance related items. The alpha coefficients for these three scales were .571, .483, and .356 respectively. Recent tests by O'Brien, Bush and Parcel (1989) with children in grades one through four revealed an alpha range of .45 to .59 for similar factors.

TABLE 22

Factor Analysis for Children's Health Locus of Control

| Scale Items & Theme | | Factor Weights | Scale Items & Theme | | Factor Weights |
|---|---|---|---|---|---|
| Factor 1 (Others tell/help) | | | Factor 3 (I decision) | | |
| # | 4 | .473 | # | 9 | .489 |
| | 8 | .532 | | 14 | .545 |
| | 13 | .516 | | 18 | .574 |
| | 15 | .465 | | | |
| | 17 | .498 | Factor 4 (Luck/Happen) | | |
| | | | # | 6 | .523 |
| | | | | 10 | .482 |

Relationships were tested between these new children's health locus of control subscale variables and the new variables for the children's perceived self-care health behavior, the three family typologies, and enduring family type; the correlation matrix of values is presented in Table 23. The only significant correlation (weak) was between the sense of self variable from the children's perceived self-care health behavior and the others telling or helping in some way related to health from the children's health locus of control variable ($r$ = .245, $p$ = .001).

One-factor ANOVA tests with the three new children's health locus of control variables and the three family typologies and enduring family type revealed no significant

**TABLE 23**

Correlation Matrix for the Family and All New Children's Variables

| | Factor 1 (Others tell/help) | Factor 3 (I decision) | Factor 4 (Luck/Happen) |
|---|---|---|---|
| Factor 1 (Sense of Self) | .245** | -.011 | .125 |
| Factor 2 (Dental) | .105 | -.130 | -.016 |
| Factor 3 (Sleep/Bedtime) | .105 | -.006 | -.007 |
| Factor 4 (Illness) | .143 | .091 | .112 |
| Factor 8 Food/Weight) | .066 | -.057 | .070 |
| Regenerative typology | .044 | -.045 | .027 |
| Resilient typology | .021 | -.005 | .082 |
| Rhythmic typology | -.039 | -.069 | .046 |
| enduring family type | .027 | -.055 | .039 |

$p$ = .01* & .001**

differences, except for the others telling or helping variable and the Resilient family typology ($F$ = 3.933, $df$ = 3, $p$ = .009). Means and standard deviations for the four types in this typology were: fragile, 1.823, .215; bonded, 1.828, .239; pliant, 1.703, .293; and resilient, 1.850, .197 (see Table 24 for all test values, means, and standard deviations). The Scheffé Procedure indicated the difference to be between the children of resilient families and children of pliant families.

Family Type Variable

In relation to the family variables, the enduring family type did not show the anticipated pattern of results. There was a difference between the children's perceived self-care health behavior in enduring and nonenduring families; however, the comparison was between the means for groups of 34 (3.219) and 202 (3.043) children respectively, i.e., both means fell in the positively perceived self-care health behavior category and there was a difference of only .176 between the means. In the test involving the enduring family type, six types collapsed into a less enduring type, and all remaining children and families (nonenduring), there was no significant difference; group size for these, however, was 34, 114, and 87 respectively. In the test involving the enduring, the six types independently, and the nonenduring, there was a difference, but it was between the children of the combination

**TABLE 24**

Test Values for the Three New Children's Health Locus of Control Variables & the Family Typologies & Enduring Family Type

| | | Factor 1 (Others tell/help) | | | | | Factor 3 (I decision) | | | | | Factor 4 (Luck/happen) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | F | df | p | M | SD | F | df | p | M | SD | F | df | p | M | SD |
| Regenerative Typology | | .564 | 3,232 | .639 | | | .199 | 3,232 | .897 | | | .329 | 3,232 | .805 | | |
| vulnerable | 68 | | | | 1.811 | .229 | | | | 1.566 | .276 | | | | 1.574 | .359 |
| secure | 35 | | | | 1.770 | .253 | | | | 1.567 | .319 | | | | 1.543 | .306 |
| durable | 40 | | | | 1.830 | .184 | | | | 1.533 | .319 | | | | 1.625 | .335 |
| regenerative | 93 | | | | 1.826 | .245 | | | | 1.538 | .295 | | | | 1.586 | .408 |
| Resilient Typology | | 3.933 | 3,232 | .009 | | | .444 | 3,232 | .722 | | | 1.268 | 3,232 | .286 | | |
| fragile | 68 | | | | 1.823 | .215 | | | | 1.539 | .326 | | | | 1.552 | .347 |
| bonded | 41 | | | | 1.828 | .239 | | | | 1.594 | .312 | | | | 1.585 | .386 |
| pliant | 39 | | | | 1.703 | .293 | | | | 1.521 | .292 | | | | 1.513 | .353 |
| resilient | 88 | | | | 1.850 | .197 | | | | 1.549 | .268 | | | | 1.636 | .377 |
| Rhythmic Typology | | .787 | 3,232 | .502 | | | .557 | 3,232 | .644 | | | .248 | 3,232 | .863 | | |
| unpatterned | 83 | | | | 1.817 | .250 | | | | 1.580 | .324 | | | | 1.566 | .356 |
| intentional | 30 | | | | 1.867 | .177 | | | | 1.522 | .243 | | | | 1.550 | .379 |
| structuralized | 32 | | | | 1.780 | .212 | | | | 1.557 | .310 | | | | 1.609 | .353 |
| rhythmic | 91 | | | | 1.806 | .238 | | | | 1.528 | .281 | | | | 1.599 | .382 |
| enduring family type | | .175 | 1,234 | .676 | | | .711 | 1,234 | .400 | | | .361 | 1,234 | .549 | | |
| enduring | 34 | | | | 1.811 | .233 | | | | 1.510 | .236 | | | | 1.618 | .445 |
| nonenduring | 202 | | | | 1.829 | .226 | | | | 1.556 | .305 | | | | 1.577 | .353 |

regenerative and resilient type and the nonenduring. In post hoc tests with the typologies and the children's perceived self-care health behavior, most differences were between groups four and one; family placement in these groups was determined by high scores on both of the variables or low scores on both of the variables respectively.

Based upon these observations, therefore, it appeared that the most nonenduring or least enduring families should be analyzed. Similar to the enduring family type created from the composite of regenerative, resilient, and rhythmic family types from the three typologies, the least enduring family type was created from the composite of vulnerable, fragile, and unpatterned family types (see Figure 5 for the graphic representation). There were 24 families in this group. The profile of these and the enduring type families is presented in Table 25 and the profile of their children is presented in Table 26. In general the enduring type families tended to be smaller, have a higher number employed, have a smaller number with the very low income, and be better educated. In relation to the children, both groups had more girls than boys and the percentage was higher in the least enduring group. Age distribution was similar for the two groups. Grade distribution, however, differed. Fourth grade percentages were similar but they were reversed for the fifth and sixth grades. The adolescent and launching family life cycle developmental stage had the higher percentages of children for both groups,

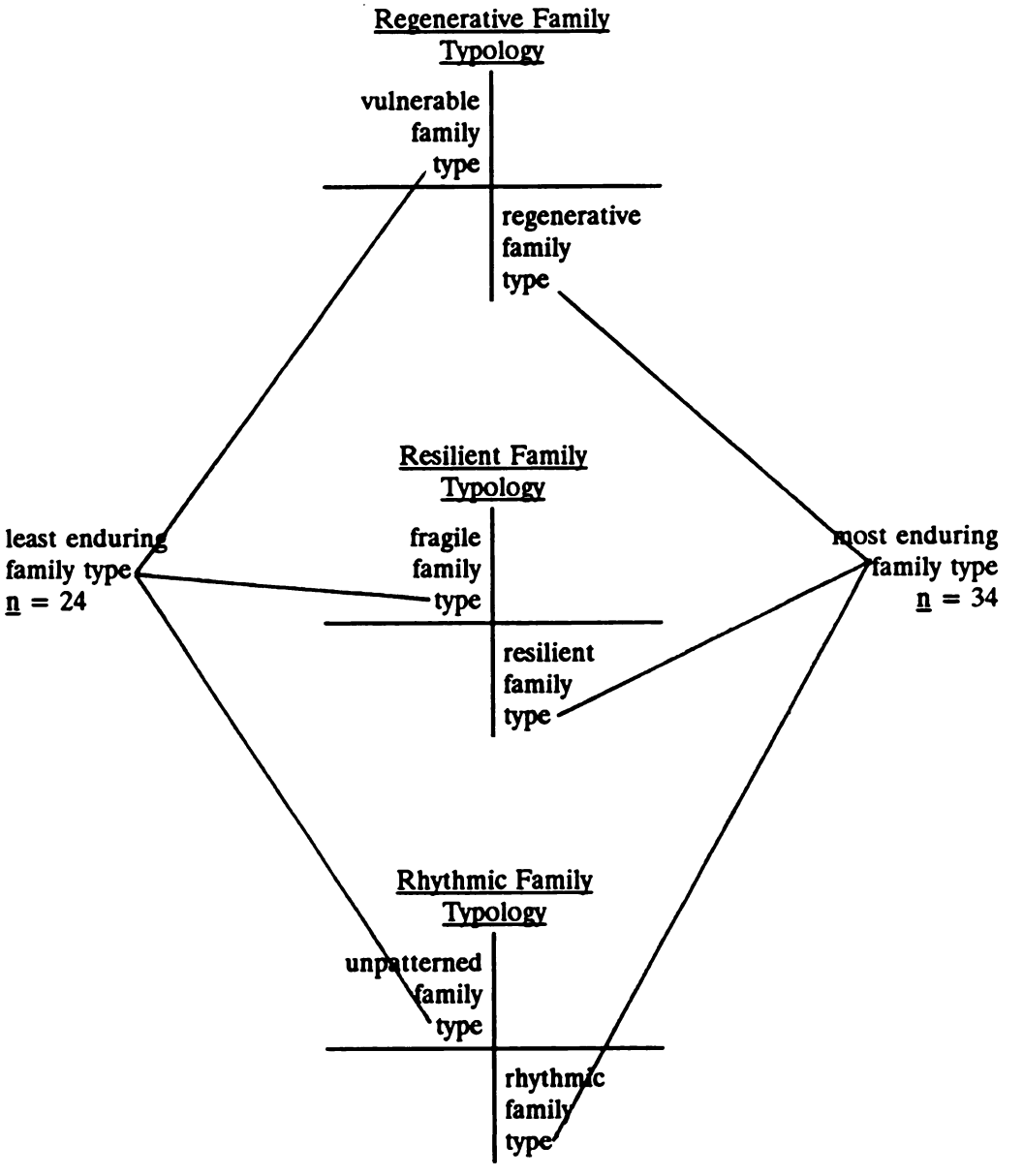



FIGURE 5

**Derivation of the Most & Least Enduring Type Families**

TABLE 25
Profile of Most & Least Enduring Type Families

| | Most enduring n = 34 | Least enduring n = 24 |
|---|---|---|
| Sex of respondent | | |
| Male | 4 (12.1%) | 4 (16.7%) |
| Female | 29 (87.9%) | 20 (83.3%) |
| Age range | | |
| Respondent | 25–50 | 28–61 |
| Spouse | 25–55 | 24–58 |
| Marital status | | |
| Married | 27 (81.8%) | 18 (75.0%) |
| Divorced | 1 (3.0%) | 2 (8.3%) |
| Remarried | 3 (9.1%) | 2 (8.3%) |
| Living with Significant Other | 2 (6.1%) | 2 (8.3%) |
| Number of Children | | |
| 1–2 | 14 (42.4%) | 8 (33.3%) |
| 3 | 12 (36.4%) | 8 (33.3%) |
| 4–5 | 4 (12.1%) | 6 (25.0%) |
| >5 | 3 (9.1%) | 2 (8.3%) |
| Employment, Respondent | | |
| Employed | 26 | 16 |
| Unemployed | 3 | 3 |
| Employment, Spouse | | |
| Employed | 27 | 16 |
| Unemployed | 4 | 2 |

**TABLE 25 (con't.)**

| | | |
|---|---|---|
| Income | | |
| <$15,000 | 6 (17.6%) | 9 (39.1%) |
| $15,000–25,000 | 13 (38.2%) | 2 (8.7%) |
| $25,000–35,000 | 5 (14.7%) | 7 (30.4%) |
| >$35,000 | 10 (29.4%) | 5 (21.7% |
| Education, Respondent | | |
| High School or less | 10 (29.4%) | 12 (52.2%) |
| Vocational training | 4 (11.8%) | 1 (4.3%) |
| Some college to graduate degree | 20 (58.8%) | 10 (43.5%) |
| Education, Spouse | | |
| High School or less | 12 (36.4%) | 16 (76.2%) |
| Vocational training | 2 (6.1%) | 0 (0.00%) |
| Some college to graduate degree | 19 (57.6%) | 5 (23.8%) |

TABLE 26

Profile of Children in Most & Least Enduring Type Families

| | | Sex | | Age | | | Grade | | | Family Developmental Stage | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | Boys | Girls | ≤10 | 11 | ≥12 | 4 | 5 | 6 | Preschool & School Age | Adolescent & Launching |
| Most enduring | 34 | 16 (47.1%) | 18 (52.9%) | 10 (29.4%) | 13 (38.2%) | 11 (32.4%) | 8 (23.5%) | 12 (35.3%) | 14 (41.2%) | 13 (38.2%) | 21 (61.8%) |
| Least enduring | 24 | 10 (41.7%) | 14 (58.3%) | 7 (29.2%) | 10 (41.7%) | 7 (29.2%) | 6 (25.0%) | 10 (41.7%) | 8 (33.3%) | 7 (29.2%) | 17 (70.8%) |

but the least enduring group's percentage was higher than that for the most enduring.

The one-factor ANOVA test results with the children's perceived self-care health behavior and the enduring, least enduring, and all other family types revealed a significant difference ($F = 4.675$, $df = 2,232$; $p = .010$). Means for these groups were 3.22, 2.90, and 3.06 respectively; this was a difference of .32 between the children of the most and least enduring versus the .178 above for the enduring and nonenduring. A profile of the values for the children's perceived self-care health behavior in the most and least enduring families is presented in Table 27. Some children of the most

TABLE 27

Children's Perceived Self-Care Health Behavior in the Most & Least Enduring Type Families

| | Range | $\bar{X}$ | SD | #<2.5 | #2.5-3.24 | #>3.24 |
|---|---|---|---|---|---|---|
| Most enduring $n = 34$ | 1.81-3.91 | 3.22 | .451 | 3 (8.8%) | 13 (38.2%) | 18 (52.9%) |
| Least enduring $n = 24$ | 1.89-3.41 | 2.90 | .380 | 3 (12.5%) | 17 (70.8%) | 4 (16.7%) |

enduring families did have lower scores than those in the least enduring and their range was wider but the upper limit of their range was higher, as was their mean. Additionally, the number of most enduring family children scoring above 3.24 greatly exceeded the number of least enduring in that category.

In a two-factor ANOVA with the children's perceived self-care health behavior and both the family type and developmental stage, there was no significant two-way interaction ($F$ = 1.030, $df$ = 2,229; $p$ = .359) or main effect for developmental stage ($F$ = 2.807, $df$ = 1,229; $p$ = .095). There was, however, a main effect for family type ($F$ = 4.560, $df$ = 2,229; $p$ = .011); means for these types were the same as those listed above. Although the main effect for developmental stage was not significant, the situation with the means for the two types was worth noting, i.e, the mean for the children of the least enduring families in the preschool and school age stage was lower at 2.79 than for the adolescent and launching stage at 2.94, whereas, for those of the most enduring families in the preschool and school age stage, the mean was higher at 3.31 than for the adolescent and launching stage at 3.16.

A fourth family type was added to the enduring, least enduring and all other family types, i.e., the less enduring created from the six variables described in hypothesis 17 (see Figure 6). These four types and the children's perceived self-care health behavior, children's health locus of control, and the three new children's perceived self-care health behavior variables were tested with the one-factor ANOVA. There were significant differences in every case except the children's health locus of control (see Table 28 for all test values, means and standard deviations); cell sizes, however, continued to be very uneven. The Scheffé Procedure revealed

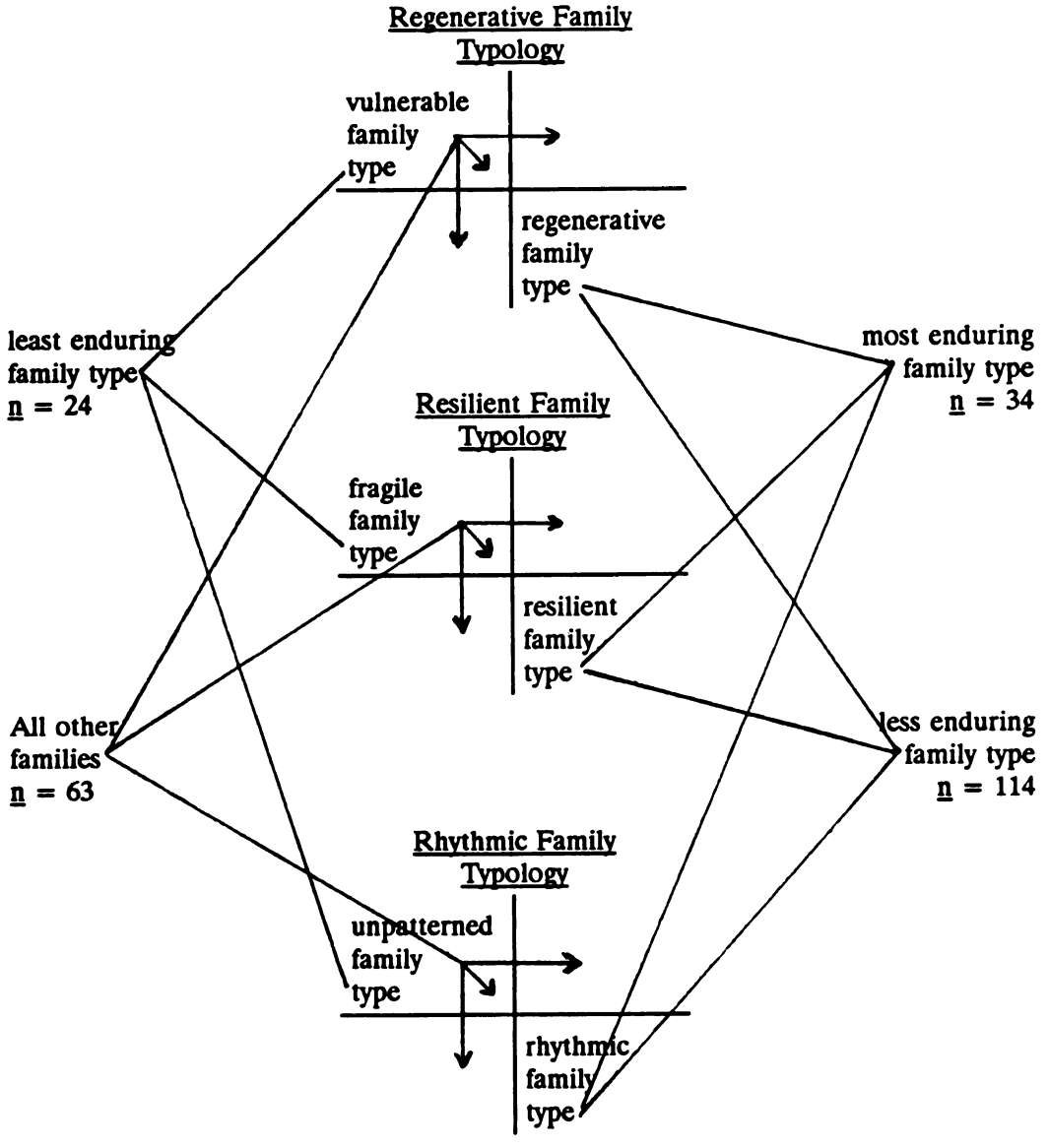



FIGURE 6

**New Categories of Enduring Type Families**

TABLE 28

Values for the Old & New Children's Variables & New Family Types

| | Test Values | | | Most enduring | | | Less enduring | | | All others | | | Least enduring | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Children's Variables | F | df | p | n | M | SD | n | M | SD | n | M | SD | n | M | SD |
| Children's Perceived Self-Care Health Behavior | 5.311 | 3,231 | .002 | 34 | 3.219 | .451 | 114 | 3.118 | .393 | 63 | 2.962 | .367 | 24 | 2.897 | .376 |
| Factor 1 (Sense of Self) | 4.263 | 3,231 | .006 | 34 | 3.300 | .609 | 114 | 3.170 | .559 | 63 | 2.977 | .539 | 24 | 2.866 | .662 |
| Factor 3 (Sleep/Bedtime) | 4.844 | 3,231 | .003 | 34 | 2.990 | .680 | 114 | 2.844 | .588 | 63 | 2.700 | .608 | 24 | 2.433 | .516 |
| Factor 8 (Food/Weight) | 4.090 | 3,231 | .007 | 34 | 2.879 | .557 | 114 | 2.794 | .561 | 63 | 2.589 | .587 | 24 | 2.486 | .501 |
| Children's Health Locus of Control | .555 | 3,232 | .645 | 34 | 35.941 | 3.005 | 114 | 35.330 | 2.785 | 63 | 35.254 | 2.725 | 24 | 35.146 | 3.027 |

group differences between children of the least enduring families and most enduring families for the children's perceived self-care health behavior and new sense of self and sleep/bedtime variables. Additionally, for the children's perceived self-care health behavior, there was a difference between children of the most enduring and those of the all other family types group. Also, for the new sleep/bedtime, there was a significant difference between children of less enduring families and the least enduring. There were no significant between group differences for the eating/weight variable.

## Summary of the Hypothesis Testing

Of the 27 null hypotheses prepared for this study, 10 were rejected and 17 were supported (see Table 29 for a summary of the results reported). For one of the 10 rejected, there was some qualification; similarly, in two of the 17 that were supported, there were qualifications.

In general test results for the hypotheses with significant relationships between the variables indicated weak positive correlations. Specifically, there was a significant, positive, weak correlation between the children's perceived self-care health behavior and the Regenerative and Resilient family typologies and enduring family type. Similarly, of the six variables comprising the three family typologies, there was a significant, positive, weak correlation between the

TABLE 29

Summary of Hypothesis Testing Results

| Hypotheses | | Test | Rejected | Supported |
|---|---|---|---|---|
| 1. | There is no relationship between the perceived self-care health behavior of children and the Regenerative family typology. | Pearson Correlation | X | |
| 2. | There is no relationship between the perceived self-care health behavior of children and the Resilient family typology. | Pearson Correlation | X | |
| 3. | There is no relationship between the perceived self-care health behavior of children and the Rhythmic family typology. | Pearson Correlation | | X |
| 4. | There is no relationship between the perceived self-care health behavior of children and the enduring family type (composite of the regenerative, resilient, and rhythmic types from the three family typologies). | Pearson Correlation | X | |
| 5. | There are no differences in the perceived self-care health behavior of children by their family types in the Regenerative family typology. | One-factor ANOVA with Scheffé Procedure | X | |
| 6. | There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Regenerative family typology. | Three-factor ANOVA | | X |
| 7. | There are no differences in the perceived self-care health behavior of children by their family types in the Regenerative family typology by family life cycle stage. | Two- & Three-factor ANOVA | | X* |

TABLE 29 (con't.)

| | | | | | |
|---|---|---|---|---|---|
| 8. | There are no differences in the perceived self-care health behavior of children by their family types in the Resilient family typology. | One-factor ANOVA with Scheffé Procedure | X | | |
| 9. | There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Resilient family typology. | Three-factor ANOVA | | | X |
| 10. | There are no differences in the perceived self-care health behavior of children by their family types in the Resilient family typology by family life cycle stage. | Two- & Three-factor ANOVA | | | X |
| 11. | There are no differences in the perceived self-care health behavior of children by their family types in the Rhythmic family typology. | One-factor ANOVA with Scheffé Procedure | | | X |
| 12. | There are no differences in the perceived self-care health behavior of children by their sex and grade and their family types in the Rhythmic family typology. | Three-factor ANOVA | | | X |
| 13. | There are no differences in the perceived self-care health behavior of children by their family types in the Rhythmic family typology by family life cycle stage. | Two & Three-factor ANOVA | | | X |
| 14. | There are no differences in the perceived self-care health behavior of children from enduring (composite of regenerative, resilient, and rhythmic family types) and nonenduring type families. | One-factor ANOVA | X | | |
| 15. | There are no differences in the perceived self-care health behavior of children by sex and grade in enduring and nonenduring type families. | Three-factor ANOVA | | | X* |

TABLE 29 (con't.)

| | | | | |
|---|---|---|---|---|
| 16. | There are no differences in the perceived self-care health behavior of children in enduring type families by developmental stage. | Two- & Three factor ANOVA | | X |
| 17. | There are no differences in the perceived self-care health behavior of children from regenerative, resilient, rhythmic, and enduring (composite of regenerative, resilient, and rhythmic family types) family types. | One-factor ANOVA with Scheffé Procedure | X* | |
| 18. | There is no relationship between the perceived self-care health behavior of children and their health locus of control. | Pearson Correlation | X | |
| 19. | There are no differences in the perceived self-care health behavior of children according to their health locus of control. | One-factor ANOVA | X | |
| 20. | There are no differences in the health locus of control of children by their family types in the Regenerative family typology. | One-factor ANOVA | | X |
| 21. | There are no differences in the health locus of control of children by their family type in the Resilient family typology. | One-factor ANOVA | X | |
| 22. | There are no differences in the health locus of control of children by their family types in the Rhythmic family typology. | One-factor ANOVA | | X |
| 23. | There are no differences in the health locus of control of children in enduring and nonenduring families. | One-factor ANOVA | | X |
| 24. | There are no differences in the perceived self-care health behavior of children by their health locus of control in the Regenerative family typology. | Two-factor ANOVA | | X |

TABLE 29 (con't.)

| | | | |
|---|---|---|---|
| 25. | There are no differences in the perceived self-care health behavior of children by their health locus of control in the Resilient family typology. | Two-factor ANOVA | X |
| 26. | There are no differences in the perceived self-care health behavior of children by their health locus of control in the Rhythmic family typology. | Two-factor ANOVA | X |
| 27. | There are no differences in the perceived self-care health behavior of children by their health locus of control in the enduring and nonenduring families. | Two-factor ANOVA | X |

* See text for further explanation.

children's perceived self-care health behavior and the hardiness, coping, bonding, and time and routines variables. The correlation between the children's perceived self-care health behavior and their health locus of control also was weak, positive, and significant. There was no correlation between the children's health locus of control and the three family typologies, the enduring family type, or the six variables comprising the typologies.

The focus of several of the hypotheses was the possible differences in the children's perceived self-care health behavior according to their family types in the three family typologies and enduring family type. The results of ANOVA tests indicated differences with the Regenerative and Resilient family typologies and the enduring family type. Neither children's sex and grade nor family life cycle

developmental stage influenced the differences found. There was, however, a significant two-way interaction with the children's sex and the enduring family type, as well as a significant three-way interaction with family life cycle developmental stage, children's sex, and family types in the Regenerative family typology.

Post hoc test results with the two typologies in which there were differences revealed those to be chiefly between the groups with high scores on both variables (regenerative and resilient family types) and those with low scores on both (vulnerable and fragile family types). Although there was a significant difference in the children's perceived self-care health behavior in enduring and nonenduring families, further exploration with the groups tested with the enduring family type indicated the difference to be between the regenerative and resilient combination family type and the nonenduring family type.

The enduring family type became relevant when it was regarded as the most enduring family type and compared with the least enduring family type. Similarly, when it was compared with the less enduring, least enduring, and all other family types, the differences were between the most enduring and both the least enduring and all other family types. The mean for the less enduring family type group which contained the variety of single and combination regenerative, resilient, and rhythmic family types was lower than that for the most

enduring type but the difference was not significant. It also was the largest of the four groups.

Differences in the children's health locus of control were found with only the Resilient family typology. Although differences were evident in the children's perceived self-care health behavior according to their health locus of control, they did not hold with the three family typologies or enduring family type.

# CHAPTER V

# DISCUSSION AND CONCLUSIONS

The purpose of this study was to investigate children's perceived self-care health behavior according to their family types. Hypotheses were prepared that reflected both relationships between this variable and the family types and differences in this variable according to the family types variables. Children's health locus of control was considered in some hypotheses, as were children's sex and grade and family life cycle developmental stage. Results were based upon tests of data gathered from a convenience sample of children and parents in 236 families.

## Discussion of Results for the Study Variables

### Children's Variables

Children's perceived self-care health behavior. Almost 90 percent of the children in the sample scored in the upper two categories of the range for this variable and the majority of those scored between 2.50 and 3.24. Although variability on the scale appeared limited, the number of children tested was sufficiently large to feel confident that there were real differences among the children. The scale's variability was

slightly greater than that reported by the scale's author, however, based upon a comparison of the standard deviations, i.e., .36 versus .404 in this study (Hester, 1985). The mean for the sample in this study was slightly lower at 3.068 than the 3.19 reported for the sample of 470 children on which the instrument was standardized. The children in that sample ranged in age from seven through twelve and came from lower to upper-middle class families in two rural mountain communities. As in this study, analysis of variance test results revealed no differences due to sex ($p$ = <.05). With that sample of children, however, there were significant differences by grade, i.e., the mean for fourth grade children was significantly lower at 3.10 ($SD$ = .39); it was the lowest of the five grades (second through sixth) tested and no explanation could be offered by the author. There was no significant difference by grade in this study; however, the mean of 2.99 for the fourth grade children also was the lowest of the three grades tested. The pattern of means for the three grades in this study actually was similar to the Hester (1985) sample with fifth grade children having the highest mean, sixth graders next, and fourth graders last. Sex and grade differences have been found by other investigators (Rashkis, 1965; Altman and Revenson, 1985; Perry, Griffin, and Murray, 1985; Cohen, Brownell, and Felix, 1990); however, no real comparisons could be made due to the wide variation in methodology,

instrumentation, and sample size and description. These variables should continue to be considered.

Children's health locus of control. There was little variability in the scale utilized for this variable with almost 98 percent of the children scoring in the upper two categories of the range and more than two-thirds of those scoring between 35.0 and 40.0. Additionally, the standard deviation was 2.818, lower than those achieved on the test-retest of 140 third, fourth, and fifth grade children of mixed ethnicity in the sample utilized by the authors of the scale, i.e., 3.90 and 3.32 respectively (Parcel and Meyer, 1978). Their means were 30.96 and 32.12 respectively compared with the mean of 35.379 for children in this study. Their means for boys at 32.24 and 32.44 were slightly higher than the 30.70 and 31.82 for girls; the pattern was similar in this study with boys at 35.67 and girls at 35.16. The pattern for the means of the children by grade showed a similar gradual increase from fourth to sixth in this study and third to fifth in their study. In the study by Cohen, Brownell, and Felix (1990) described earlier in Chapter II, similar results with sex and grade were obtained with health locus of control. The main effect for sex was significant for two groups of children ($F = 7.11$, $df = 1,1260$, $p = <.01$ and $F = 13.58$, $df = 1,2056$, $p = <.01$); in the younger group (grades three to five), boys had more internality than girls, whereas, in the older group (grades six to eleven), the reverse was true. The main effect

for grade also was significant in both groups ($F$ = 41.80, $df$ = 2,1260, $p$ = <.001 and $F$ = 39.12, $df$ = 6,2056, $p$ = <.001). Pertinent post hoc Scheffé test ($p$ = <.05) results revealed grade three children to be less internal than grades four and five, and grade six children to be more internal than grade seven but less than eight through twelve.

There has been some criticism of the Children's Health Locus of Control scale in relation, for example, to high item means, and a question was posed regarding the wisdom of continuing to invest effort in it (Hearne and Klockars, 1988). The response by one of the scale's authors indicated concern over analysis of the scale based upon only one grade level, i.e., sixth (Parcel, 1988). Parcel commented that,

> findings regarding high item means are consistent with previous results reported with the CHLC scale. As children mature, they are better able to respond to items in the internal direction resulting in high item means and little discrimination between subjects within the older age group (p. 19).

Potential users of the scale were reminded that it was designed to measure younger children's perceived sources of reinforcement for health-related outcomes. Choice of the scale by any investigator should be based upon the appropriate theoretical fit between the scale and purpose of the study and it should be pilot tested for its appropriate application to the study population, especially older children. Parcel

(1988) further invited investigators to provide feedback regarding results obtained with the use of the scale.

According to Parcel (1988), one use of the scale has been the evaluation of health education programs. For example, in a study by Blazek and McClellan (1983), a significant difference was found in the performance of an experimental group of students who received self-care instruction versus the control group who attended a health discussion ($t$ = 2.8948, $p$ = <.0061, $df$ = 40). The sample included 42 randomly selected fifth grade children from an upper middle class school district in the Southwest. Similarly, in relation to this study, it is possible that the high overall mean, as well as the pattern of increase in mean by grade, was influenced by the exposure of the sample children to The Duncan Series (see Appendix G). Although it is a program that focuses on substance abuse and not health behavior, its prevention emphasis reflects the theme of empowerment. One of its two primary components, the skill building lessons, includes six subject areas: self image, communication, coping, making decisions, solving problems, and peer pressure.

## Family Variables

As indicated previously, variables for the families were the three family typologies and each typology consisted of four family types. Values for the distribution of sample families according to family types in the typologies were presented in Tables 9, 10, and 11. Comparison of these values

with the original study by McCubbin, Thompson, Pirner, and McCubbin (1988) that tested the typologies indicated similarities and differences. Their sample consisted of 304 individuals representing families from 21 states; Michigan was one of the states and contributed 6.5 percent to the sample. Of the 304 families, 163 were in the two family life cycle developmental stages specified in this study; there were 76 (46.6%) in the preschool and school age stage and 87 (53.4%) in the adolescent and launching stage. By comparison, in this sample, the percentage of families was lower in the first stage (101, 42.8%) and higher in the second (135, 57.2%).

For the Regenerative family typology, the distribution was similar for the vulnerable families in this study (28.8%) and that of McCubbin et al. (29.4%), as well as for the durable families (16.9% and 16.0% respectively). Secure families differed at 14.8 percent and 20.2 percent, as did regenerative families at 39.4 percent and 34.4 percent respectively. By family life cycle developmental stage there were differences in the distribution of the families in the four types (see Table 30 for specific values). Overall, the major differences in the preschool and school age stage families were in the extremes of the vulnerable and regenerative types; whereas, with the adolescent and launching stage families, it was the middle secure and durable types that differed more. Percentages of regenerative type families in both studies were the highest of the four types in the

TABLE 30

Comparison of Distributions in the Family Developmental Stages

| | Preschool & School Age | | Adolescent & Launching | |
|---|---|---|---|---|
| Family Typology & Type | This study | McCubbin et al. | This study | McCubbin et al. |
| Regenerative | | | | |
| vulnerable | 19(18.8%) | 18(23.6%) | 49(36.3%) | 30(34.5%) |
| secure | 19(18.8%) | 16(21.1%) | 16(11.8%) | 17(19.5%) |
| durable | 19(18.8%) | 17(22.4%) | 21(15.6%) | 9(10.4%) |
| regenerative | 44(43.6%) | 25(32.9%) | 49(36.3%) | 31(35.6%) |
| Totals | 101(100.0) | 76(100.0) | 135(100.0) | 87(100.0) |
| Resilient | | | | |
| fragile | 22(21.8%) | 21(27.6%) | 46(34.1%) | 31(35.6%) |
| bonded | 18(17.8%) | 18(23.7%) | 23(17.0%) | 10(11.6%) |
| pliant | 14(13.9%) | 14(18.4%) | 25(18.5%) | 25(28.7%) |
| resilient | 47(46.5%) | 23(30.3%) | 41(30.4%) | 21(24.1%) |
| Totals | 101(100.0) | 76(100.0) | 135(100.0) | 87(100.0) |
| Rhythmic | | | | |
| unpatterned | 36(35.6%) | 16(21.1%) | 47(34.8%) | 44(50.6%) |
| intentional | 13(12.9%) | 9(11.8%) | 17(12.6%) | 13(14.9%) |
| structuralized | 17(16.8%) | 11(14.5%) | 15(11.1%) | 6(6.9%) |
| rhythmic | 35(34.7%) | 40(52.6%) | 56(41.5%) | 24(27.6%) |
| Totals | 101(100.0) | 76(100.0) | 135(100.0) | 87(100.0) |

preschool and school age stage; whereas, in the adolescent and launching stage, percentages for regenerative types were very similar to those for vulnerable types. The increase in vulnerable type families is indicative of the changes in roles and rules occurring in these families as their children begin to leave home (McCubbin, Thompson, Pirner, and McCubbin, 1988). When differences in the distribution of family types across the family life cycle were tested in their study, none were found for the Regenerative typology even though there appeared to be variation in the numbers of vulnerable families ($\chi^2(3) = 11.57$, $p = .48$) (McCubbin et al., 1988).

In relation to the Resilient typology for the two studies, the similarity was in the bonded family type, 17.4 percent for this study and 17.2 percent for that by McCubbin et al. Differences were greatest between the resilient types at 37.3 percent and 27.0 percent respectively, followed by the pliant at 16.5 percent and 23.9 percent and the fragile types at 28.8 percent and 31.9 percent. As indicated in Table 30, except for the fragile family type in the adolescent and launching family developmental stage, there were differences in the distribution of the families in every type in the two stages. Again, the percentages of resilient type families were the highest of the four types in the preschool and school age stage in both studies, but those for the fragile type families were the highest in the adolescent and launching stage. When differences in the distribution of family types

across the family life cycle were tested, there were significant differences in the Resilient typology, although the probability level was set at .10 ($\underline{X}^2(3) = 19.79$, $\underline{p} = .10$; Cramer's V = .15) (McCubbin et al., 1988). Resilient and pliant family types were relatively evenly distributed across the family life cycle developmental stages but the fragile and bonded types varied. The number of fragile families was highest at the adolescent and launching family life cycle developmental stage, whereas, the peak in the number of bonded families was at the single stage (family of origin).

Of the three typologies, the distribution of families according to family type in the Rhythmic family typology in this study and that of McCubbin et al. (1988) was the most similar. For the unpatterned type, percentages were 35.2 and 36.8; whereas, for the intentional, they were 12.7 and 13.5 and, for the rhythmic, they were 38.6 and 39.3. Percentages for the structuralized did differ at 13.6 and 10.4. Comparison of values by family developmental stage, however, revealed major differences. In the McCubbin et al. study, the percentage of rhythmic families in the preschool and school age stage was not only the highest, but also it was more than twice that of the next highest fragile type. In their adolescent and launching stage group, the opposite pattern was true; the highest percentage was the unpatterned family type and it was almost twice that of the next highest rhythmic type. In this study, the reverse pattern existed; however,

there were no extremely high percentages of any type. In the preschool and school age stage, there were only slightly more families of the unpatterned than the rhythmic type, whereas, in the adolescent and launching stage, there were more of the rhythmic than unpatterned. When differences in distribution of family types across the family developmental stages were tested, there were significant differences in the Rhythmic typology ($\chi^2(3) = 45.56$, $p = <.001$; Cramer's V = .22) (McCubbin et al., 1988). The number of rhythmic families gradually increased through the preschool and school age stage and then declined sharply at the adolescent and launching stage. Correspondingly, the number of unpatterned families rose sharply at the adolescent and launching family life cycle developmental stage.

Family types from the three typologies of interest in both studies were the regenerative, resilient, and rhythmic. Percentages of families of these types were close in this study at 39.4, 37.3, and 38.6 respectively, whereas, in the McCubbin et al. study, they were 34.4, 27.0, and 39.3 respectively. The enduring family type, which was the composite of these three regenerative, resilient, and rhythmic types, also was of great interest. Thirty-four families comprised this type in this study, whereas, in the McCubbin et al. study, there were only five enduring type families.

## Discussion of Results for the Hypothesis Testing

### Hypotheses Concerned with Relationships

Three of the four null hypotheses concerned with a relationship between the children's perceived self-care health behavior and the three family typologies and enduring family type were rejected. Specifically, there was a relationship between children's perceived self-care health behavior and the Regenerative family typology, the Resilient family typology, and the enduring family type. Additionally, there were relationships between children's perceived self-care health behavior and both the hardiness and coping variables comprising the Regenerative typology. With the variables for the Resilient typology, however, there was a relationship with only the bonding variable. Although there was no relationship between the children's perceived self-care health behavior and the Rhythmic family typology, there was a relationship with one of the constituting variables, the time and routines variable. All significant correlations were weak ($r$ = .154 to .323) and positive.

The pattern established in the relationships was supported by the regression analysis results. The Resilient family typology and its bonding variable were the variables to enter the two equations first. In the first equation at the second step, the Regenerative family typology approached significance ($t$ = 1.857, $p$ = .065) and, in the second equation at the second step, the coping variable for that typology

approached significance ($t$ = 1.844, $p$ = .067). The amount of variance accounted for by either significant variable, however, was small; with the Resilient family typology it was 6.6 percent ([$R^2$ = .066] $F$ = 14.333, $df$ = 1,204, $p$ = <.001) and with the bonding variable, it was 8.7 percent ([$R^2$ = .087] $F$ = 19.450, $df$ = 1,204, $p$ = <.001).

These results were slightly stronger, however, than those obtained by Loveland-Cherry (1982) with a sample of 92 single and two-parent families and their nine to fourteen year old children. The range for the significant positive correlations between family cohesion, which was similar to the bonding variable of this study, and the variables of physical activity, nutrition, and total health behavior was .12 to .14. There was no correlation between family cohesion and sleep behavior. Significant positive correlations between family promotion of autonomy and the variables of physical activity and total health behavior were .20 and .13 respectively. The amount of variance explained in only the total health behavior dependent variable was 1.2 percent ($R^2$ = .012) by the family cohesion variable and, by the promotion of autonomy variable, it was 1.9 percent ($R^2$ = .019). Together the variables accounted for 2.4 percent ($R^2$ = .024) of the variance.

Hypotheses Concerned with Differences by Family Types

The concern in hypotheses five through seventeen in general was differences in children's perceived self-care health behavior according to family types. In five of the

thirteen null hypotheses the focus was differences by family types only and four of those five were rejected. Similar to the hypotheses involving relationships between the variables, significant differences in the children's perceived self-care health behavior were evident with the Regenerative family typology, Resilient family typology, and enduring family type. The pattern differed, however, in the two family typologies. Means in the Regenerative family typology increased gradually from a low of 2.952 for children of vulnerable families to a high of 3.180 for those from regenerative type families. In contrast, in the Resilient family typology, influence of the bonding variable was apparent as means for the bonded and resilient types were higher at 3.121 and 3.218 respectively than for the fragile and pliant types at 2.942 and 2.896. In both typologies post hoc test results indicated the children's differences to be between group four family types (regenerative and resilient) and group one types (vulnerable and fragile). Additionally, in the Resilient typology, the difference was between group four and group three, resilient and pliant family types. The range of differences between these various pairs of means was .276 to .322. For the Rhythmic family typology in which there were no significant differences, the children's means ranged from a low of 3.004 in the structuralized families to a high of 3.163 in the rhythmic families, a difference of .153.

Some of these findings with the typologies and family types were compatible with the Typology Model in which the most desirable family types from the Regenerative and Resilient typologies were hypothesized to be the regenerative and resilient (McCubbin, Thompson, Pirner, and McCubbin, 1988). In that study, when the Regenerative typology was tested with the dependent variable, satisfaction with the physical and emotional health of family members, the relationship was positive and significant ($\underline{X}^2(3) = 7.28$, $\underline{p} = .063$, Cramer's V = .15). The hypothesis was supported that health of family members was emphasized more frequently in regenerative type families and these families were more likely to indicate high satisfaction with the health of family members. With the Resilient family typology, however, there was not a significant relationship ($\underline{X}^2 = 4.24$, $\underline{p} = .237$, Cramer's V = .12). Resilient type families were not more likely than fragile, bonded, or pliant types to indicate high satisfaction with the health of family members. Similarly, in the Rhythmic family typology, which did not reach significance in this study, the relationship between this typology and the satisfaction with health of family members was not significant ($\underline{X}^2(3) = 1.09$, $\underline{p} = .780$, Cramer's V = .06). Rhythmic type families were not more likely than unpatterned, intentional, or structuralized family types to indicate high satisfaction with the health of family members. When this dependent variable became part of a composite family well-being index of

family, marital, child development, health, and community satisfaction, however, relationships with all three typologies were positive and significant (Regenerative: $\chi^2(3) = 48.34$, $p = <.001$, Cramer's V = 140; Resilient: $\chi^2(3) = 30.94$, $p = <.001$, Cramer's V = .32; Rhythmic: $\chi^2(3) = 18.85$, $p = <.001$, Cramer's V = .25). As hypothesized, family well-being was emphasized in regenerative, resilient, and rhythmic type families.

Contrary to the results in this study, the Regenerative and Rhythmic family typologies were more often important in the McCubbin et al. study. For example, in a stepwise regression analysis with the family well being dependent variable, the Regenerative family typology entered the equation first, explaining five percent of the variance ([$R^2 = .05$] $F = 17.56$, $p = <.001$).

The enduring family type was not tested or analyzed in the study by McCubbin et al. (1988) in the same manner as the family typologies since it was a composite of the most ideal regenerative, resilient, and rhythmic family types. Characteristics for this type were identified through an item analysis involving a within-group comparison between the regenerative, resilient, and rhythmic families and all other families (see Chapter I for the list of characteristics by family life cycle developmental stage). The number (34) of enduring families in this study was much greater than the number (5) in the McCubbin et al. study and they had a larger

sample (304). Their sample, however, represented 21 states and had different characteristics. For example, their families in general were smaller, had a higher income, and were educated at a higher level than those in this study.

The number of enduring families in this study was more reflective of the Pratt (1976) study in which the energized family was conceptualized. Ten percent of the 273 families were considered fully energized and another 20 to 30 percent were semi-energized since they had some of the features of the model. Eight percent were regarded as nonenergized. In this study, almost half of the families were considered less enduring since they were classified as regenerative, resilient, or rhythmic singly or in some combination. Twenty-four (10.2%) families were of the least enduring type since they had none of the qualities, i.e., they scored low on both variables that formed each typology.

The test for differences in perceived self-care health behavior of children from enduring versus nonenduring families was significant; however, sample sizes were very uneven and the nonenduring group included a wide variety of family types. Efforts to refine the groups to be tested had mixed results. In one case, the regenerative and resilient combination family type instead of the enduring family type was identified as the type significantly different from the nonenduring family type. This would indicate that the rhythmic component in the enduring family type was not contributing enough to make the

composite stronger than the other two components alone and may, in fact, have weakened the composite. The mean for children in the 21 combination regenerative and resilient families was slightly higher than for those of the 34 enduring (3.393 versus 3.219) and their range was more narrow (SD = .272 versus .451). No child in the regenerative and resilient combination scored below 2.69; whereas, some children from the enduring families scored as low as 1.81. Only two of the children from the enduring families scored higher than the range high for the combination group and a higher percentage (61.90% versus 52.94%) of the combination group had mean scores of 3.25 or higher (most positively perceived self-care health behavior). In another case of redefining the groups, when the 34 children from enduring families were tested with the 21 least enduring, there were significant differences. In that instance, the four means decreased steadily from a high of 3.219 in the children of the most enduring to a low of 2.897 in the least enduring, a difference of .322 (see Table 28). This would indicate that there was a continuum of families with extremes of characteristics and the differences in the perceived self-care health behavior of the children were the greatest in these families.

The remaining eight of the thirteen hypotheses dealing with differences in children's perceived self-care health behavior according to family types incorporated variables of children's sex and grade and family life cycle developmental

stage. It should be noted that, in many instances, cell sizes were less than 10; therefore, interpretation should be done with caution. As indicated previously, no differences were found by grade nor were there differences by sex in the children's perceived self-care health behavior in the family types of the three typologies. There was, however, a two-way interaction with the enduring family type and children's sex which affected the interpretation of a significant main effect for enduring family type. A marked increase was evident in the means of girls and a very slight decrease occurred in the means of boys from nonenduring and enduring families. The high mean for the girls apparently accounted for the difference between the enduring and nonenduring family types; however, no definitive conclusions should be drawn, regarding children's perceived self-care health behavior by their sex in the enduring family type.

In relation to family life cycle developmental stage, two-factor ANOVA test results showed no differences in the children's perceived self-care health behavior in the family typologies or enduring family type. There also were no differences when children's sex and grade were added to three-factor ANOVA tests except for a significant three-way interaction with children's sex in the Regenerative family typology. This influenced any interpretation of the significant main effect for the Regenerative family typology. There were no distinct patterns in the means for the boys and girls

in the two family developmental stages; however, no conclusions should be drawn regarding possible differences in the children's perceived self-care health behavior by children's sex and family life cycle developmental stage in the Regenerative family typology.

Overall, however, family life cycle developmental stage did not make a difference in the children's perceived self-care health behavior according to family types. These results can be contrasted with those from the study by McCubbin, Thompson, Pirner, and McCubbin (1988) in which several variables were tested for differences across the stages of the family life cycle. There were significant differences, for example, with family satisfaction with the health of family members ($F = 10.95$; $p = <.001$). Satisfaction was highest at the preschool and school age stage; whereas, the adolescent and launching stage was ranked third among the five stages.

Hypotheses Incorporating Health Locus of Control

Hypotheses 18 through 27 incorporated the children's health locus of control variable and only three of those were rejected. Even though there was a positive relationship between this variable and the children's perceived self-care health behavior and there were differences in the health behavior according to the health locus of control, this variable had little or no influence with the family typologies or enduring family type. There were significant differences only in the hypothesis in which children's health locus of

control was tested as the dependent variable with the Resilient family typology. The narrow range of the variable with this sample and concomitant limited number of groups possible most likely prohibited its usefulness in the study.

Discussion of Results from the Additional Analyses

In an attempt to improve the discriminatory capability of the two children's instruments, they were subjected to factor analysis. Five factors were isolated from the Child's Health Self-Concept Scale: sense of self, dental, sleep/bedtime, illness, and food/weight. The range of the alpha coefficients for these factor scales was .510 to .891. All of the factors except illness have been listed as health behaviors for children (Bruhn and Parcel, 1982; Dane, Sleet, Lam, and Roppel, 1987). Of the five factors, the sense of self was the most interesting. Except for three items related to weight, sleep, and exercise and two items regarding health, the remaining 13 items pertained to how they felt about themselves, their lives, and their relationships with others. This was similar to the self-actualization factor in the Health-Promoting Lifestyle Profile for adults proposed by Walker, Sechrist, and Pender (1987); it also was their strongest factor as it accounted for 23.4 percent of the variance.

When the five factors were tested for relationships with or differences according to any of the family types, neither the dental nor the illness factors achieved significance. For

the other three factors, there were both significant relationships with and differences according to the family types in the Regenerative and Resilient typologies. Additionally, the sleep/bedtime factor achieved significant differences in the Rhythmic typology, notably the only instance in which this typology was relevant in the study. There were no significant relationships between the enduring family type and any of the factors; however, significant differences were evident with the sense of self and sleep/bedtime factors. When the enduring and nonenduring families were regrouped on a scale of most to least enduring, however, there were differences with the sense of self, sleep/bedtime, and food/weight factors. As with the total scale, the factor means for the children's perceived self-care health behavior decreased steadily from highs in the most enduring to lows in the least enduring (see Table 28). It should be noted that the mean for the sense of self factor was slightly higher at 3.300 than that for the entire scale at 3.219 in the most enduring families. Also, for the sleep/bedtime and food/weight factors, the means in that family type were below 3.0 and, in the least enduring families, the means were below 2.5, the negatively perceived self-care health behavior category.

In the typologies in which differences were found, post hoc test results continued to show the significant differences to be between children of families in the regenerative and resilient quadrants of the two typologies and those in the

opposite vulnerable and fragile quadrants. Additionally, in the Resilient family typology, influence of the bonded type was strong and the pliant type was weak. Prior differentiation had not been possible in the Rhythmic family typology. In the case of the sleep/bedtime factor, where significance had been achieved with this typology, children of both rhythmic and intentional family types were different from those of the structuralized type.

Clearly, changes were evident with the factoring of the Child's Health Self-Concept Scale. There were gains in learning more about the scale itself, particularly its health-promotive component. There were gains also in further differentiation with the typologies, especially the Resilient and the importance of its bonding variable as well as the Rhythmic and its apparent importance with the sleep/bedtime factor. In relation to the enduring type family, the results validated and expanded those already achieved with the entire scale regarding the most to the least enduring continuum. For the first time there was evidence of children with negatively perceived self-care health behavior.

In relation to the Children's Health Locus of Control scale, the situation did not improve remarkably. The three factors did confirm the three scales intended within this dimension: powerful other, internal (control of self), and chance (O'Brien, Bush, and Parcel, 1989; Parcel and Meyer, 1978). Only one of the three factors, however, was related to

any of the factors from the children's perceived self-care health behavior; there was a weak, positive correlation between the others tell/help and sense of self factors.

Teachers' Feedback Concerning the Study Results

The study results were discussed with the principals and teachers in the two schools utilized for the study. They indicated the profile of the families in the sample basically was representative of the school population, however, they noted the number of remarried people and frequently mentioned single parents. Although the actual number of single and remarried parents was not known, they believed it was higher than that in the study. They believed also that these would have been the families that did not return the family surveys. In their view, families who did not return the surveys probably were those who believed that such information was private. Some teachers indicated there were a number of children with emotional problems in the schools which were the result of these dysfunctional single and remarried parent family situations.

Socioeconomic status of the families matched the number of children receiving free lunches at the schools. According to the principals, socioeconomic status of the families differed between the two schools at one time but, with migration of some of the wealthier population out of the city and construction of some low budget housing in the city, the distribution is now about equal.

The overall good performance in relation to the children's perceived self-care health behavior was difficult to explain or predict its generalizability in the school population. Some teachers commented that children from the single and remarried parent families probably did not or would not perform as well. There was agreement among the teachers, however, that if a child performed one of the health behaviors well, it was likely she/he also did well with the other behaviors. They presented the possibility that a federally funded rural health program has had some influence in the area in relation to health awareness. The program is approximately ten years old and is well utilized by the population.

There was an extremely positive response to the possible influence of The Duncan Series, especially with the children's health locus of control results. It was their wish that the parents hear this as the program is in jeopardy at the present time. There is a group that believes the program content should be taught only at home.

In relation to the families and their characteristics, the strong bonding quality fit well. The teachers described high attendance at school open houses by both parents and extended family. Parent-teacher conferences also are well attended. The lack of influence by the rhythmicity factor was interpreted in part by parents working outside the home and/or the lack of supervision of children. Some teachers associated their problems with classroom management with this factor,

i.e., children are accustomed to making their own decisions at home and want to continue to do so in the classroom.

When the number and qualities of the enduring family type were presented, the teachers agreed that they could identify the average of two or three families of children in their classrooms that would fit the type. There was a note of concern expressed, however, in relation to the potential implications of this small number for our nation.

## Conclusions

The majority of the children in this sample had positively perceived self-care health behavior as measured by the Child's Health Self Concept Scale; actually, more than a third of the children were in the most positively perceived self-care health behavior group. This presents a strong argument for the ability of children in these grades to be self aware in relation to health and health behavior and to be proficient at a variety of commonly identified health behaviors. Additionally, the strength of the sense of self component of the scale provides at least beginning evidence that a health promotive force is present in children of these ages. There is evidence also that health behavior in children is multidimensional, i.e., there were differences both between categories of behaviors and within any particular category of behavior. For example, separate categories of behavior identified in the factor analysis were related to food/weight,

dental care, and sleep/bedtime. Not all of the items on the scale for a particular category of behavior, however, had strong factor weights or improved the alpha coefficient for reliability. Differences in the children's health behavior were not evident by either sex or grade; however, there is sufficient contradictory evidence in the literature to suggest that these factors should continue to be considered.

Although there was little variability in the children's health locus of control, the findings regarding their high internality should be noted. The children's exposure to The Duncan Series possibly influenced the positive outcome as measured by this instrument and it has generalized to other behaviors. Although this conclusion would need to be verified with a control group, it suggests that programs of this nature in the schools are productive, both for primary and secondary gains. It suggests also that outcomes can be identified through pre and post testing; there was support for the belief that this scale serves that purpose.

In spite of the limited variability of locus of control, there was a weak, positive relationship with the children's health behavior. There also was a difference in their health behavior in the two categories of internality utilized. These findings, however, were not sufficiently strong to conclude that locus of control is indicative of their self-care potential or is a necessary condition for their health behavior.

The major emphasis in this study was the family context for the children's perceived self-care health behavior. Family context was depicted as family typologies and types. There were weak, positive relationships between the children's perceived self-care health behavior and at least some of their family characteristics in these family typologies and types, specifically, the Regenerative and Resilient typologies and enduring family type. Of the six variables comprising the typologies, relationships were evident with the hardiness and coping variables for the Regenerative typology, bonding for the Resilient typology, and time and routines for the Rhythmic typology.

Differences in children's perceived self-care health behavior were apparent in family types of the Regenerative and Resilient typologies, as well as the enduring family type. Primarily any differences were between extremes of family types, specifically, the regenerative and vulnerable, resilient and fragile, enduring and nonenduring, and most and least enduring. In the Resilient family typology, children of bonded type families also had more positively perceived self-care health behavior, thus strengthening the importance of the family characteristic of family bonding. Although there was a relationship between the children's perceived self-care health behavior and the time and routines variable of the Rhythmic family typology, no differences were found in its four family types. In relation to the enduring family type

compared with other forms of the regenerative, resilient, and rhythmic types, the combination regenerative and resilient family type actually was equally as strong if not a stronger type than the enduring.

In relation to family life cycle developmental stage and the family types, there are no differences in the children's self-care health behavior. There were indications, however, that this factor should continue to be considered.

The family context, therefore, can be depicted as family types and certain types have more relevance for the children's self-care health behavior than others. Of the three family typologies, the Resilient was the predominant influential variable. Similarly, of the variables comprising the typologies, the strongest was the bonding for this Resilient family typology. The Regenerative typology and both of its variables, hardiness and coping, also were important. The Rhythmic family typology, however, was influential with only the sleep/bedtime factor from the Child's Health Self Concept scale. This may, in fact, be the only health behavior for which an environment of time and routine and the valuing of time and routine is important.

## Limitations of the Study

There were four major areas of limitation identified in this study. The first was the sample design. In view of the sample size originally planned and the return rate of the

surveys by the families, other options were not apparent. The lack of randomness with the convenience sample was compensated for, however, by the large number. Additionally, teachers from the schools validated the representativeness of the sample for that district, with the possible exception of a larger number of single and remarried parents than the study included.

The identification of potential confounding variables for the children's perceived self-care health behavior was a second limitation. Information regarding The Duncan Series was obtained and a brief description was included. Additionally, teachers were queried regarding their practices with the children. Other potential influencing factors, such as current health related presentations in the media or the rural health program mentioned in the final session with the teachers, however, were not considered.

The third area of limitation related to the family typologies and the family types within the typologies. The typology component of the model was utilized without considering the other components of the T-Double ABCX Model. This seemed legitimate, however, in view of the McCubbin, Thompson, Pirner, and McCubbin (1988) study which focused only on the typology component. Utilizing these types as variables in this study, however, required transformation. In that process, assignment of the middle two family type groups became an arbitrary decision. Although this issue was not

discussed in the study by McCubbin et al., there was a consistent pattern of listing the family types apparent; therefore, that pattern was followed for this study.

The last area of limitation was the factor of time. The tests of the children and their families represented a single point in the lives of these people. That point may or may not have been the ideal time to capture their responses. It was, for example, the last month of the school year and final activities with the children were in process. In relation to the families, it was recognized that their status in the family types and the developmental stages of the life cycle were not as fixed as could be implied.

## Implications of the Study

There is evidence in the literature of the need for the study of the family's influence on the learning and performing of children's wellness related tasks, otherwise known as self-care health behavior (Bruhn and Cordova, 1977; Bruhn and Parcel, 1982; Doherty and Campbell, 1988). The results of this study accomplished its purpose and added to the body of literature, thus providing further direction in that regard. Specifically, with family context depicted as family typologies and family types, children's perceived self-care health behavior was found not only to be related to certain of these family typologies, but it also differed according to family types within them. Resilient type families with their

strength of bonding and regenerative type families with their strengths of hardiness and coping were the most important family context characteristics. Children of these most ideal types from within the typologies indicated the highest perceived self-care health behavior; whereas, children of the least ideal types indicated the lowest. The three typologies utilized represented a wide range of family characteristics, all of which were present in an enduring family type. Children of this type, as well as a combination regenerative and resilient type, revealed high levels of perceived self-care health behavior. With the identification of the most influential family characteristics, it becomes possible in future research to focus on what more specific family traits, functions, or approaches actually promote the best self-care health behavior in the children.

Although there is evidence to support the influence of the family context on children's self-care health behavior, there is evidence also of potential influential factors outside the family. Formal and informal programs or activities within the schools, such as The Duncan Series, seem to be playing a part and not all are viewed positively by the parents. This situation suggests the strong need for collaboration between and among the various systems to achieve the most optimum outcome in children's self-care health behavior and impact the health goals for the nation. These mechanisms already in place could provide the foundation for this process.

Depicting family characteristics as typologies and types proved to be useful in beginning to represent the family system more explicitly. The findings of this study regarding the family typologies contradict those of the model developers, however, and suggest the need for further testing of the model if it is to be maintained in its present form. In view of the results with the Resilient family typology in this study, that might be an appropriate starting point since its variables were based upon those of the Circumplex Model. That model has been tested to the extent that, as indicated previously, a third version of the instrument for it is now available.

In relation to the family types within the typologies, the focus of any refinement should be the middle two types and their ability to discriminate. In most instances in this study, the differences were between children of families with extremes of highs and lows on the constituting variables. Again, it was the Resilient typology in which the middle types were the most discriminating with the children's health behavior. Although, the findings regarding their behavior at these extremes will be helpful in clarifying its parameters, the increased discriminatory power with the middle two types would improve the situation even more.

The present form of the model actually is quite elaborate and complex; it often was difficult to maintain clarity, especially with the duplication of some terms. Based upon the

findings of this study related to the enduring family type continuum, it is possible to suggest a reorganization of the model. Rather than three typologies, there would be one, the enduring family typology. The range of its continuum from most to least would be formed by the ranges of the variables for the regenerative, resilient, and rhythmic family types. Only those terms and their respective contributing variables would be necessary, thus eliminating the additional family type terms. Additionally, both multidimensionality and integration for greater depth and breadth of the construct would be achieved, thus enhancing its ecological quality. Elevating the enduring family type to a typology also is supported by Pratt's (1976) energized family concept. There is sufficient evidence, therefore, to pursue further this construct of an ideal family type with its dimensions expanded to provide variability within it.

In summary, it has been shown through this study that the family context is essential for the development and performance of self-care health behavior by children. Further study is needed, however, to define its influence more specifically. This may be accomplished through refinement of the Typology Model and the variables constituting its family typologies, as well as its possible reorganization. It will be possible to pursue that further with the data for this study; however, it will be important also to utilize samples with similar and dissimilar characteristics in the process. Simultaneously,

the construct of self-care health behavior is in need of further study. There is evidence that it is, in fact, multidimensional, with differences both between and within individual behaviors. In view of the results regarding, for example, health behavior related to dental care versus sleep/bedtime, the family context either may not make any difference or different factors may be necessary for the performance of various behaviors. Although some answers have been provided through this research, future research offers the promise of even more.

# APPENDICES

# APPENDIX A

APPENDIX A

# THE CHILD'S HEALTH SELF CONCEPT SCALE

Number_____

## HOW I SEE MY HEALTH

NAME _____ BOY OR GIRL (circle one) AGE_____ BIRTHDAY_____ GRADE___

### SAMPLE SENTENCES

| REALLY TRUE | SORT OF TRUE | | | | SORT OF TRUE | REALLY TRUE |
|---|---|---|---|---|---|---|
| a ☐ | ☐ | Some kids like to come to school. | BUT | Other kids would rather stay home. | ☐ | ☐ |
| b ☐ | ☐ | Some kids do not like scary movies. | BUT | Other kids do like scary movies. | ☐ | ☐ |

| REALLY TRUE | SORT OF TRUE | | | | SORT OF TRUE | REALLY TRUE |
|---|---|---|---|---|---|---|
| 1 ☐ | ☐ | Some kids usually eat fruit and drink milk for snacks. | BUT | Other kids usually eat candy or sweets and drink pop for snacks. | ☐ | ☐ |
| 2 ☐ | ☐ | Some kids keep their teeth clean. | BUT | Other kids do not keep their teeth clean. | ☐ | ☐ |
| 3 ☐ | ☐ | Some kids think they are very strong. | BUT | Other kids think they are not very very strong at all. | ☐ | ☐ |
| 4 ☐ | ☐ | Some kids brush their teeth three times a day. | BUT | Other kids don't brush their teeth. | ☐ | ☐ |
| 5 ☐ | ☐ | Some kids don't get along very well with their mothers. | BUT | Other kids get along great with their mothers. | ☐ | ☐ |
| 6 ☐ | ☐ | Some kids have lots of friends to play with. | BUT | Other kids have only a few friends to play with. | ☐ | ☐ |
| 7 ☐ | ☐ | Some kids like their homes. | BUT | Other kids do not like their homes. | ☐ | ☐ |
| 8 ☐ | ☐ | Some kids often have headaches. | BUT | Other kids seldom have headaches. | ☐ | ☐ |

Number _____

| | REALLY TRUE | SORT OF TRUE | | | | SORT OF TRUE | REALLY TRUE |
|---|---|---|---|---|---|---|---|
| 9 | ☐ | ☐ | Some kids think their parents pay a lot of attention to them when they are sick. | BUT | Other kids think their parents pay attention to them when they are sick or well. | ☐ | ☐ |
| 10 | ☐ | ☐ | Some kids go to bed early at night. | BUT | Other kids stay up late. | ☐ | ☐ |
| 11 | ☐ | ☐ | Some kids don't brush or comb their hair very often. | BUT | Other kids comb or brush their hair often. | ☐ | ☐ |
| 12 | ☐ | ☐ | Some kids are sick a lot. | BUT | Other kids are seldom sick. | ☐ | ☐ |
| 13 | ☐ | ☐ | Some kids think they weigh the right amount. | BUT | Other kids think they weigh too much or too little. | ☐ | ☐ |
| 14 | ☐ | ☐ | Some kids drink 4 glasses of milk a day. | BUT | Other kids do not drink milk every day. | ☐ | ☐ |
| 15 | ☐ | ☐ | Some kids feel lonely a lot. | BUT | Other kids seldom feel lonely. | ☐ | ☐ |
| 16 | ☐ | ☐ | Some kids often have colds and runny noses. | BUT | Other kids seldom have colds and runny noses. | ☐ | ☐ |
| 17 | ☐ | ☐ | Some kids never eat breakfast. | BUT | Other kids always eat breakfast. | ☐ | ☐ |
| 18 | ☐ | ☐ | Some kids enjoy life. | BUT | Other kids don't enjoy life very much. | ☐ | ☐ |
| 19 | ☐ | ☐ | Some kids go to the dentist every year for a checkup. | BUT | Other kids go to the dentist only when they have problems with their teeth. | ☐ | ☐ |
| 20 | ☐ | ☐ | Some kids feel good inside. | BUT | Other kids do not feel good inside. | ☐ | ☐ |
| 21 | ☐ | ☐ | Some kids don't get very much sleep at night. | BUT | Other kids get a lot of sleep at night. | ☐ | ☐ |
| 22 | ☐ | ☐ | Some kids are usually concerned about what foods they eat. | BUT | Other kids are seldom concerned about what they eat. | ☐ | ☐ |

Number _____

| | REALLY TRUE | SORT OF TRUE | | | | SORT OF TRUE | REALLY TRUE |
|---|---|---|---|---|---|---|---|
| 23 | ☐ | ☐ | Some kids go outside and play when they get home from school. | BUT | Other kids watch TV when they get home from school. | ☐ | ☐ |
| 24 | ☐ | ☐ | Some kids seldom exercise. | BUT | Other kids exercise every day. | ☐ | ☐ |
| 25 | ☐ | ☐ | Some kids miss a lot of school. | BUT | Other kids come to school every day. | ☐ | ☐ |
| 26 | ☐ | ☐ | Some kids think they have happy families. | BUT | Other kids think they do not have happy families. | ☐ | ☐ |
| 27 | ☐ | ☐ | Some kids are tired during the day. | BUT | Other kids are never tired during the day. | ☐ | ☐ |
| 28 | ☐ | ☐ | Some kids usually feel good. | BUT | Other kids often do not feel good. | ☐ | ☐ |
| 29 | ☐ | ☐ | Some kids think that other people like them. | BUT | Other kids think that other people do not like them. | ☐ | ☐ |
| 30 | ☐ | ☐ | Some kids think that adults usually listen to them. | BUT | Other kids think that adults usually do not listen to them. | ☐ | ☐ |
| 31 | ☐ | ☐ | Some kids often feel scared. | BUT | Other kids seldom feel scared. | ☐ | ☐ |
| 32 | ☐ | ☐ | Some kids floss their teeth every day. | BUT | Other kids never floss their teeth. | ☐ | ☐ |
| 33 | ☐ | ☐ | Some kids have trouble sleeping at night. | BUT | Other kids sleep well at night. | ☐ | ☐ |
| 34 | ☐ | ☐ | Some kids take a bath or shower every day. | BUT | Other kids take a bath or shower once a week. | ☐ | ☐ |
| 35 | ☐ | ☐ | Some kids often fight with other kids. | BUT | Other kids seldom fight with other kids. | ☐ | ☐ |
| 36 | ☐ | ☐ | Some kids don't get along very well with their fathers. | BUT | Other kids get along great with their fathers. | ☐ | ☐ |

Number _____

| REALLY TRUE | SORT OF TRUE | | | | SORT OF TRUE | REALLY TRUE |
|---|---|---|---|---|---|---|
| 37 ☐ | ☐ | Some kids eat too much or too little food during meals. | BUT | Other kids eat the right amount of food during meals. | ☐ | ☐ |
| 38 ☐ | ☐ | Some kids think they have a good home life. | BUT | Other kids do not think they have a very good home life. | ☐ | ☐ |
| 39 ☐ | ☐ | Some kids are usually happy. | BUT | Other kids are often unhappy. | ☐ | ☐ |
| 40 ☐ | ☐ | Some kids wear dirty clothes to school. | BUT | Other kids wear clean clothes every day. | ☐ | ☐ |
| 41 ☐ | ☐ | Some kids have trouble keeping up with other kids. | BUT | Other kids find it easy to keep up with other kids. | ☐ | ☐ |
| 42 ☐ | ☐ | Some kids have a certain time to go to bed at night. | BUT | Other kids go to bed when they feel like it. | ☐ | ☐ |
| 43 ☐ | ☐ | Some kids think they are healthy. | BUT | Other kids think they are not very healthy. | ☐ | ☐ |
| 44 ☐ | ☐ | Some kids think it doesn't matter if they are healthy or not. | BUT | Other kids think it is important to be healthy. | ☐ | ☐ |
| 45 ☐ | ☐ | Some kids feel good about their health. | BUT | Other kids do not feel good about their health. | ☐ | ☐ |

## CHILDREN'S HEALTH LOCUS OF CONTROL

We would like to learn about different ways children look at their health. Here are some statements about health or illness (sickness). Some of them you will think are true and so you will circle the YES. Some you will think are not true and so you will circle the NO. Even if it is very hard to decide, be sure to circle YES or NO for every statement. Never circle both YES and NO for one statement. There are no right or wrong answers. Be sure to answer the way you really feel and not the way other people might feel.

PRACTICE: Try the statements below.

a. Children can get sick.

If you think this is true, circle ..... YES

If you think this is not true, circle ..... NO

b. Children never get sick.

If you think this is true, circle ..... YES

If you think this is not true, circle ..... NO

Try one more statement for practice.

c. When I am not sick, I am healthy ..... YES NO

NOW DO THE REST OF THE STATEMENTS THE SAME WAY YOU PRACTICED.

1. Good health comes from being lucky. ..... YES NO
2. I can do things to keep from getting sick. ..... YES NO
3. Bad luck makes people get sick. ..... YES NO
4. I can only do what the doctor tells me to do. ..... YES NO
5. If I get sick, it is because getting sick just happens. ..... YES NO
6. People who never get sick are just plain lucky. ..... YES NO
7. My mother must tell me how to keep from getting sick. ..... YES NO
8. Only a doctor or a nurse keeps me from getting sick. ..... YES NO
9. When I am sick, I can do things to get better. ..... YES NO
10. If I get hurt it is because accidents just happen. ..... YES NO
11. I can do many things to fight illness. ..... YES NO
12. Only the dentist can take care of my teeth. ..... YES NO
13. Other people must tell me how to stay healthy. ..... YES NO
14. I always go to the nurse right away if I get hurt at school. ..... YES NO
15. The teacher must tell me how to keep from having accidents at school. ..... YES NO
16. I can make many choices about my health. ..... YES NO
17. Other people must tell me what to do when I feel sick. ..... YES NO
18. Whenever I feel sick I go to see the teacher right away. ..... YES NO
19. There are things I can do to have healthy teeth. ..... YES NO
20. I can do many things to prevent accidents. ..... YES NO

# APPENDIX B

# FAMILY COPING ©

DIRECTIONS: Think about how your family generally deals with family stressors and problems. Read each statement about how families cope and decide to what degree the statements fit your family situation. Decide for your family whether you: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), or Strongly Agree (5) with the statements listed below. Circle a number (from 1 to 5 ) which matches your feelings about how your family copes. *Please respond to each statement.*

| We cope with family problems by: | *Strongly* Disagree | Disagree | Neutral | Agree | *Strongly* Agree |
|---|---|---|---|---|---|
| 1. Sharing our feelings and concerns with close friends | 1 | 2 | 3 | 4 | 5 |
| 2. Trusting and confiding in each other | 1 | 2 | 3 | 4 | 5 |
| 3. Accepting that difficulties occur unexpectedly | 1 | 2 | 3 | 4 | 5 |
| 4. Being loyal to the family | 1 | 2 | 3 | 4 | 5 |
| 5. Defining the family problem in a more positive way so we don't get discouraged | 1 | 2 | 3 | 4 | 5 |
| 6. Sharing similar values and beliefs as a family | 1 | 2 | 3 | 4 | 5 |
| 7. Getting very upset and on each others nerves | 1 | 2 | 3 | 4 | 5 |
| 8. Respecting one another | 1 | 2 | 3 | 4 | 5 |
| 9. Working together as a family to solve problems | 1 | 2 | 3 | 4 | 5 |
| 10. Feeling pride in our family | 1 | 2 | 3 | 4 | 5 |
| 11. Depending upon our family strengths to get us through | 1 | 2 | 3 | 4 | 5 |
| 12. Accepting stressful events as a part of family life | 1 | 2 | 3 | 4 | 5 |
| 13. Having faith in God | 1 | 2 | 3 | 4 | 5 |
| 14. Blaming other people or other family members | 1 | 2 | 3 | 4 | 5 |
| 15. Showing caring and understanding to each other | 1 | 2 | 3 | 4 | 5 |

## FAMILY FLEXIBILITY©

DIRECTIONS: Think over how your family changes and adjusts to changes. Decide for each statement listed below how often the situation occurs in your family: Almost Never (1), Once in a While (2), Sometimes (3), Frequently (4), or Almost Always (5). Please circle a number from 1 to 5 which best represents how you see your family. Please respond to each and every statement.

| To what degree do these statements describe your family ? | Almost Never | Once in a While | Frequently | Some-times | Almost Always |
|---|---|---|---|---|---|
| 1. Family members say what they want | 1 | 2 | 3 | 4 | 5 |
| 2. Family member's ideas and suggestions are usually appreciated and encouraged | 1 | 2 | 3 | 4 | 5 |
| 3. Each family member has input in major family decisions | 1 | 2 | 3 | 4 | 5 |
| 4. We can change family rules if we have good reasons to do so | 1 | 2 | 3 | 4 | 5 |
| 5. In solving problems, the children's suggestions are followed | 1 | 2 | 3 | 4 | 5 |
| 6. We can and do chip in to help each other with chores and tasks | 1 | 2 | 3 | 4 | 5 |
| 7. Children have a say in their discipline | 1 | 2 | 3 | 4 | 5 |
| 8. Everyone seems to know what other family members are doing and can count on them to follow through | 1 | 2 | 3 | 4 | 5 |
| 9. Our family tries new ways of dealing with problems | 1 | 2 | 3 | 4 | 5 |
| 10. We face problems with confidence that we can change our family rules and ways of behaving to manage the problem without too much trouble | 1 | 2 | 3 | 4 | 5 |
| 11. When problems arise, we compromise | 1 | 2 | 3 | 4 | 5 |
| 12. We keep track as to whom has what chores and duties | 1 | 2 | 3 | 4 | 5 |
| 13. We shift household responsibilities from person to person | 1 | 2 | 3 | 4 | 5 |
| 14. We have set rules and expectations of each other and we expect to keep them no matter what happens | 1 | 2 | 3 | 4 | 5 |

# FAMILY HARDINESS ©

DIRECTIONS: Please read each statement below and decide to what degree each describes your family. Is this statement False (0), Mostly False (1), Mostly True (2), or Totally True (3) about your family? Circle a number from 0 to 3 to match your feelings about each statement. Please respond to each and every statement.

| *IN OUR FAMILY.....* | *FALSE* | *MOSTLY FALSE* | *MOSTLY TRUE* | *TRUE* | *Not Applicable* |
|---|---|---|---|---|---|
| 1. We are as well adjusted as any family in this world can be | 0 | 1 | 2 | 3 | NA |
| 2. Trouble results from mistakes we make | 0 | 1 | 2 | 3 | NA |
| 3. It is not wise to plan ahead and hope because things don't turn out anyway | 0 | 1 | 2 | 3 | NA |
| 4. If our family has any faults, we are not aware of them | 0 | 1 | 2 | 3 | NA |
| 5. We realize that our lives are controlled by accidents and luck | 0 | 1 | 2 | 3 | NA |
| 6. Family members understand each other completely | 0 | 1 | 2 | 3 | NA |
| 7. We feel our family is a perfect success | 0 | 1 | 2 | 3 | NA |
| 8. Most of the unhappy things that happen to us are mainly due to bad luck | 0 | 1 | 2 | 3 | NA |
| 9. Our work and efforts are not appreciated no matter now hard we try and work | 0 | 1 | 2 | 3 | NA |
| 10. No one could be happier than our family when we are together | 0 | 1 | 2 | 3 | NA |
| 11. In the long run, the bad things that happen to us are balanced by the good things that happen | 0 | 1 | 2 | 3 | NA |
| 12. We have a sense of being strong even when we face big problems | 0 | 1 | 2 | 3 | NA |
| 13. We are satisfied with our family life | 0 | 1 | 2 | 3 | NA |
| 14. We are all physically healthy | 0 | 1 | 2 | 3 | NA |

FAMILY HARDINESS (continued)

| | | | | | |
|---|---|---|---|---|---|
| 15. Many times I feel I can trust that even in difficult times that things will work out | 0 | 1 | 2 | 3 | NA |
| 16. While we don't always agree, we can count on each other to stand by us in times of need | 0 | 1 | 2 | 3 | NA |
| 17. We do not feel we can survive if another problem hits us | 0 | 1 | 2 | 3 | NA |
| 18. We believe that things will work out for the better if we work together as a family | 0 | 1 | 2 | 3 | NA |
| 19. Life seems dull and meaningless | 0 | 1 | 2 | 3 | NA |
| 20. We strive together and help each other no matter what | 0 | 1 | 2 | 3 | NA |
| 21. When our family plans activities we try new and exciting things | 0 | 1 | 2 | 3 | NA |
| 22. We listen to each others' problems, hurts and fears | 0 | 1 | 2 | 3 | NA |
| 23. We tend to do the same things over and over...it is boring | 0 | 1 | 2 | 3 | NA |
| 24. We seem to encourage each other to try new things and experiences | 0 | 1 | 2 | 3 | NA |
| 25. It is better to stay at home than go out and do things with others | 0 | 1 | 2 | 3 | NA |
| 26. Being active and learning new things are encouraged | 0 | 1 | 2 | 3 | NA |
| 27. We work together to solve problems | 0 | 1 | 2 | 3 | NA |
| 28. We are satisfied with our children's development | 0 | 1 | 2 | 3 | NA |
| 29. We are satisfied with our marriage | 0 | 1 | 2 | 3 | NA |
| 30. We are satisfied with life in our community | 0 | 1 | 2 | 3 | NA |

## FAMILY ROUTINES©

**DIRECTIONS:**

**First,** read the following statements and decide to what extent each of these routines listed below is false or true about your family *Please circle the number (0, 1, 2, 3) which best expresses your family experiences:* **(False (0), Mostly False (1), Mostly True (2), True (3)).**

**Second,** determine the importance of each routine to keeping your family together and strong **(NI=Not Important, SI=Somewhat Important, VI=Very Important).** *Please circle the letters (NI, SI, or VI) which best expresses how important the routines are to your family. If you do not have children, relatives, teenagers, etc., please circle NA=Not Applicable.*

| ROUTINES | *False* | *Mostly False* | *Mostly True* | *True* | HOW IMPORTANT TO KEEPING THE FAMILY TOGETHER AND STRONG *Important to Family* Not | Somewhat | Very | *Not Applicable* |
|---|---|---|---|---|---|---|---|---|
| ***Work day and Leisure Time Routines*** | | | | | | | | |
| 1. Parent(s) have sometime each day for just talking with the children | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 2. Working parent has a regular play time with the children after coming home from work | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 3. Working parent takes care of the children sometime almost every day | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 4. Non-working parent and children do something together outside the home almost every day (e.g., shopping, walking, etc.) | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 5. Family has a *quiet time* each evening when everyone talks or plays quietly | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 6. Family goes some place special together each week | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 7. Family has a certain family time each week when they do things together at home | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 8. Parent(s) read or tell stories to the children almost every day | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |

**Family Routines (Continued)**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9. Each child has some time each day for playing alone | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 10. Children/Teens do their home-work at the same time each day or night during the week | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 11. Children/Teens play with friends daily | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| ***Parent(s)' routines*** | | | | | | | | |
| 12. Parents have a certain hobby or sport they do together regularly | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 13. Parents have time with each other quite often | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 14. Parents go out together one or more times a week | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 15. Parents often spend time with teenagers for private talks | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| ***Family Bedtime Routines*** | | | | | | | | |
| 16. Children have special things they do or ask for each night at bedtime (e.g., story, good-night kiss, hug) | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 17. Children go to bed at the same time almost every night | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| ***Family Meals*** | | | | | | | | |
| 18. Family eats at about the same time each night | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 19. At least some of the family eats breakfast together almost every morning | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 20. Whole family eats one meal together daily | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| ***Extended Family Routines*** | | | | | | | | |
| 21. At least one parent talks to his or her parents regularly | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |
| 22. Family has regular visits with the relatives | 0 | 1 | 2 | 3 | NI | SI | VI | *NA* |

Family Routines (Continued)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 23. Children/Teens spend time with grandparent(s) quite often | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 24. We talk with/write to relatives usually once a week | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| ***Leaving and Coming Home*** | | | | | | | | |
| 25. Family checks in or out with each other when someone leaves or comes home | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 26. Working parent(s) comes home from work at the same time each day | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 27. Family has certain things they almost always do to greet each other at the end of the day | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 28. We express caring and affection for each other daily | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| ***Family Disciplinary Routines*** | | | | | | | | |
| 29. Parent(s) have certain things they almost always do each time the children get out of line | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 30. Parents discuss new rules for children/teenagers with them quite often | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| ***Family Chores*** | | | | | | | | |
| 31. Children do regular household chores | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 32. Mothers do regular household chores | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 33. Fathers do regular household chores | 0 | 1 | 2 | 3 | NI | SI | VI | NA |
| 34. Teenagers do regular household chores | 0 | 1 | 2 | 3 | NI | SI | VI | NA |

## FAMILY BONDING©

**DIRECTIONS:** Decide for each statement listed below how often the situation described occurs in your family and circle the appropriate answer: Almost Never (5), or Once in a while (4), Sometimes (3), Frequently (2), Almost Always (1).

| To what degree do these statements describe your family ? | Almost Never | Once in a While | Some-times | Frequently | Almost Always |
|---|---|---|---|---|---|
| 1. It is easier to discuss problems with people outside the family than with other family members | 5 | 4 | 3 | 2 | 1 |
| 2. The family comes first; we agree to put our personal needs second to the needs of the family | 5 | 4 | 3 | 2 | 1 |
| 3. Family members feel closer to people outside the family than to other family members | 5 | 4 | 3 | 2 | 1 |
| 4. We need to check everything with each other in the family before we make a major decision | 5 | 4 | 3 | 2 | 1 |
| 5. In our family, everyone goes his or her own way | 5 | 4 | 3 | 2 | 1 |
| 6. Family approval of friends and close relationships is very important | 5 | 4 | 3 | 2 | 1 |
| 7. Family members pair up with each other rather than do things as a total family | 5 | 4 | 3 | 2 | 1 |
| 8. It is difficult be your own person and to be very independent in our family | 5 | 4 | 3 | 2 | 1 |
| 9. Family members avoid each other at home | 5 | 4 | 3 | 2 | 1 |
| 10. We spend very little time together as a family | 5 | 4 | 3 | 2 | 1 |
| 11. We have difficulty thinking of things to do as a family | 5 | 4 | 3 | 2 | 1 |
| 12. We keep problems to ourselves to avoid conflicts and tensions that upset our family | 5 | 4 | 3 | 2 | 1 |
| 13. Family members go along with what the family decides to do | 5 | 4 | 3 | 2 | 1 |
| 14. Family members seem to be putting their noses in each other's private business | 5 | 4 | 3 | 2 | 1 |

## Family Information

The following questions deal with general information about your family. Directions are given with each question.

(1-2) Please write in your age_____, your spouse's age_____

(3) Your sex: (check which) ( ) Male ( ) Female

(4) Please indicate your current marital status: (check one)
( ) Married
( ) Single parent, divorced
( ) Single parent, separated
( ) Single parent, widowed
( ) Single parent, never married
( ) Remarried
( ) Living with significant other
( ) Other (write in) _____

(5) What is your role in the family: (check one)
( ) Mother ( ) Father
( ) Grandmother ( ) Grandfather
( ) Other (write in) _____

(6-11) Number of children in the family: (write in) _____
Age of oldest child_____
Age of youngest child_____

(12-15 Number of children living at home: (write in) _____
Age of oldest child at home_____

(16) Which best represents your family? (check one)
( ) Caucasian ( ) African-American/Black
( ) Asian ( ) Hispanic
( ) American Indian ( ) Other (please specify)
_____

(17) What is your employment status? (check any that apply)
( ) Housewife/househusband
( ) Employed full-time (35 hours or more per week)
( ) Employed part-time (less than 35 hours per week)
( ) Unemployed, laid-off, looking for work
( ) Other (please specify)_____

(18) What is the employment status of your spouse? (check any that apply)
( ) Housewife/househusband
( ) Employed full-time (35 hours or more per week)
( ) Employed part-time (less than 35 hours per week)
( ) Unemployed, laid-off, looking for work
( ) Other (please specify)_____

(19) Please check the category that best indicates your combined family income for 1989 (estimated):
( ) Less than 14,999
( ) 15,000 to 24,999
( ) 25,000 to 34,999
( ) 35,000 to 49,999
( ) 50,000 to 74,999
( ) 75,000 or more

(20) The highest level of education you completed: (check one)
( ) Grade school
( ) Some high school
( ) High school graduate
( ) Vocational training
( ) Some college
( ) College degree
( ) Graduate degree
( ) Other(please specify)
_____

(21) The highest level of education your spouse completed, if applicable: (check one)
( ) Grade school
( ) Some high school
( ) High school graduate
( ) Vocational training
( ) Some college
( ) College degree
( ) Graduate degree
( ) Other(please specify)
_____

THANK YOU!

# APPENDIX C

# APPLICATION FOR REVIEW OF A PROJECT INVOLVING HUMAN SUBJECTS

Submit your proposal for UCRIHS review to:

Dr. John K. Hudzik, Chair
UCRIHS
Michigan State University
206 Berkey Hall
East Lansing, MI 48824-1111

If you have questions, or wish to check the status of your proposal, call: (517) 353-9738

**DIRECTIONS: COMPLETE QUESTIONS 1 - 11: Attach additional material as requested.**

1. **RESPONSIBLE PROJECT INVESTIGATOR:** (faculty or staff supervisor)
   Dr. Lillian Phenice

   **NAME OF INVESTIGATOR:** (if different)
   Janalou Blecke, PhD candidate

2. **CAMPUS ADDRESS:**

   **CAMPUS ADDRESS:** (or address where approval letter is to be sent)
   4391 S. Marcus Dr.; Saginaw, MI 48603

   **PHONE #:**

   **PHONE #:** (517) 792-0114 (H) 790-4130 (O)

3. **TITLE OF PROPOSAL:**
   Children's Perceived Self-Care Health Behavior Within Differing Family Contexts

4. A. **PROPOSED FUNDING AGENCY (if any)**

   B. **IS THIS AN FDA PROPOSAL** [ ] YES [x] NO

   C. **MSU ORD# IF APPLICABLE**

   D. **DATE ON WHICH YOU PLAN TO BEGIN DATA COLLECTION** 5/13/90

5. **EXEMPT/EXPEDITED.** If applying for Exempt or Expedited status, indicate the category. SEE INSTRUCTIONS - ITEM 1 (ie. 1-A, 2-D, etc.).

   Category: Exempt

For Office Use
Subcommittee:
Agenda:
Comments:
Comments to PI:
Comments to REV:

6. ABSTRACT. Summarize the research (its purpose and general design) to be conducted. This can be identical or similar to the summary required when submitting to the NIH (200 words or less). Briefly outline, in particular, what will be done to research subjects.

The purpose of this descriptive research is to gain information concerning the relationship between children's self-care health behavior and family characteristics categorized as types. A non-experimental survey design will achieve the purpose of this cross-sectional applied research. The major unit of analysis is individuals, namely, children in families in their local natural settings. Children in grades 4, 5, and 6 in one district in an east central Michigan county will participate. A stratified systematic random sample of 200 children will be drawn from the approximately 500 surveyed. The children will have completed the Child's Health Self-Concept Scale and the Children's Health Locus of Control scale in their regular classroom groups led by the researcher assisted by the respective teachers. One hour per classroom is the estimated completion time. Each child's instrument will be number coded and have a corresponding family instrument which will be taken home by the child. One parent/guardian will complete the family instrument for the family and return it in the envelope provided via the child. The family instrument is comprised of scales from the T-Double ABCX Model of Family Adjustment and Adaptation.

7. SUBJECT POPULATION. Will any of the following be subjects:

| | Yes | No | | Yes | No |
|---|---|---|---|---|---|
| Minors | [x] | [ ] | Students | [x] | [ ] |
| Pregnant Women | [ ] | [ ] | Low Income Persons | [ ] | [ ] |
| Women of Child-bearing age | [ ] | [ ] | Minorities | [ ] | [ ] |
| Institutionalized Persons | [ ] | [ ] | Incompetent Persons (or diminished capacity) | [ ] | [ ] |

7a. Number of subjects (including controls)? sample of 200 children and their families

7b. Are you associated with the subjects (e.g., your students, employees, or patients.)
[ ] yes [x] no If yes, explain nature of the association.

7c. How will subjects be contacted and selected? Children will be contacted in their classrooms via permission from school personnel and respective parents will be contacted via materials taken home by the children.

7d. Will research subjects be compensated? [ ]Yes [x]No
If yes, all information concerning payment, including the amount and schedule of payment must be set forth in the informed consent.

7e. Will you be advertising for research participants? [ ]Yes [x]No
If yes, attach a copy of the advertisement you will use. SEE INSTRUCTIONS - ITEM 2

8. **ANONYMITY/CONFIDENTIALITY. Describe procedures and safeguards for insuring confidentiality or anonymity. SEE INSTRUCTIONS - ITEM 3**

Children in grades 4, 5 and 6 will be number coded for the match between child and parent and only that code will be known to the investigator to preserve anonymity of the subjects. No names of subjects will be requested or associated with the study.

9. **RISK/BENEFIT RATIO. Analyze the risk/benefit ratio. SEE INSTRUCTIONS - ITEM 4. Completely answer items A, B, and C listed in the instructions. ALSO SEE item 6 in the instructions if your research involves minors or those with diminished capacity.**

Minimal if any risk to subjects is involved in this study. All children in these grades have been included to eliminate any concern regarding being included or not; similarly, all families of children have been included. It is possible the children will discuss the content of the survey among themselves and this could be negative or positive, however, school personnel are available for questions and discussion post administration to alleviate any negative and facilitate the positive effect(s). Discussion also may occur between children and parents. The survey content is not considered sensitive, therefore difficulty is not anticipated. It is possible that the experience can, in fact, promote interaction with a positive health outcome. The projected outcome of the study is information regarding the relationship between children's self-care health care behavior and family characteristics that will be useful for program planning related to health.

10. CONSENT PROCEDURES. Describe consent procedures to be followed, including how and where informed consent will be obtained. SEE INSTRUCTIONS - ITEM 5 on what needs to be included in your consent form. Include a copy of your consent form with your proposal. ALSO SEE item 6 in the instructions if your research involves minors or those with diminished capacity.

Verbal consent has been received from the school administrators (superintendent and two principals) to allow children in grades 4, 5 and 6 to participate in the study subject to UCRIHS approval and the school's subsequent approval of the materials to be utilized. Written confirmation from the school is anticipated prior to proceeding with testing the children. Parents' consent to participate has been incorporated in their cover letter.

11. CHECKLIST. Check off that you have included each of these items with your proposal. If not applicable, state n/a.

LH Provide six (6) copies of all information unless applying for exempt or expedited review. Provide two (2) copies if applying for exempt or expedited. Include all questionnaires, surveys, forms, tests, etc. to be used.

LH Proposed graduate and undergraduate student research projects submitted to UCRIHS for review should be accompanied by a signed statement from the student's major professor stating that he/she has reviewed and approves the proposed project.

LH Provide one complete copy of the full research proposal. Graduate students should furnish one copy of the "Methods" chapter of their thesis/dissertation (if available) in lieu of a research proposal.

LH Questions 1 - 10 have been filled out completely.

LH Provide the consent form (or instruction sheet, explantory letter, or the script for oral presentation if signed consent is not to be obtained--See item 5 in the instructions).

N/A Advertisement included if applicable

YOUR PROPOSAL WILL BE ASSIGNED A UCRIHS PROPOSAL NUMBER. REFER TO THIS NUMBER AND THE TITLE OF YOUR PROPOSAL ON ANY CORRESPONDENCE OR INQUIRIES.

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
206 BERKEY HALL
(517) 355-9738

EAST LANSING • MICHIGAN • 48824-1111

May 4, 1990 IRB# 90-179

Janalou Blecke
4391 S. Marcus Drive
Saginaw, MI 48603

Dear Ms. Blecke:

RE: "CHILDERN'S PERCEIVED SELF-CARE HEALTH BEHAVIOR WITHIN DIFFERING FAMILY CONTEXTS IRB# 90-179"

The above project is exempt from full UCRIHS review. I have reviewed the proposed research protocol and find that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to May 4, 1991.

Any changes in procedures involving human subjects must be reviewed by UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

John K. Hudzik, Ph.D.
Chair, UCRIHS

JKH/sar

cc: L. Phenice

# APPENDIX D

May 14, 1990

Dear parent(s):

The health and health behavior of children have become more and more important as our knowledge has increased about what keeps people well or makes them ill. Families frequently have expressed how important their children's health is to them and how much they feel responsible for their health behavior. A study is being conducted to explore how children's ideas about their health relate to characteristics of their families. Such a study is important because the results will help us understand children and families better and plan more meaningful programs related to health.

Beginning on May 21, 1990, a survey about how children see their health that is being given to all of the children in grades 4, 5, and 6 in your district will be completed by those at . This information will become part of a study with 4th, 5th, and 6th graders and their families about that topic. The children are identified only by grade, age, and gender; their names will not be known and information associated with individual children will be kept confidential. If a parent prefers that a child not participate, the school should be notified in writing by May 18th.

The attached questionnaire is meant for the parents or guardians of the children. Again, be assured that names of families will not be known and information associated with individual families will be kept confidential. Your family's participation is voluntary and there is no penalty if you choose not to participate; returning the completed questionnaire will constitute consent to participate in the study.

Completing the questionnaire will require approximately 30 minutes. One parent or guardian should complete the form for the family, however, the questions and answers may be discussed. There are no right or wrong answers on any part of the questionnaire. Specific instructions are included throughout the questionnaire; please follow them carefully. The completed questionnaire should be replaced in the envelope, sealed and returned to school with your child within one week (by May 22, 1990). If you have more than one child involved, please complete only one questionnaire but return all you received in the same envelope so the original can be copied.

If you have questions or concerns about the study at any time, please contact me ([517] 792-0114 - collect). I am looking forward to the study providing interesting and useful results about children and their families. Thank you for being part of it!

Sincerely,

Janalou Blecke

Janalou Blecke
PhD candidate, College of Human Ecology

# APPENDIX E

## JUMBO Tic-Tac-Toe

Play like Tic - Tac - Toe, taking turns until board is filled. Winner is player with the most rows of 3 x's or o's up, down or diagonally.

## 5 Square Word Game

Players take turns choosing a letter. All players write that letter in any box on their card. When card is filled, winner is player with most words up or down.

## SQUARE ONE

DRAW A PICTURE IN THE SPACE BELOW BY COLORING IN THE SQUARES.

## Alphabet Travel Game

Game 1: Look for letters on signs and license plates. Players cross off those letters on their cards. Winner is first player to complete card. Game 2: Look for objects that start with each letter.

| | |
|---|---|
| A | N |
| B | O |
| C | P |
| D | Q |
| E | R |
| F | S |
| G | T |
| H | U |
| I | V |
| J | W |
| K | X |
| L | Y |
| M | Z |

# APPENDIX F

APPENDIX F

Note to teachers relative to my study:

The children's testing is going very well and the parents' packets are being returned at a respectable rate. As I indicated in our meeting, the data from the children and parents will be more meaningful if it is presented with information about the context at school. It would be helpful, therefore, if you would detail for me what you do in your classroom related to health and health behavior/habits.

Do you include the topic of health and health behavior in your classroom curriculum? YES or NO (circle which please)

If you DO include it,:

is the information integrated with other topics or treated separately (or both)?

what subtopics do you address?

do you measure the students outcome behavior related to health in any way and if so, how?

Whether you include the topic or not, do you consider yourself someone who is particularly interested in or conscious of health so that you find yourself mentioning or discussing it with individual or groups of children with some regularity? YES or NO

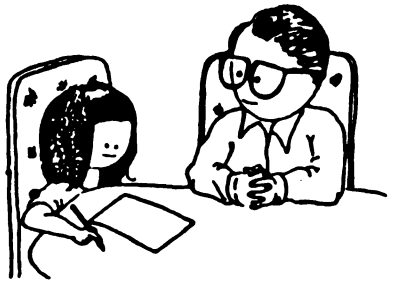
If there is other information that you believe may be helpful, please note it here.

Signature_____ Grade____

THANK YOU!

Jan Blecke

# APPENDIX G



*"I think that this series which tries to create a strong sense of self - a positive self - so that drugs and peer pressure might not be so important . . . is WONDERFUL! Keep it UP! Substance Abuse Prevention is actually providing people with coping skills and helping children to see ways to solve problems instead of escaping them. This seems to take hold better if started as YOUNG as possible. We try to instill this, but reinforcement and expansion of what we can do at home is appreciated!"*

- Mecosta County parent

*"We feel that instead of us reinforcing what The Duncan Series has taught our children - The Duncan Series reinforces what we have taught our children. We see many benefits in the time spent investing in our children and appreciate the reinforcement that The Duncan Series gives."*

- Gladwin County parent

*"The Duncan Series is a big help in opening communication between my son and I about drugs and alcohol."*

- Arenac County parent

*"I liked the way the writers approached the topics - dealing with self-identity first. Peer pressure resistance and substance abuse is difficult to address where positive self-image is lacking."*

- Gladwin County parent

**Teachers say:**

*"Thank you for coming to my classroom this year to present The Duncan Series program. The areas you covered are so important to children. I truly feel you helped some of my students handle themselves more responsibly and in a more caring way."*

- Seibert Elementary School,
  Midland Public Schools

*"Duncan's life skills are a great stepping stone for 3rd graders to start the year with. I also keep all his posters up throughout the year and refer to them often."*

- Eastwood Elementary School,
  Big Rapids Public Schools

*"I feel my 4th graders gained a great deal from Duncan Series presentations! I was most impressed when, after a playground shuffle, one of my students advised the boy involved to think about the things he could change and the things he couldn't change and that would help him calm down."*

- Shepherd Elementary School,
  Shepherd Public Schools

*"I feel The Duncan Series has provided an excellent boost to our efforts as teachers to provide survival life skills for our students in an ever more complex environment. I am most pleased with the "Discussion Unit on Alcohol" which I've used now for two years. Sixth graders really respond to it."*

- Pullen Elementary School,
  Mt Pleasant Pubic Schools

*"This is a valuable program for our students. It provides accurate information on which to make choices and decisions which affect students' lives."*

- Sterling Elementary School,
  Standish-Sterling Community Schools

*"The very most important things we can teach children are on these pages (self-image, communication and coping); the absolute dynamics of life."*

- Hillside Elementary School,
  Harrison Community Schools

*"As I watch students progress through this program I become optimistic that it will make a difference in choices they make for their lives. I am beginning to understand how critical early intervention is, especially the relationship prevention stuff builds with the students."*

- Pullen Elementary School,
  Mt. Pleasant Public Schools

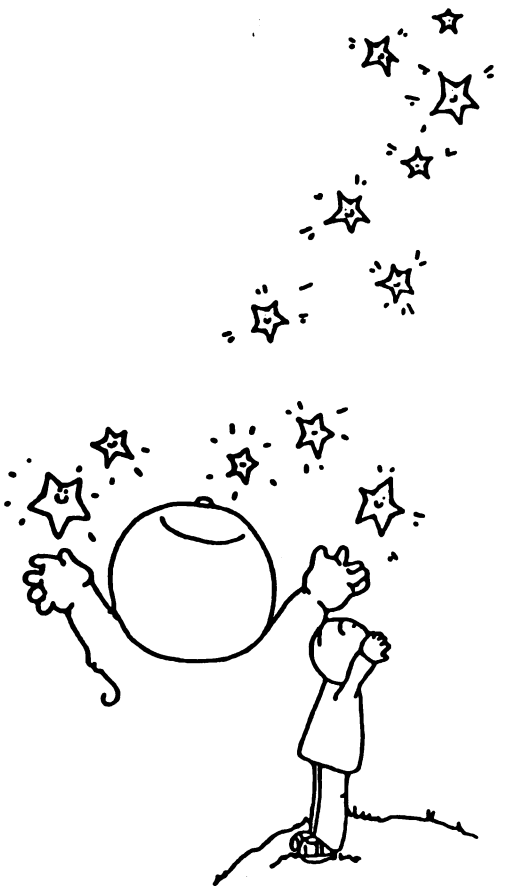
**As the parent of a child participating in The Duncan Series, we encourage you to:**

1. **Watch for home activities your child will be bringing home over the next 15 weeks during the introduction of each subject area.**
2. **Use these activities in part as an opportunity to share your views and expectations of your child - both now and in the future.**
3. **Contact your child's teacher or your local prevention educator if you have further questions about any part of this program.**

AREA HEALTH CENTER
725 EAST STATE STREET
P.O. BOX 740
, MI

**FOR PARENTS OF CHILDREN INVOLVED IN**

# THE DUNCAN SERIES



## I. Introduction

**The Duncan Series** is a comprehensive prevention curriculum for kindergarten through sixth grades. It is unique in that its success to a great degree, depends on the cooperation of two of the most dominant environmental influences in a child's development: parents and the classroom.

While there are many elements that must be in place to help prevent alcohol and other drug use in young people, parents lay the foundation. Most families seek to provide an environment that preserves their child's safety and health. In addition, children need to feel capable and comfortable using skills that help them resist harmful social and peer pressures that conflict with parental and classroom expectations and reduce the child's chances for success.

Research has found that the initial and early use of tobacco, alcohol and other drugs is the result of a variety of factors including:

- pro-use influences from peers, relatives and the media
- individual characteristics such as low self esteem, tolerance of high risk behavior, anxiety, or a strong need for group acceptance
- lack of knowledge about drugs and personal vulnerability
- lack of social skills that help students handle difficult situations

**The Duncan Series** authors believe that combining knowledge, skills and family involvement at an early age before first exposure to drug offers, is the key to impacting actual behavior.

## II. Content

Material in the teacher manuals and home activities were developed through three main sources:

- original materials written by prevention educators working with this program
- selected activities from other validated prevention programs
- suggestions from parents and teachers who have participated in the program during the last five years

## III. Components

**The Duncan Series** contains two primary components:

1) skill building lessons
2) substance units

**The skill building lessons** include six subject areas:

- Self Image
- Communication
- Coping
- Making Decisions
- Solving Problems
- Peer Pressure

**Substance units**, like the skill building lessons, build in scope and sequence based on the developmental growth of students and drug issues that are relevant to each age. Throughout this seven year curriculum, students are taught that NO drug use is the only legal, healthy and safe choice for minors. Substance units are covered in one to three weeks and provide an overview of substances in the following categories:

- Kindergarten and First Grade students study poison prevention
- Second and Third Grade students learn to differentiate between medicinal and harmful use of drugs
- Fourth through Sixth Grade students study tobacco, alcohol and other drugs in depth

## IV. Implementation

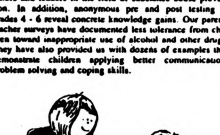
Prevention educators use **The Duncan Series** facilitator manual, props, support materials and audio visuals, to introduce lessons in the classroom. Classroom teachers use **The Duncan Series** teacher manual and conduct follow-up lessons to further study concepts or facts introduced. Teachers are asked to prioritize follow-up to all Home Activity assignments. Worksheet masters, workbooks, and bulletin board materials accompany the curriculum at each grade. Students receive workbooks, incentive or completion awards like stickers, pins or posters and home activities following the introduction of each new concept area.

Teaching methods used at early elementary grades include puppetry, stories, music, art and roleplays. At the upper grades, strategies broaden to include individual and guided small group discussion, team games, roleplay, and workbooks or worksheets designed to practice negotiation, cooperation, risk identification and self assertion.

Parents are invited to take an active role in the process by becoming familiar with Duncan Series concepts. Home activities are designed to provide a mechanism for family discussions. We encourage you to take advantage of this opportunity by using home activities, in part, as a way to share your views and expectations with your child.

## V. Evaluation

**The Duncan Series** authors have reviewed and revised the curriculum for five consecutive years based on input received from students, parents, teachers, school administrators and leaders in the field of substance abuse prevention. In addition, anonymous pre and post testing at grades 4 - 6 reveal concrete knowledge gains. Our parent/teacher surveys have documented less tolerance from children toward unappropriate use of alcohol and other drugs. They have also provided us with dozens of examples that demonstrate children applying better communicaton, problem solving and coping skills.



**Parents say:**

*"I think this program has helped to create the kind of communication opportunities that may have seemed awkward to approach before. Once lines of communication are open, other things seem easier to discuss."*

- Osceola County parent

*"I cannot stress enough how wonderful I think this program is. When I was young I was abused mentally and physically. I never showed my feelings and when I grew up I had to learn to grow up all over again. I truly believe if I'd had The Duncan Series to bring home, maybe my mom would have listened. Anyway, the children are very lucky to have this."*

- Midland County parent

*"Since the kids have been involved with The Duncan Series, they tend to be more aware of consequences and think things through before acting."*

- Clare County parent

*"Home activities give us the opportunity to discuss "growing and coping" issues that might not come up during normal times together."*

- Isabella County parent

Mid-
State Substance Abuse Commission
105 West Fourth Street, Clare, Michigan 48617
Phone: 517-386-4020

September 1990

Dear Teachers and Administrators,

Over the past six years, prevention professionals working in the Mid-State region of Michigan have implemented The Duncan Series prevention curriculum to literally thousands of classrooms. In the 1989-90 school year, The Duncan Series was presented in over 800 classrooms to over 24,000 students. The curriculum's evolution and changes have resulted from four major sources beyond ourselves; teachers, parents, students and research in the field of substance abuse prevention. Input from these primary impactors and validated prevention research, has helped us to develop a curriculum that includes:

- A mechanism for parents to discuss family rules and expectations with their child.
- The opportunity for parents to become actively involved in the curriculum by participating in home activities that are conducted at the beginning of each new section.
- Activities designed to help children develop and practice skills such as self-responsibility, decision making, communication, and problem solving that affect the daily direction and events in their lives.
- Strategies that help children develop and maintain healthy lifestyles and behaviors by making safe, low-risk choices.
- Opportunities for school districts to participate in The Duncan Series at each grade through classroom follow-up activities.
- State of the art alcohol and other drug prevention curriculum that is grade level appropriate and specific in content based on drug issues that are relevant to each age group.
- The opportunity for elementary buildings and individual classroom teachers to establish school policy and classroom rules that are fair, firm and consistent and help to create a safe, healthy, learning environment for all children.

With the beginning of the 1990-91 school year, Mid-State Substance Abuse Commission is copywriting The Duncan Series. We believe this curriculum is one example of an outstanding elementary prevention program that has the potential to positively affect children, teachers, parents and school districts who use it. We wish to extend our sincere appreciation to everyone who has helped us over the years to reach this point. Most of all, we want to extend our gratitude to the outstanding team of prevention professionals working in the Mid-State region of Michigan who have ultimately brought this curriculum to where it is.

With a great deal of pride, Mid-State Substance Abuse Commission proudly presents The Duncan Series.

# The Role of Curriculum Tools in Drug and Alcohol Abuse Prevention



Developed by
Barbara Faiogila and Bonnie Benard

Prevention is a proactive process that empowers individuals and systems to meet the challenges of life events and transitions by creating and sustaining supportive environments that promote healthy behaviors and lifestyles.

The process of empowerment includes applying the following prevention strategies:

(1) **Providing Basic Alcohol/Drug Information**
Specific alcohol/drug information is essential if we expect to affect actual alcohol/drug use behavior.

(2) **Developing Life Skills**
Skills such as communication, assertiveness, problem-solving, stress management, and consumer awareness are crucial to the development of healthy, successful individuals who will make positive and productive life choices.

(3) **Creating Alternatives**
Alternatives serve positive, health-enhancing functions similar to or more highly valued than those served by negative, health-compromising behaviors.

(4) **Influencing Social Policy**
Family, school, governmental, community, and media policies—both formal such as laws and regulations and informal such as values and norms—must provide clear and consistent messages regarding alcohol and drug use and promote social and economic changes that create more opportunities for education, employment, recreation, and self-development.

(5) **Involving and Training Impactors**
Impactors are influencers on youth such as the family, school, peers, various human and institutional community resources, and the media.

Implementing an alcohol/drug curriculum that addresses these five prevention strategies is an integral part of alcohol/drug abuse prevention. However, it is merely one component in developing a comprehensive prevention effort. If we actually hope to make an impact on alcohol/drug abuse behavior, the strategies addressed in the curriculum must be reinforced within the community.

In addition, these strategies must be reinforced within the total school context. This requires:

(1) establishing a positive school climate that encourages critical thinking skills and participation in decision-making of students and all school personnel and that provides opportunities for practicing successful life skills;

(2) integrating the alcohol/drug curriculum into a comprehensive K-12 health education program;

(3) integrating the alcohol/drug curriculum into existing core curriculum (Language Arts, Social Studies, Mathematics, and Science).

Effectively integrating an alcohol/drug abuse curriculum within the school and community depends upon establishing a collaborative planning process involving all levels of school personnel, students, parents, human service providers, law enforcement officials, and community members. By involving all the cultural norm-setters and attending to the actual process of prevention, it is possible to create an environment that supports healthy development and life success for youth.

# Guide for Assessing Alcohol & Drug Abuse Prevention Curriculum Tools



Developed by
Barbara Faloglia and Bonnie Benard

Title The Duncan Series Grade Level K-6

Focus Life Skills Development/Substance Abuse Education Assessment completion date August 1990

| Purchase From: | Curriculum Cost: (Not available until September 1, 1990) | |
|---|---|---|
| Mid-State Substance Abuse Commission | Teacher Edition | $ |
| 105 W. Fourth Street | Student Edition | $ |
| Clare, Michigan 48617 | Workbook | $ |
| | Reoccurring Cost | $ |
| (517) 386-4020 | Additional Cost | $ |

Teacher Training:

Recommended Yes

Required for Purchase No

Cost of Training $ 250.00/person

CURRICULUM CONTENT

| 1. Provides Alcohol/Drug information | Yes | No | N/A* | Grade** Level |
|---|---|---|---|---|
| • K-3 focus on medicines: use and purpose | X | | | |
| • 4th or 5th grade focus on the Gateway Drugs (Tobacco, Alcohol, Marijuana) | X | | | |
| • Alcohol/drug specific knowledge, attitudes, and skills | X | | | |
| • Positive health information | X | | | |
| - hygiene | | X | | |
| - nutrition | X | | | |
| - exercise | X | | | |
| - sleep | X | | | |
| - safety | X | | | |
| • Effects of Alcohol and Drugs on: | | | | |
| - Physical health | X | | | |
| - Accidents | X | | | |
| - Own behavior | X | | | |
| - Family, Friends of misuser | X | | | |

*Not Applicable
**For use with multi-grade curriculum manuals.

| | Yes | No | N/A | Grade Level |
|---|---|---|---|---|
| • Driving Skills | X | | | |
| • Sexuality | X | | | |
| • Teen Pregnancy | X | | | |
| • Athletic Skills | X | | | |
| • Study Skills | X | | | |
| • Social Skills | X | | | |
| • Employment Skills | X | | | |
| • Development of AIDS | | X | | |
| • Laws regarding alcohol/drug use | X | | | |
| • Society's attitudes regarding use | X | | | |
| • Risk factors (high-risk individuals) | X | | | |
| • Signs/symptoms of alcohol/drug misuse and dependency | X | | | |
| • Fetal Alcohol Syndrome (FAS) | X | | | |
| • Treatment resources for chemical dependency and family | X | | | |
| • Self-help groups | | X | | |
| 2. Develops Life Skills | | | | |
| • Communication | X | | | |
| • Problem-solving/decision-making | X | | | |
| • Family relationship skills | X | | | |
| • Friendship/peer selection skills | X | | | |
| • Identifying peer pressure | X | | | |
| • Developing respect for others | X | | | |
| • Identifying and dealing with feelings | X | | | |
| • Identifying values and how they develop | X | | | |
| • Building self-esteem | X | | | |
| • Alcohol/drug resistance skills | X | | | |
| • Avoiding trouble | X | | | |
| • Responsibility for own actions | X | | | |
| • General assertiveness | X | | | |
| • Stress reduction/management | X | | | |
| • Self-improvement | X | | | |
| • Critical thinking skills | X | | | |
| • Low-risk choice-making: | | | | |
| • estimating one's own risk of developing alcohol-related problems | X | | | |
| • identifying low-risk choices | X | | | |
| • identifying one's own attitudes that support low- or high-risk choices | X | | | |
| • identifying attitudes of family, friends, and culture that support low- or high-risk choices | X | | | |
| • adopting and maintaining low-risk choices | X | | | |
| • Consumer awareness: | | | | |
| • how to evaluate ads | X | | | |
| • understanding goals of advertising | X | | | |
| • identifying the media's influence on society | X | | | |
| • attitudes regarding use/misuse of alcohol/drugs | X | | | |
| • identifying what is real and what is "glamour" | X | | | |
| 3. Encourages Alternatives | | | | |
| • Suggests activities that encourage the development of positive life skills and behaviors as substitutes to health-compromising behaviors | X | | | |

| | Yes | No | N/A | Grade Level |
|---|---|---|---|---|
| 4. Addresses Social Policy | | | | |
| • Family policies | X | | | |
| • Classroom policies | X | | | |
| • School policies | X | | | |
| • Community policies | | X | | |
| • Federal policies | | X | | |
| • Curriculum's philosophy and goals are congruent with school's and community's | X | | | |
| 5. Involves and Trains Impacters | | | | |
| • Activities which include the involvement and networking of family and community resources | X | | | |
| • Provides for training of parents | | X | | |
| • Provides for training of cross-age/peer leaders | | X | | |
| • Provides for training of school personnel | X | | | |
| CURRICULUM FORMAT | | | | |
| • Appropriate for age/developmental level | X | | | |
| • Ethnic/cultural sensitivity | X | | | |
| • Appropriate language and readability level | X | | | |
| • Appealing graphics | X | | | |
| • Appeals to youth's interests | X | | | |
| • Includes student participation in learning process | X | | | |
| • Addresses different modes of learning | | | | |
| • auditory | X | | | |
| • visual | X | | | |
| • kinesthetic | X | | | |
| • Emphasizes short-term outcomes | X | | | |
| SUPPORT MATERIALS | | | | |
| • Teacher's Manual | | | | |
| • easy to use | X | | | |
| • clear objectives and directions | X | | | |
| • suggestions for integration into other subject areas | X | | | |
| • resource list | X | | | |
| • Teaching Aids | | | | |
| • handouts | X | | | |
| • transparencies | | X | | |
| • audios | X | | | |
| • videos | X | | | |
| • assessment tools | X | | | |
| EVALUATION | | | | |
| • completed | X | | | |
| • in process | | | | |
| • by whom Prevention Services in the Mid-State Region | | | | |

COMMENTS A Parent Component is built into the program however, parents are not "trained."

1.

## SELF IMAGE

Self Image is how we feel about ourselves.*

Points to Reinforce on Self Image

1. Everyone is unique in their own way
   . . . We are all different
   . . . We all have special abilities

2. Other people can affect how we feel about ourselves
   . . . What others say to us or about us can help us to feel good or bad about ourselves
   . . . How others act toward us can affect how we feel about ourselves

3. How we treat others affects our self image

4. Our feelings and thoughts about ourselves affect our self image

Foundation Concepts to Build From

K There are lots of things about me that I can feel good about.

1 It feels good when I tell others what I like about them and what I like about myself.

2 I am important to others and others are important to me.

3 What I do, what I think, and how I feel are all parts of me.

4 Others like me for many reasons.

5 We are all different and that's okay.

6 What's important to me helps define who I am.

* This unit provides the foundation for the remaining Life Skills content areas.

7.

## COMMUNICATION

Communication is sending and receiving messages.

**Points to Reinforce on Communication**

1. We communicate in a number of ways
   - . . . Writing, talking, sign language, pictures, etc.
   - . . . Body language, facial expressions

2. We communicate best when we send direct messages
   - . . . Using "I feel..." statements
   - . . . Body language matches feelings
   - . . . Avoiding mixed messages, or not saying what we really mean

3. Receiving messages is as important as sending messages
   - . . . Good listening skills include looking at the speaker, hands in lap, listening so well you could repeat what was just said

**Foundation Concepts to Build From**

K When I am a good listener it makes things easier for everyone.

1 I can communicate in many different ways.

2 It is important that I let others know how I feel.

3 I can improve my communication skills by practicing them.

4 I can get along better with others when I take responsibility for my own feelings and accept the feelings of others.

5 I communicate best when I say just what I mean and listen carefully to others.

6 Expressing myself honestly helps me feel good about myself and makes it easier for others to understand me.

# 17.

## COPING

Coping is handling change in our lives.

### Points to Reinforce on Coping

1. Coping involves making the best of a situation
   . . . By accepting what you cannot change
   . . . Changing what you can

2. It is okay to express feelings of disappointment or unhappiness when we must cope with a situation.

3. There are both good and bad sides to any change or situation.

4. We have to cope with good situations as well as bad situations.

### Foundation Concepts to Build From

K Things don't always go the way I want them to.

1 I am responsible for my feelings and what I do with them.

2 There are some things I can change and some that I can't.

3 I can learn to cope with things in a better way.

4 My attitude affects how well I cope with things.

5 I can change some things by working together with others.

6 I may sometimes <u>influence</u> others and events, but the only thing I can <u>control</u> is my own behavior.

# 29.

## DECISION MAKING

Decision making is when you must make a choice.

### Points to Reinforce on Decision Making

1. Questions to ask when making a decision:
   - . . . What is it I must decide upon?
   - . . . What are all my choices?
   - . . . What are the possible outcomes of each choice?
   - . . . Which is the best choice?

2. Sometimes the choice we make may not be the best and we may need to try another

3. A good decision is usually one:
   - . . . In which you or others don't end up hurt or unhappy
   - . . . Which doesn't add another problem to your life

### Foundation Concepts to Build From

K Every time I choose, I make a decision.

1 Some decisions I make are easier than others.

2 The decisions I make are affected by many things.

3 All my choices and decisions have consequences.

4 Choosing thoughtfully can help me get what I really want.

5 My choices say a lot about what is important to me.

6 Making good decisions now, can help me prevent problems later.

42.

## PROBLEM SOLVING

Problem solving is making a series of choices that lead to a desired goal.

**Points to Reinforce on Problem Solving**

1. Problem solving involves making a choice and acting on it

2. When solving problems
   . . . Choices may not always be clear
   . . . Uncomfortable feelings may occur until the problem is solved

3. Getting help when the problem seems too big is always a choice.

4. When solving a problem, one must:
   . . . See what information and resources are available
   . . . Decide what information and resources are of no use

5. Many times, two heads are better than one when problem solving
   . . . We can combine resources to come up with creative choices
   . . . Problems feel less upsetting when they are shared with someone you trust.

### IDEAL Problem Solving Model

Identify the problem
Determine the choices or alternatives
Evaluate the choices
- will it work
- what might be some outcomes of the choice
- will it affect others
- will it create more problems
- are you comfortable with it

Act–decide and do
Look and learn from the results.

52.

## PEER PRESSURE

Peer pressure is when someone like us tries to get us to do something.

**Points to Reinforce on Peer Pressure**

1. Peer are people who share common characteristics:
   - . . . Age
   - . . . Occupation
   - . . . Class
   - . . . Neighborhood
   - . . . Etc.

2. Peer pressure can be:
   - . . . Positive: when a friend persuades you to practice your piano lessons so that you will do well at the recital
   - . . . Negative: when someone talks you into doing something that you can get into trouble for

3. No matter how much "pushing" or "persuasion" we get, if we do something, we are responsible for our behavior, not the people who talked us into it.

**Foundation Concepts to Build From**

K I don't always have to do what my friends tell me to.

1 It's important to be liked, but not if it means doing something that will get me into trouble.

2 Someone else's choice isn't always the best choice for me.

3 I am responsible for my own behavior, even if I've been pressured into doing something.

4 Not all peer pressure is negative.

5 It is important to think ahead about what I might do and say if pressured.

6 The way I handle peer pressure shows what I feel is most important.

# LIST OF REFERENCES

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