

BEHAVIORAL CHANGES AFTER THE BIRTH OF
A SIBLING WITH ORTHOPEDIC HANDICAPS

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CHAPTER 1

INTRODUCTION

The holistic approach recently being stressed in nursing embodies a concern for the total physical and psychological well being of man. As the role of the nurse in all phases of health care broadens, so also grows the need for factual information from research. One area where more information is needed to further develop nursing roles is that of family systems. Part of the holistic approach to treatment involves treating the whole family instead of only individuals within the family.

One way of evaluating the family is from a systems perspective. The family, according to Lewis, Beavers, and Gossett (1976), may be described as one type of system. Bertalanffy (1966) says that in a system the units have common properties that are dependent upon or conditioned by the dynamic state of the other units; so that if one unit of the system is changed, other parts of the system change in response. This theory of systems suggests that families into which orthopedically handicapped infants are born are influenced as a result of alterations in

family interactions and psychodynamics. Possibly, certain types of change in behavioral patterns might be shown in siblings during the first year after an orthopedically handicapped infant is born into the family.

The area of sibling behaviors and the impact of a handicapped child upon behaviors of siblings within family systems has not been adequately explored (Friedrich, 1977). No studies have been found that describe siblings' behaviors after the birth of an infant with orthopedic handicaps of the extremities. In those behavioral studies that have been done concerning children with other types of congenital handicaps, sibling responses have been only briefly considered. Some of the more informative studies of family responses include studies of infants with Down's Syndrome and cleft palate (Gath, 1972), chronically ill infants (Salk, 1972), and infants with spina bifida (Tew & Laurence, 1973). Findings from these studies indicate that some siblings' behaviors change in particular ways after the birth of certain kinds of handicapped infants. This idea implies that the type of handicap presented by the affected infant influences family systems differently, and that the different handicapping conditions are associated with particular patterns of sibling response. There

may also be relationships that can be drawn concerning sibling responses associated with the handicapped infant's presence in terms of such demographic characteristics as sex, age, birth order, and family size.

Smoyak (1975), in discussing the changing role of the psychiatric nurse and family systems analysis, points out the need for nurses to seek information for better understanding of the great variety of system workings. This information is needed to develop therapeutic nursing interventions since nurses are involved with families with handicapped children.

Statement of Problem

The problem of this study was to identify changes, as perceived by the mother, in behavioral characteristics of children following the birth of orthopedically handicapped siblings and to compare those with changes in children after the birth of normal siblings.

Statement of Purposes

The purposes of this study were as follows:

1. To determine if there had been changes in the behaviors of children following the birth of an orthopedically handicapped infant sibling.

2. To determine if there had been changes in the behaviors of children following the birth of an infant sibling without orthopedic handicaps.

3. To determine the direction of change for each behavior reported in each of the two groups.

4. To determine associations between demographic characteristics of age, sex, birth order, and family size with the identified changes within and between the two groups.

Background and Significance

Through the years, appeals have been made for more research in the area of sibling relationships. The few studies done indicate that a child's siblings affect personality development in significant ways. With the growing recognition of the importance of the systems concept in the understanding of family dynamics, the need for more information about sibling subsystems has grown more evident. Koch (1956) focused upon characteristics of sibling behavior related to sex, age, and time interval between siblings. The author realized that siblings have an impact upon one another's developing behaviors. Although the author studied essentially normal situations, Koch (1956) identified the need for

studies to explore the behavioral responses of siblings to various stresses that influence interactions.

Wing (1969) emphasized the void in knowledge about siblings of handicapped children. The author suggested that siblings of handicapped children could be more vulnerable to behavior disturbances. Also, Wing (1965) identified the need to consider relationships between behavioral changes and different types of sibling handicaps, size of sibship, and length of time since the handicapped infant was born.

Poznanski (1969) stated that more siblings of handicapped children are seen by psychiatrists than are handicapped children. The study indicated that the mere presence of a handicapped child in the family may arouse or promote unhealthy relationships. The author reiterated the need for more research concerning behaviors of siblings related to a handicapped child in the family.

Minde, Hackett, Killow, and Silver (1972) in speaking of the need for more research on how siblings affect each other's behaviors pointed out that the literature consists primarily of opinions and single case studies which are often retrospective accounts open to population as well as observer bias. They indicated that dissatisfaction has been growing concerning many

traditional concepts that have been used as guides for understanding the emotional impact that handicapped children have on families. Fox (1975) again appealed for more knowledge from research about family dynamics where a physically handicapped child is involved. The author stressed the importance of such facts for use in planning mental health services for those at risk.

Safford and Arbitman (1975) made a similar appeal for exploration of sibling behaviors and their relationship to the presence of a handicapped infant. Pfouts (1976) repeated the call for studies regarding the effects of siblings upon one another and indicated that theorists and practitioners overlook this family subsystem and tend to focus upon other subsystems. Pfouts (1976) added that scattered and sparse information about sibling interactions has been drawn from untested folklore or from psychoanalytically oriented clinicians' studies that focus upon individuals.

Research information is lacking regarding the behaviors of children after an orthopedically handicapped infant sibling is born. In general, research information regarding sibling subsystems is inadequate. Because of expanding roles of nurses in planning and providing health care, studies are needed to provide such

information for a better understanding of the family systems and subsystems involved when an orthopedically handicapped child is present. This study was aimed at gaining this type of information.

Definition of Terms

Age Group--any of four categories mentioned in this study, which include: infant (0-22 months), toddler (22 months, 1 day-3 years), preschooler (3 years, 1 day-6 years), and school age (6 years, 1 day-14 years).

Behavioral characteristics--ways of functioning which regularly occur in daily living activities in interpersonal relationships, and in response to emotional or physiological stimuli.

Birth order--the arrangement of siblings in a family by age sequence from the oldest to the youngest.

Change--a qualitative judgment of the difference from a previous state of functioning.

Family system--a complex of related, interacting, interdependent human components with such roles as husband-father, wife-mother, son-brother-sibling, and daughter-sister-sibling.

Family size--the total number of persons who are living together as a clan or related, interdependent group.

Normal infant--a human up to 22 months of age with no diagnosed orthopedic handicaps.

Orthopedic handicap--a congenital physical abnormality of one or more of the extremities that is severe enough to require medical treatment.

Sex--the gender; male or female.

Sibling--a brother or sister living in the same home and having the same parent figures.

Limitations

Inadequately and uncontrolled variables foreseen in this study include the following:

1. Two institutions were used to obtain data, creating a sampling bias of over-representation and limiting the degree to which findings may be generalized.
2. The questions may have invited some inhibition of response in mothers, or may have influenced a few to withdraw before completing the interview. No incentives or enticements were offered to counteract such responses.
3. Only consenting mothers were interviewed.
4. No controls were used for cultural differences or other factors affecting child rearing practices.
5. There were no controls used for religious or ethnic differences among families.

6. The instrument used for data collection was newly developed by the investigator and lacked standardization.

7. Interviewer bias was a possibility in the data collection process.

8. Data may have been influenced by the mother's subjective observing, reporting, and remembering.

9. There may have been normal systems changes created by the birth of the infant.

Delimitations

The following criteria directed the selection of subjects for Group A, subjects with orthopedically handicapped infant siblings.

1. Group A subjects were either males or females who had an orthopedically handicapped infant sibling from 3 months to 21 months of age.

2. Infant siblings of the Group A subjects were outpatients of the outpatient clinics at the hospital for handicapped children.

The following criteria directed the selection of subjects for Group B, subjects with infant siblings having no diagnosed orthopedic handicaps:

1. Group B subjects were either males or females who had infant siblings without orthopedic handicaps from 3 months to 21 months of age.

2. Infant siblings of the Group B subjects were outpatients at the outpatient clinics of the children's hospital.

In addition to the criteria above, the following selection criteria were common to both groups:

1. The subjects had been within the family system for at least a year prior to the study.

2. The age range of all subjects was from 4 years to 14 years of age.

3. None of the subjects or their parents had been under treatment for behavior problems within the year prior to the infant sibling's birth.

4. The subjects' mothers were willing to be interviewed after a complete explanation of the nature of their involvement, their right to discontinue at any time, and the confidentiality of information obtained.

5. The subjects were in the average or the below average family income category, according to the mothers.

Assumptions

The following assumptions will apply:

1. Family members affect one another within a family system.

2. Mothers are exposed to behaviors of their children.

3. Behavioral characteristics of children can be observed and reported.

4. Siblings are capable of changing their behaviors.

Summary

A review of relevant literature indicates a lack of research concerning the affects of siblings on one's personality development. There has been a growing recognition of the interrelatedness of all members of a family system and the influence each member has upon the other. Those who have contributed most to this scanty measure of available knowledge have been systems-oriented, family therapists. Their findings have magnified gaps in information, especially where conditions such as the birth of a handicapped infant increases the potential for crises situations, long-term family disharmony, and psychological stresses. Nursing roles related to such family system problems are expanding. This expansion is creating an increased need for information about those at risk. This information could facilitate the development of family therapy interventions and in the planning of programs to serve these families. This study seeks to add information concerning the neglected area of sibling response to an infant with orthopedic deformities of the extremities.

This study is presented in five chapters. Chapter 1 is an introduction and includes the problem and purposes for the study. The second chapter follows with an extensive survey of relevant literature about the research problem. The procedures used to collect and treat the data are discussed in chapter 3. The study findings are revealed with statistical interpretations offered in chapter 4. And the last chapter follows with a summary of the entire study. Conclusions suggest possible meanings derived from the findings; implications are appropriately directed and recommendations for other studies are given.

CHAPTER 2

REVIEW OF LITERATURE

Scientific investigation of behaviors associated with various conditions affecting sibling subsystems fails to supply the information needed by nurses in planning effective interventions with particular types of family systems. Families with handicapped children have been noticeably neglected by researchers. Many types of handicapping conditions are evident in some children; and each of these conditions has characteristic features that may affect family system interactions in particular ways. Studies mentioned below indicate that certain kinds of behavioral changes do occur in siblings in accordance with the type of handicap of an infant in a family system.

In this review of literature, some studies calling for more exploratory research will be discussed. The importance of systems applied to family dynamics will also be considered, along with the significance of this concept as it relates to particular conditions that affect families. Variables of significance for this study will be examined along with literature to support

significance; and, behaviors that have been associated with sibling responses to stresses in other studies will be considered. A large number of childhood behaviors grouped into categories, will be reviewed for this exploratory research. Studies are lacking in regard to investigating behavioral changes in siblings after the birth of an infant with orthopedic deformities of the extremities; however, since most studies indicate characteristic types of sibling responses after the birth of children with other handicaps, it seems reasonable that these selected orthopedic handicaps are also related to changes in sibling behavior, especially since these handicaps are visible from birth and require medical management.

Limited Research

Hurlock (1972) gave two reasons for the apparent lack of research regarding the study of childhood behaviors. First, children have been considered by many as miniature adults who should not need to be studied separately. Second, many old wives tales have been passed along as guidelines for explaining childhood behaviors. But as a few studies were done with findings that contradicted these misguided views, more studies and appeals for studies began to appear.

The early exploratory studies, such as the one by Koch (1956), were concerned with usual interaction patterns among normal children drawn from urban, white, native born, middle class, intact families. These 5 and 6 year olds from two-child families were selected from the Chicago Public School System. Teacher ratings of behaviors were obtained using the Fels Child Behavior Rating Scales (Richards & Powell, 1941) and the California Inventory for Nursery School Children (Conrad, 1933). The overall aim was to obtain basic data about normal childhood behaviors and sibling interactions. Total family system interactions were not examined; and abnormal conditions, such as handicapped siblings, were not included. Sex, ordinal position, and spacing of siblings were considered. The researcher found that sex of siblings seems to account for more differences in traits than ordinal position. Also, sibs at close spacings show more effects of direct sibling interaction (Koch, 1956).

Toman (1969) surveyed many normal families and found that sibling behaviors generally related to position and sex. Oldest brothers of brothers were deemed strong, industrious leaders, and ready to act as authorities. Youngest brothers of brothers were daring, antagonistic,

appearing to want freedom, but seeking to be controlled. Their moods were changeable and achievement irregular. Older brothers of sisters tended to lead well, function well with females, and handle responsibility well. Youngest brothers of sisters were observed to expect services from others, especially females, and were not competitive. They tended to fluctuate and procrastinate and were careless and resistant to orders. Oldest sisters of sisters were strong, protective, but often domineering leaders. They seemed confident, opinionated, and self-righteous. Youngest sisters of sisters appeared adventurous, unsettled, competitive, distractable, and impulsive. Oldest sisters of brothers were judged strong, practical, independent mediators who cared for others in sometimes self-effacing ways. Other than these combinations, siblings with sibs of both sexes showed mixtures of the above characteristics, depending upon strength of influences. Middle siblings showed more role conflicts and confusion, especially when precisely between other siblings in age (Toman, 1969).

Wing (1969) reported friction in family system relationships related to disturbed behaviors observed in siblings of handicapped children. The author based her comments upon observations from individual case studies

rather than from controlled group studies. Wing (1969) emphasized the need for more group research with type and severity of handicap, sibship size, and handicapped child's age as variables.

Poznanski (1969) also reported upon case studies of families with a handicapped child. This study identified that

the underlying effects which this emphasis (by parents upon the handicapped child) may have upon brothers and sisters often are unrecognized or neglected, both by parents and the family pediatrician. (p. 232)

She further speculated,

the simple presence of the handicapped child may incite or aggravate unhealthy relationships among family members. When the mother gives extra time and attention to the handicapped child, the other children, especially young ones, may interpret this as meaning they are less favored and less loved. (Poznanski, 1969, p. 234)

Minde, Hackett, Killow, and Silver (1972) spoke of the growing dissatisfaction among behavioral researchers concerning widespread acceptance of inadequately researched traditional concepts of childhood behaviors and sibling interaction. These researchers studied families of 41 children with a variety of visible and nonvisible handicaps. Data were collected by interviewing parents about behavioral changes in all family members after the handicapped child was born. These researchers especially

rejected the retrospective case study approach to study of handicapped children and their families because of the lack of scientific control and heavy reliance upon opinion, creating observer and population bias. These writers considered the family system and its subsystems important in the study of sibling behaviors after the birth of a handicapped child. These researchers noted a significant number of behavior disorders in siblings from families studied. Parent-child and parent-parent interactions were examined more comprehensively than were sibling-sibling interactions in this study (Minde et al., 1972).

Fox (1975) noted that family responses to mentally handicapped and retarded children have been given more attention in the literature and by society than have reactions of families with a physically handicapped child. The author gained information from observations of families requiring mental health services with whom he had worked as a public health officer in a community in England. This author suggested that in families with a physically handicapped child, the other children exhibit more intense behavioral responses than do children with normal siblings. Fox (1975) concluded that all families with handicapped children should be studied. The author

suggested that the results of further investigation should be considered in planning for minimal family breakdown rate. The author also concluded that families with a handicapped member are subjected to stresses beyond those which normally arise in an evolving family (Fox, 1975).

Safford and Arbitman (1975) reiterated that not enough has been learned from research about sibling behaviors after a physically handicapped child is born. These authors stressed that few attempts have been made in this area to learn about sibling responses. They also called for exploratory research suggesting,

clinical workers are well aware of the difficulties posed for brothers and sisters of a child who is handicapped physically. . . . When the sibling's handicap is quite visible, normal social adjustment in and out of school may become quite difficult for older or younger brothers and sisters. Apart from the self-consciousness often engendered in the nonhandicapped sibling, most children struggle against feelings of inadequacy or shyness and place high valuation on peer group norms. (Safford & Arbitman, 1975, pp. 97-98)

Pfouts (1976) conducted a study of sibling interactions to see whether or not a child who is less well-endowed in culturally valued characteristics will show more hostility toward his siblings than one more favorably endowed. The valued characteristics in the families studied were superior intelligence, social adjustment, and personal adjustment. Fifty families were included in a

convenience sample. Family size, sex, roles, and age differences were controlled by selecting only from middle class, intact, white, urban families with only two male children no more than 4 years apart in age. The children studied varied from those who differed little in personality adjustment and I.Q. to those who varied greatly. Each child was given the Family Relations Test, the Slosson I.Q. Test, and the California Test of Personality. Findings supported the hypothesis that children who felt less favored or less adequate harbored more hostility, giving rise to attitudes and behaviors which are destructive to the whole sibling subsystem. The researchers emphasized the importance of more studies of sibling relationships under conditions which can produce stress, so that effective treatment plans can be formulated by those working with such families (Pfouts, 1976).

Family Systems Perspective in Therapy

The research specific to sibling subsystems mentioned above has been done primarily by psychologists and sociologists rather than by nurses working with families in therapy. Many of these therapists have found that symptomatic behaviors in children cannot be treated apart from the consideration of the sibling subsystem and the total

family system (Pfouts, 1976). As a result of these findings and the changing perspectives in therapy, more family therapists are accepting a systems orientation. This increased emphasis upon family process has evolved from work with families having schizophrenic children. Currently, neurotic and normal families as well as schizophrenic families are being examined from a systems perspective (Pfouts, 1976).

Smoyak (1975) pointed out that psychiatric nurses working with hospitalized patients have long recognized total family involvement in the behaviors of each member and have explored the possibilities of observing and working therapeutically with all members rather than only with the identified patients. By 1967, a theory and practice of psychiatric nursing family therapy had evolved. Smoyak (1975) stressed that there remains much to be learned by research from which to develop interventions for the many kinds of problems of various family systems. The author also stated that the family systems approach is very different from the earlier approaches based upon individual personality theories. With the shortage of information about family systems, she lamented that in the family therapy that has been done, there has been much guesswork without supportive research (Smoyak, 1975).

Recently, more nursing literature pertaining to family systems has been published by psychiatric nurses involved in family therapy. Although there is a lack of studies specific to problems in sibling subsystems, this literature does focus upon family systems research intended to develop theory, provide definitions, and create intervention tools. Such endeavors have laid some groundwork and have also suggested areas for more nursing research in specific problem areas in family systems. Sedgwick (1976) used in depth family studies as a basis for a theoretical model to be used by nurses doing family therapy and research. The author defined the family systems theory as the notion that family members take part in or maintain meaningful interactions. This author stressed that a family group ordinarily has interaction and interchange with other socioeconomic systems. Several types of groups having bonding relationships were defined as either social or economic families, according to the needs they met. Predictable behavioral patterns, rules, myths, messages, scripts, sanctions, and prophecies were described as characteristic of family systems. The emergence of behaviors and their consequences was indicated as more important than what is done by individuals in isolated situations. The total family phenomenon was

defined as an entity greater than just the sum of the units. The interchange and the flow of behavior from mutual interaction were said to define group membership and individual identities (Sedgwick, 1976).

Sedgwick (1976) also described the family as the main source for the acquisition of basic skills. The expertise of professionals becomes necessary when a family lacks the needed skills to promote, maintain, or revive growth, development, and adequate self-care. Sedgwick (1976) also suggested that some interventions are being found more effective than others when particular disabilities such as cancer, stroke, or diabetes are present, because of the characteristic behaviors involved. In these families, the author regarded the whole family, not just a member, as dysfunctional.

Family Response to Affliction

Litman (1974) described the interrelation between health factors and the family as a highly dynamic one. The nature of family members' reactions to an affliction may influence not only the course of the patient's condition, but also the emotional health and happiness of the whole family. Just how the family will be affected may be influenced by such factors as the allocation of

roles and functions that vary within families. This writer stressed that family responses to conditions of health and illness should be investigated in terms of effects upon total family life including influences upon roles of members.

Berggreen (1971) concluded that just having a handicapped child in the family would result in a state of tension that would affect all relationships, and that the tension would be felt by even the most psychologically robust. The author interviewed near relatives of 20 multihandicapped children and noted that the normal siblings were forced to live abnormal lives. Needs of the defective child so drained the physical and mental strength of parents that reserves for relating with the normal child were limited, no matter what good intentions they may have had.

Hurlock (1972) stated that the presence of a physically or mentally defective child can damage family relationships. Even when siblings sympathize with the child's needs and try to understand why he requires more parental attention, they may feel sorry for themselves. Often such siblings feel like martyrs when they compare themselves with peers. Siblings may feel deprived of needed things they would have if not for financial strain on the family

from care and treatment of the defective child. Extra sibling responsibilities for care of the disabled child can cause siblings to be resentful. Peer attitudes of pity or scorn injure siblings' self concept, increasing resentment (Hurlock, 1972).

Farber (1964) noted from his family casework that interaction in families with a defective child may be considered as a crisis situation of severe, enduring nature. Family dynamics of ordinary life can be magnified with exaggerated problems both in amount and kind. The greater the demand upon the mother, the more the likelihood that she will be alienated from family members, creating danger for all family interaction. Farber (1964) concluded that more effort should be given to early identification, and ongoing support services should be available to aid such families.

McDonald (1971) found from counseling with parents of a handicapped child that negative parental attitudes often develop. These attitudes affect the emotional climate of siblings. Parents may feel worried, defensive, angry, resentful, anxious, or guilty. They may not be interested in having fun, visiting, or being affectionate with their children. They may put too much emphasis upon physical welfare or finances. Consequently,

negative sibling interactions can occur under such insecure and often unpleasant conditions.

Gath (1972) also found adverse effects upon siblings' mental health after the birth of a defective baby. The author's study showed that siblings' emotional development and behaviors may be affected in various ways, depending upon the nature and severity of the handicap involved. Gath (1972) studied 36 school aged siblings of children with Down's Syndrome and 35 school age siblings of children with operated cleft lip/palate deformities. Behavior scales for parent and teacher interviewing were used. Interviews were done by the author in clinics, homes, and schools. Topics about siblings covered interests, school related behaviors, peer and sibling interactions, and play behaviors. The author gave degree of normality ratings to reported sibling behaviors during the preceding year. Certain types of behavior problems in siblings were related to each type of handicapping condition. The writer suggested that certain behavioral responses in siblings could be patterns associated with types of handicaps. According to Neff (1965), "We know less about the actual dynamics of family reactions to disablement than about any other aspect of the problems of handicapped persons" (p. 797).

Miller and Cantwell (1976) found from experience as family therapists that friction between siblings does occur. Normal siblings may feel that their lives are being impinged upon because of the handicapped child's many needs. Siblings often regard the defective child as being more privileged, receiving more parental concern, favor, attention and time, and being less strictly disciplined. The therapists noted that such families do not tend to work together in positive, constructive ways, but rather form destructive alliances.

McMichael (1971) realized from studies of disturbed families that in the family with a physically handicapped child, the handicap itself constitutes an emotional hazard. Sooner or later, the author found emotional challenges to all interactions would appear. These challenges would involve the family in crises periodically. Under certain circumstances, the study indicated some families would surmount difficulties and thus strengthen personalities, while other families would succumb, weakened in their plight (McMichael, 1971).

Significant Variables

The variables of significance for this study have been chosen because of their importance in the literature

and relevance to this study. These variables include presence of a selected deformed child, sibling age, ordinal position, sex, and family size. Effects of other severe psychological problems in the family, major changes during the previous year, and economic condition have been controlled in sample selection.

Several previously mentioned researchers (Wing, 1969; Gath, 1972; Safford & Arbitman, 1975; Fox, 1975; Pfouts, 1976) have recognized the deficit in the current literature. These writers have indicated a need for studies which would explore particular handicaps of children in order to further identify their relationship to sibling behaviors.

Authors mentioned in this review who have studied normal sibling interaction have recognized sex related differences in behavioral responses. Koch (1956) and Toman (1969) also described effects of various combinations of sexes in sibships in different ordinal positions. Bakwin (1972) noted that more jealousy normally exists in same sex combinations than with opposite sex siblings. Hurlock (1972) noted a lessening of jealousy between sexes with increased age difference, but noted sister combinations to be most antagonistic.

In most studies, birth order has been found to be significantly related to usual sibling behaviors. This variable was closely related to sex and age variables in these studies. Koch (1956) found from a study of normal sibs that first borns at close spacing are least likely to recover readily from emotional upsets. Second borns were found to show anger more openly than first borns. First borns showed more restraint, had higher super egos, and conformed more to parental expectations than did second borns studied. Second borns showed more frustration in trying to keep up with first borns. Nervous habits were greater in first borns, especially girls. First borns showed more projection of blame, emotional intensity, and confidence in sibling relationships. First born boys with a girl sibling rated high on social skills, exhibitionism, insistence upon rights and fault finding. Second borns were generally found to show less severe responses to defeat and were less critical. Ordinal position differences were less with same sex siblings. Siblings showed more influence upon the other's behaviors through greater involvement at the smallest age spacing (Koch, 1956). Bakwin (1972) suggested that more middle children of both sexes are found with behavior problems--

temper tantrums, quarrelsome behavior, and discipline problems.

The variables, sibling age and spacing, have been linked in the literature with the variables of sex and birth order in describing normal childhood behaviors. Pfouts (1976) noted that this interaction of variables creates some difficulty in research, since it might be difficult to clearly determine which variables account for certain behaviors. Koch (1956) studied siblings in three age spacings and found that when siblings are closer in age, they usually get similar treatment from parents, interact more closely and intensely, play together more, and have more common interactions. Hurlock (1972) stated that as childhood progresses, friction also increases at all sibling spacings; but conflict is less as the age spacing increases.

Berggreen (1971) found that siblings nearest in age to a handicapped child have the greatest number of psychological problems related to the presence of such a child. If the normal child is just slightly older, the potential for problems was found to be greatest. Parents are usually unable to offer the attention and affection that is needed for ego development. The child may be expected to understand the situation but is not yet able (Berggreen,

1971). Bakwin (1972) explained that the slightly older child has had total attention and affection, but he does not yet feel well enough established in the parents' esteem to adjust to the usual demands of the defective child who requires so much. He may be intensely jealous, since he is yet very dependent emotionally upon the parents and not yet willing to share them (Bakwin, 1972).

In considering the effects of family size in normal families, Berggreen (1971) decided that prospects for normal sibling development are worse when there are only two siblings. Hurlock (1972) added that large families provide children with several conditions that encourage emotional security and foster healthy behavioral development. These include someone to listen when parents are indifferent or harried, more understanding of problems from siblings than from parents, better teaching from siblings than from parents, less jealousy because of less emotional coddling, and less overdependence upon parents. The medium-sized family with three or four children offers most of the conditions of the large family that promote healthy development of family relationships, plus advantages not usually found in large families. These families are generally planned, and therefore, are more satisfying to parents. Economic

security may be greater, offering more opportunities and better meeting needs. In small families siblings often have greatest rivalry, parental overprotection, fewer persons to give emotional support, and more comparisons and achievement pressures from parents.

Behaviors of Children Under Stress

A review of research and child development literature revealed that certain categories of childhood behavior are susceptible to visible change when emotional stresses are applied. Such changes have sometimes been linked with stresses within sibling subsystems. The categories include patterns of eating, eliminating, sleeping, interacting with others, adapting to changes, and school related performing. Most of the literature reviewed was non-specific in terms of the stressor. In a few instances, the behavior reported was in families in which there was a handicapped child. The presence of this child may have been the stressor. Those studies will be identified when appropriate.

Eating Behaviors

Changes in the category of eating behaviors are mainly concerned with amount and kind of food eaten and manner of eating. Bakwin (1972) explained that

fluctuation in appetite and food refusal are normal in preschoolers; but that when this persists and is extreme enough to affect nutrition and weight significantly, emotional problems could be involved. Not eating may be a way to annoy and agitate parents when the child feels unfairly treated. Unhappy, preoccupied children may eat slowly or inadequately. Neglected children may use mealtime to get attention by their food choices or refusals. Anxious children may eat more to relieve stress (Bakwin, 1972). Hurlock (1972) added that overeating of sweets may occur in depressed children, and also that disturbed emotions can relate to restlessness at mealtimes. Bakwin (1972) explained that attention seekers may intentionally be messy; but restless, preoccupied, or anxious children may be messy unintentionally. Poznanski (1969) also noted obesity and attention-getting behaviors among siblings of many handicapped children.

Throwing of objects, including food, is a normal developmental phase of infants; but Hurlock (1972) stated that this usually does not last beyond 9 months to 1 year, unless the child is protesting a perceived injustice. Bakwin (1972) noted that insecure and worried children, especially preschoolers, may seek parental help at mealtime. The author stated that young children who have

been weaned may want to be bottle fed and to be more dependent. This behavior normally is transient, the writer stated. Pica, eating of nonfood objects, is not considered normal beyond 4 years. Bakwin (1972) remarked that this behavior is often seen in neglected children. Vomiting, he suggested, could be linked with desires for parental attention, fearfulness, anger, or anxiety. Worry and anxious behaviors are most often seen in fourth and fifth graders and just before adolescence. Rimm and Somervill (1976) noted that some transient eating disturbances are common throughout childhood, but they ordinarily are not lasting or predominant features.

Eliminating Behaviors

Another body function affected by emotional disturbances is waste elimination. Hurlock (1972), Bakwin (1972), and Rimm and Somervill (1976) noted nocturnal enuresis as a possible symptom of psychological problems. Bed wetting is not considered enuresis unless it occurs frequently beyond the age of successful toilet training. Encopresis (involuntary soiling without presence of organic disease in children beyond 2 years of age) was described by Bakwin (1972) and by Rimm and Somervill (1972) as more likely to be related to serious emotional problems than enuresis. Bakwin (1972) suggested that

parental lack of affection might be involved. Constipation was also noted to occur in such children and possibly to be caused by negativism. Rimm and Somervill (1976) noted that diarrhea associated with psychological stress was occasionally seen in 6 to 12 year olds. Hurlock (1972) explained that because proper elimination habits are so important to parents, these can be used as a means to express negativism or gain attention.

Sleeping Behaviors

Sleeping disturbances have also been associated with emotional problems in children. Poznanski (1969) observed insomnia as one of several disturbed behaviors in many siblings of handicapped children. Safford and Arbitman (1975) associated nightmares with stressful family conditions endured by siblings of handicapped children. Both Hurlock (1972) and Bakwin (1972) linked insomnia with neglected and rejected children. Hurlock (1972) reported that many fears and insecurities may be associated with being different or being ridiculed. These fears often grow out of disturbing home conditions such as those which a defective child's presence can promote. Bakwin (1972) stated that fearful and anxious children may often have nightmares and be overly afraid of darkness because of imagined terrors. Sleepwalking was associated

with very stressful feelings after birth of a sibling when the child feels parental love is gone.

Interacting Behaviors

Behaviors with parents and parent figures may change under stress such as a handicapped child's birth. Miller and Cantwell (1976) remarked on the negativism uncooperativeness and attention-getting acts of a child related to his feelings that a handicapped child is receiving more attention from parents. Berggreen (1971) reported an increase in angry behaviors in siblings of the handicapped. Such behaviors as blaming, lying, and arguing were mentioned by Hurlock (1972) as being frequently identified in neglected, mistreated, or rejected siblings. The overly jealous child was said to seek attention in many ways and to demand help not recently requested. Bakwin (1972) reported that children uncertain of parental affection misbehave in various attention-getting ways so as to test parental response. Poznanski (1969) found neglected sibs of handicapped children to be overly dependent, attention-seeking, and hostile.

Children experiencing emotional stress usually have interaction problems with peers and siblings. Safford and Arbitman (1975) observed that older and younger male and female siblings of visibly handicapped children have

difficulties with peers because of increased self-consciousness. Most children, remarked the authors, struggle with feelings of inadequacy and shyness and place a premium on peer approval. Normal sibling rivalry and resentment can be excessive because of the emphasis upon a handicapped child by parents. Poznanski (1969) stressed that the anger of sibs may be intensified when peers ridicule or tease them about a defective sibling. Howell (1973) found that children who feel insecure may form unhealthy adaptations, such as avoiding normal social relationships and becoming overly involved with a defective sibling.

Hurlock (1972) discussed behaviors usually related to jealousy, resentment, and anger in children. Such children are often unpopular and uncooperative with peers. These children may develop proprietary attitudes toward a few peers and resent attention these peers give to others. Such children may be envious of other children they imagine to be more fortunate. Bakwin (1972) observed some sex-related differences in behaviors of jealous and neglected children. The researcher described boys as more actively aggressive and quicker to show anger by fighting, destroying property, and stealing. In girls, the author observed more indirect expressions

of anger as well as more sexual misbehavior. Hurlock (1972) pointed out that younger children attack more openly and directly in response to feelings of anger, jealousy, and neglect than do older children who use more control and operations of intellect. Withdrawal, indifference, and sullenness may result from anger, especially in older children (Hurlock, 1972).

Adapting Behaviors

Emotionally disturbed children may reveal inability to adapt comfortably to change. Berggreen (1971) found such speech disturbances as stammering in many siblings of handicapped children, which the author related to disharmony at home and neglect. This author recognized various anxiety-related behaviors in these children. Bakwin (1972) and Hurlock (1972) mentioned negativistic, irritable, sad moods in disturbed children. These authors both described numerous self comforting behaviors in children who feel neglected or rejected due to their perception of another sibling being favored by the parents. Bakwin (1972) indicated that self comforting behaviors may even interfere with sleep, since a disturbed child can often do these unobserved at night. Other mannerisms may be done spontaneously by the child for tension reduction. Motor activity may be restless

and fidgety or inactive and sluggish. Such children may inhibit behaviors in one setting but express them in others, the writer explained. Such children may run away or threaten to do so. These children may inflict injury upon themselves, other children, or animals (Bakwin, 1972). Hurlock (1972) stated that neglected children often feel guilt which is associated with self injury and fear of punishment or injury. Bakwin (1972) pointed out that the child's fantasy life could interfere with concentration and accurate perception of reality. Hurlock (1972) and Bakwin (1972) discussed various somatic complaints associated with worry that may be centered on the body. Safford and Arbitman (1975) suggested that siblings of handicapped children often have fantasies of becoming disabled. These authors pointed out that emphasis upon physical symptoms could be related to parental attention to the physical condition of the handicapped child.

School Related Behaviors

Disturbances in family relationships for children who feel neglected can be associated with school related behaviors. Hurlock (1972) explained that a child pre-occupied with problems at home has difficulty in maintaining interest in school work. Irritability, feelings of guilt and inadequacy, daydreaming, tension, and poor

peer relations can hamper performance or motivate to excessive work. Fighting, stealing, excessive use of defense mechanisms, and destructiveness can lead to disciplinary actions. Negativeness and feeling misunderstood may lead to avoidance behaviors. Bakwin (1972) pointed out that feelings of insecurity generated in family interactions may be acted out in other settings. Both Poznanski (1969) and Safford and Arbitman (1975) described problems in social adjustment and changes in academic performance of children when family attention is directed toward a handicapped sibling.

Conclusion

As the systems viewpoint has become more accepted among therapists, childhood emotional disturbances have been increasingly considered to be outgrowths of disharmonious family interactions. Therapeutic application of a systems concept by psychiatric nurses necessitates knowledge of family systems and subsystems under various conditions. Literature reviewed indicates more information is needed about sibling subsystems, especially those with an abnormal child involved. The studies done indicate that noticeable behavioral changes often occur because of sibling related family factors. Physically handicapped children have been linked with such changes,

Six categories of childhood behavior susceptible to visible change have been identified in the literature. These categories which have been linked with sibling subsystem stress include patterns of eating, eliminating, sleeping, interacting, adapting to changes, and school related performing. Although the literature did not always identify the stressor, in some instances, sibling behavioral changes were related to the presence of a handicapped sibling. Concerning eating behaviors, Poznanski (1969) found obesity among some children to be related to having a handicapped sibling. Childhood elimination disturbances were not directly related to handicapped siblings in the literature but were associated with many types of family stresses. Sleeping irregularities, such as insomnia, in siblings of handicapped children were reported by Poznanski (1969). Safford and Arbitman (1975) found siblings of handicapped children to have excessive nightmares.

In the next category, interacting behaviors, many disturbances have been reported in children with handicapped siblings. Poznanski (1969) observed excessive attention-seeking, over-dependency, and hostility in such children. Miller and Cantwell (1976) also found more than the usual attention-seeking, negativism, and

uncooperativeness in children with a handicapped sib. Berggreen (1971) listed angry behaviors such as arguing, lying, and blaming, which he discovered at above normal levels in these children. Excessive self-consciousness in siblings of the handicapped was noted by Safford and Arbitman (1975). Howell (1973) also reported unhealthy avoidance behaviors developed in such insecure children, and that over-involvement with the handicapped child sometimes resulted. Behaviors seen in some sibs of a handicapped child were also connected with a subnormal capacity to adapt to changes comfortably. Some such children were observed to place too much emphasis upon physical symptoms (Safford & Arbitman, 1975). Speech disturbances were noted in some of these children (Berggreen, 1971). In the last category, school related performing, academic performance, and social adjustment in school were affected in some children when family attention was turned to a handicapped sibling.

The behaviors of children who have siblings with congenital orthopedic deformities of the extremities have not been adequately researched, according to the literature. Studies of sibling interactions of any type are few. Findings of those studies including handicapped children in sibships indicated that a nonhandicapped

sibling may have greater potential for psychological disturbances than a nonhandicapped child with a nonhandicapped sibling.

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

The procedures used in conducting this study and related information are described in this chapter. Pertinent information is presented under several topic headings. Initially, the setting is discussed with significant details about the location, and the target population from which the sample was drawn is clarified. Procedures for protecting rights to insure the safety of human subjects are explained; the tool used, its design and its administration, is described and the methodology for obtaining and recording data is outlined. Finally, the statistical maneuvers selected to elicit the desired information for this type of research are considered, followed by a summary of the chapter.

Setting for the Study

The study was conducted primarily in the homes of outpatients of two children's hospitals. Some interviews were conducted in hospital conference rooms. Both hospitals were located in a large, densely populated Southwestern city. At one institution, a hospital for crippled

children, hospital authorities were involved in selecting Group A subjects and contacting their mothers. At the other hospital, Group B subjects were identified from clinic records and their mothers were contacted by mail with an explanation of the study. Mothers in both groups who wished to schedule an interview responded by mail or by telephone. For each interview, a convenient time was set in a private and comfortable location. Those mothers who signed written forms were interviewed.

Population and Sample

The target population consisted of those male or female children who met the subject criteria. The sample chosen from this population consisted of two groups. Group A was composed of 20 siblings of infants with orthopedic deformities who were being treated at a clinic of a hospital for crippled children. Group B was composed of 17 siblings of children with no diagnosis of orthopedic deformity or serious illness. Group B was the control group. According to the Director of Social Services at the hospital for crippled children, Group B was similar in background to Group A.

Data were obtained for two groups of 20 subjects each. In order to better match the groups, data from

three Group B subjects of toddler age were eliminated, since there were no Group A toddlers. Eliminating this data was required to meet the criteria for an unmatched control group (Campbell & Stanley, 1963).

The subjects chosen were the most readily available, a convenience sample. Convenience sampling reduces the strength of findings generalizations but is acceptable in preliminary studies (Kerlinger, 1973). This author claims that randomization is costly and not necessary for preliminary studies.

Protection of Human Rights

Before beginning data collection, permission to conduct the study was secured from the Human Rights Committee of Texas Woman's University, and from the Human Rights Committees of each hospital involved. All human rights documents for this study are included in Appendix A. After permission to conduct the study was granted, individual permission was obtained from each mother included in the study. Mothers of infants with orthopedic handicaps who were potential candidates for interviews were identified by the Social Service Department who contacted each by mail. In the letter (Appendix A), each mother was informed regarding her involvement and the approximate time required for collection of data

about the siblings of her handicapped infant. The mother's optional participation was explained in the letter and verbally by Social Service representatives of the hospital. To participate, each mother was asked to give written notification to the Social Service Department to grant permission to use the handicapped infant's records, in order that the mother could be contacted by the investigator to arrange for an interview. Mothers of infants with no orthopedic handicaps who also met study delimitations were identified directly from clinic records of another children's hospital in the same city. Letters were sent to these mothers with the information given mothers of Group A subjects, but with directions to respond by telephone to schedule an interview. They were also told how their children would serve as the control group for the study. In each home before the interview, the mother was informed of the possible risks involved and the protections from risks to be exercised. The reasons for the study and the potential benefits were further explained. The confidentiality of information, the type of interview procedure to be used, and the right to discontinue the interview was presented. If the mother was still willing, a request was made that the Consent to be a Research Subject form be signed (Appendix A). The

form was placed in a large envelope with other consent forms. An expression of thanks was extended to each mother for participating. A stamped, addressed postcard was offered to each mother who desired information about study results. If any mother wanted to receive a summary of findings, directions were given regarding the use of this postcard to make the request.

Procedure for Data Collection

This study required individual interviewing of subjects' mothers, as described in this section. An interview tool developed by the investigator was utilized for data gathering. Findings were summarized for each subject on individual sheets in anticipation of the data analysis procedures (Appendix B).

The Tool

The tool used for data collection in this study was an interview questionnaire developed by the investigator (Appendix B). This tool was modeled after other tools designed to gain information from parents about their children's behaviors (Barsch, 1968; Noland, 1971; Roskies, 1972). The content was formulated after a careful review of literature on normal and abnormal childhood behavior development. The areas of functioning selected for study

are those that seem to be more apt to indicate possibilities of an increase in stressful influences. The tool used incorporated several sections. First, demographic data were obtained. The next six sections consisted of questions about general categories of sibling functioning to be inquired of mothers for each sibling. Each category began with a broad question to determine whether or not the mother had noted changes of any kind in that area. After each negative response, the interviewer progressed on to the next category. Categories contained 5 to 16 questions each. The interviewer checked positive, negative, and nonapplicable responses on score sheets for each sibling (Appendix B).

The tool manifested validity because of several processes. First, content validity resulted from the use of relevant, expert literature with substance being chosen for theoretical relevance and appropriateness. Next, face validity was achieved by submission of the proposed questionnaire to a panel of experts that consisted of two instructors of maternal child nursing, a statistician, and a child psychologist. The experts examined the tool for clarity, appropriateness of content, significance, and form.

To standardize the interview procedure, wording of questions was kept as clear and as simple as possible. The interviewer attempted to be as consistent as possible in technique and setting from interview to interview. Instructions and explanations given were as similar as possible.

To further refine the questionnaire and the interview procedure, pretesting was performed on seven volunteering mothers who attended a church in the community. As a result of pretesting, a few wording changes were made. Items that seemed to evoke embarrassment or confusion were reworded or eliminated. Practice in study explanation was obtained. Other procedural details of the interview were developed, evaluated, and polished. Because the purpose of the pretesting was to improve the tool and establish a viable interview format, no data analysis was performed with the findings.

The interview questionnaire was administered in the following manner. After obtaining written consent as previously described from each mother whose children met the selection criteria, an appropriate area in the home or hospital was secured for the interview. The interview area was as private, quiet, and comfortable as possible. During the interview, each general behavior category was

introduced with a broad question, such as: "Have you noticed any changes in your child's eating patterns?" Each question within a category was asked only when there was some indication that there may have been changes. Otherwise, the "no change" response was indicated for each item, and the next category was presented. The mother was asked to give an evaluation or an explanation of some changes, such as whether or not the child's eating considerably less has been an improvement from what happened before, or not. Changed behavior was explained for each mother as "any changes in the child's behavior that had lasted beyond 2 months after the last child's birth."

Data were collected by the interviewer, who made entries on individual score sheets to indicate the type of response that the mother perceived for each subject regarding each behavioral item within each category. Data analysis was performed from score sheet information.

Research Design

This research was a quasi-experimental study like that described by Campbell and Stanley (1963) as Design 10, with the measurement before and after the independent variable. The independent variable was the presence of

an orthopedically handicapped infant in a family. The dependent variables being studied were the sibling behaviors included in the interview questionnaire. Mothers were asked to recall the behaviors of the child before the birth of the orthopedically handicapped sibling, and to compare those previous behaviors to present behaviors.

Treatment of Data

The statistical analysis and presentation of this study were accomplished in several ways. Demographic data were presented in summary tables showing frequency distributions, mean, median, and range of selected variables. The behavioral items from the interview questionnaire for which change was reported were presented in tabular form indicating change direction and the group that changed. Then, a Chi-square Test of Independence was performed using the computerized Statistical Analysis System. From the test findings, a table was developed to show behavior change items in which significant change or a trend toward significant change between the groups was indicated. The data obtained in the study were measured on an ordinal scale.

CHAPTER 4

ANALYSIS OF DATA

The problem of this investigation was to identify changes, as perceived by the mother, in the behavioral characteristics of children after the birth of orthopedically handicapped siblings, and to compare those with changes in children after the birth of normal siblings. Demographic data and reports on behavior changes in these subjects were obtained from mothers by use of an interview questionnaire. The Group A subjects were 20 children who had 8 orthopedically handicapped infant siblings. In Group B, there were 17 children who had 7 infant siblings who did not have orthopedic handicaps.

Description of the Sample

Comparison of the demographic data indicated some differences in the demographic characteristics of the two groups. Infant siblings of Group A subjects ranged in age from 12 to 21 months with 16.25 months being the mean age. The mean age for Group B infant siblings was 8.78 months, and infant age ranged from 3 to 11 months. Group B infant siblings were 58.83% females and 41.17% males.

In Group A, 75% of the infant siblings were males and 25% were females.

Diagnoses of infants of Group A subjects included differing orthopedic handicaps of extremities, but Group G infants were uniformly diagnosed as normal infants. Among Group A infants, 62.5% of the handicaps were kyllosis talipes (clubfoot), 12.5% of handicaps were syndactylism (webbing of fingers), 12.5% congenital hip dislocation, and the other 12.5% had congenital orthopedic defects caused by infection.

Some differences were also observed when comparing other demographic variables in families of both groups. More Group A families were suburban residents (75%) with the remainder (25%) being urban residents. By comparison, Group B families were mainly urban residents (71.43%) with the others being suburbanites (28.57%). Economically, Group A families had the highest income level. In Group A, 75% of the families had an average income and the remainder, 25%, had a below average income. In Group B, 42.86% of the families had an average income, but 57.14% had an income below average.

Educational levels varied more within the groups than between them. Group A mothers ranged from 8 to 18 years of education with the mean being 12.37 years. Group B

mothers ranged from 6 to 14 years education with 11.28 years being the mean. Fathers in Group A ranged from 5 to 18 years education with 11.87 being the group mean. Group B fathers ranged from 7 to 15 years education with 11.14 being the mean.

Occupations of parents included more professionals in Group A than in Group B. Of the fathers in Group A, 50% held management or teaching positions compared to 11% of Group B fathers. The remaining fathers in both groups had various types of semi-skilled vocations and had attempted several types of work. Group B mothers who were employed all held various nonprofessional jobs. In Group B, 42.85% of the mothers were unemployed compared to 50% of the Group A mothers. Of the employed Group A mothers, 39% had nonprofessional positions and 11% had professional positions.

Living in homes of a small number of the families in each group were members of the parents' extended families. One family in Group A included paternal parents. In Group B, one family included the maternal grandmother, and another family included a maternal sister.

Sex distribution for both groups of children is presented in Table 1. In Group A, from a total of 20 subjects, 9 (45%) were males and 11 (55%) were females.

In Group B, 8 subjects (47.05%) were males and 9 (52.95%) were females for a total of 17 subjects.

Table 1
Distribution by Sex for Group A and
Group B Subjects
(n = 37)

Gender	Group A		Group B	
	N	%	N	%
Males	9	45.00	8	47.05
Females	<u>11</u>	<u>55.00</u>	<u>9</u>	<u>52.95</u>
Total	20	100.00	17	100.00

A comparison of the two groups indicates that they were similar in percentage of distribution by gender, range of age, and the mean age for females. Differences occurred in mean age for males and median age between groups. The mean age for Group A males was 9 years compared to the Group B male mean age of 7.25 years. Females in Group A had a mean age of 8.82 years. The mean age for Group B females was 8.78 years. Males in Group A had a median age of 9 years contrasted with the Group B median male age of 4.5 years. The median age for Group A females was 9 years; in Group B the median age for females was 10 years. Male ages ranged from 4 to 14 years in Group A compared to a range of 4 to 12 years

for Group B males. Group A females ranged in age from 4 to 14 years, and Group B females ranged from 4 to 13 years in age.

Table 2 illustrates the frequency distribution by sex and age for Group A and Group B. The most frequent male age in Group A was 14 years, but 4 years was the most frequent Group B male age. In Group A, the most frequent female ages were 7 and 9 years. The most frequent female ages in Group B were 10 and 11 years.

Table 2

Frequency Distribution by Sex and Age in
Years for Group A and Group B Subjects

Age	Group A				Group B			
	Male		Female		Male		Female	
	f	%	f	%	f	%	f	%
4	1	5.00	1	5.00	4	23.53	1	5.88
5	1	5.00	1	5.00	2	11.76	1	5.88
6	0	0.00	1	5.00	0	0.00	0	0.00
7	1	5.00	2	10.00	0	0.00	1	5.88
8	1	5.00	0	0.00	0	0.00	1	5.88
9	1	5.00	2	10.00	0	0.00	0	0.00
10	0	0.00	0	0.00	1	5.88	2	11.76
11	1	5.00	1	5.00	0	0.00	2	11.76
12	0	0.00	1	5.00	1	5.88	0	0.00
13	1	5.00	1	5.00	0	0.00	1	5.88
14	<u>2</u>	<u>10.00</u>	<u>1</u>	<u>5.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
Total	9	45.00	11	55.00	8	47.06	9	52.91

n = 37

Ethnic distribution for both groups is presented in Table 3. Black subjects were not present in Group A; Group B was 64.71% Black. Anglos comprised 85% of Group A, but only 11.76% of Group B. The groups were more similar in percentages of Mexican American subjects. In Group A, 15% were Mexican American subjects; in Group B, 23.53% of the subjects were Mexican Americans.

Table 3
Distribution by Ethnic Group for Group A
and Group B Subjects

Race	Group A		Group B	
	f	%	f	%
Black	0	0.00	11	64.71
Mexican American	3	15.00	4	23.53
Anglo	<u>17</u>	<u>85.00</u>	<u>2</u>	<u>11.76</u>
Total	20	100.00	17	100.00

n = 37

Frequency and Direction of Change
in Children's Behaviors

Table 4 presents all items from the questionnaire for which any change was reported. Changes occurred primarily in categories having to do with eating, interacting (especially with peers and siblings), adapting emotionally, and appropriately functioning at school. Fewer changes

Table 4

Frequency Distribution and Direction of Changed
Behaviors for Group A and
Group B Subjects

Group	Change Direction					
	Positive		No Change		Negative	
	A	B	A	B	A	B
<u>Behaviors</u>						
A. Eating Patterns						
1. Eating amount	0	0	20	16	0	1
2. Eating speed	0	0	20	16	0	1
3. Preferring foods	0	1	20	15	0	0
4. Eating neatness	0	2	20	15	0	0
6. Demanding help	0	2	20	15	0	0
B. Elimination Patterns						
6. Having diarrhea	0	0	19	17	1	0
C. Sleep Patterns						
1. Having insomnia	0	2	18	15	2	1
2. Having nightmares	0	0	19	17	1	0
D. Interactions						
1. Parents/Adults						
a. cooperating	1	3	19	13	0	1
d. being angry	0	0	19	15	1	2
e. being truthful	0	0	20	16	0	1
g. seeking attention	0	1	19	15	1	1
2. Siblings/Peers						
a. sharing	1	0	19	17	0	0
b. fighting	0	0	19	17	1	0

Table 4 (continued)

Group	Change Direction					
	Positive		No Change		Negative	
	A	B	A	B	A	B
c. cooperating	1	0	18	17	1	0
d. being angry	0	0	18	17	2	0
e. avoiding others	1	1	19	16	0	0
f. respecting property	1	0	19	17	0	0
g. being modest	1	0	19	17	0	0
E. Emotional Adaptation						
1. Usual mood differing	0	4	19	13	1	0
2. Speaking difficulties	0	1	20	16	0	0
3. Habits involving body	0	0	19	17	1	0
4. Usual activity differing	0	1	20	16	0	0
6. Complaining involving body	0	1	20	16	0	0
8. Fearing injury	0	1	20	16	0	0
9. Paying attention	0	4	20	13	0	0
F. School Related Behaviors						
1. Having interest	4	2	16	14	0	1
2. Performing	3	2	17	14	0	1
3. Receiving discipline	1	1	18	15	1	1
4. Being destructive/fighting	0	1	19	16	1	0
5. Being tardy/absent	0	0	20	16	0	1
6. Having different attitude	3	1	17	15	0	1

occurred in sleep related behaviors. The least number of changes was reported in elimination patterns (Appendix B includes the entire questionnaire). For the total of all items, there were 33 positive changes reported for Group B compared to 17 positive changes for Group A. Conversely, negative changes were slightly more frequent in Group A than in Group B. Fifteen negative changes were reported for Group A compared to 13 such changes for Group B.

In addition to determining changes and the direction of changes in behavior of children following the birth of an orthopedically handicapped infant sibling and a normal infant sibling, another purpose of the study was to determine relationships of selected demographic data to findings related to behavior changes. These relationships could not be determined since the amount of data was insufficient for such analyses.

Table 5 shows a rank ordering of selected behavioral items from the questionnaire. These five behavioral items, shown in descending order of significant behavior change difference, had the most changes reported. The significance of the difference in behavior change between the sibling groups was determined by use of the Statistical Analysis System (S.A.S.), a computerized data analysis method. The statistical test selected by the S.A.S. was

Table 5

Ranking and Probability of Change Difference
in Group A and Group B Subjects

Behavior Item	Group A (n = 20)			Group B (n = 17)			Probability
	Positive Change	No Change	Negative Change	Positive Change	No Change	Negative Change	
E ₉ "paying attention"	0	20	0	4	13	0	0.0216
E ₁ "differing usual mood"	0	19	1	4	13	0	0.0518
A ₄ "eating neatness"	0	20	0	2	15	0	0.1148
A ₆ "demanding help eating"	0	20	0	2	15	0	0.1148
D _{2d} "being angry with siblings or peers"	0	18	2	0	17	0	0.1801

n = 37

the Chi-square Test of Independence with the significance level set at 0.05. The S.A.S. reports included a warning that the small amount of data analyzed might mean that the conclusions are invalid.

In Table 5, the trend is toward positive behavioral change in Group B, but not in Group A. Some negative behavior change was evident in Group A. Conversely, no negative change was reported for any of these behavioral items in Group B.

Item E_9 , "paying attention," was the only behavior that showed a change significant at the .05 level with a probability of .0216. For this item, four positive changes occurred in Group B contrasted with no positive change in subjects in Group A. The next item, E_1 , "differing usual mood," neared significance with a probability of .0518. There were four positive changes reported for Group B and one negative change reported in Group A for item E_1 . Following in significance was item A_4 , "eating neatness," with a probability of .1148. Group B was reported to have two positive changes for item A_4 , but no changes were reported in Group A. Item A_6 , "demanding help eating," had the same probability as item A_4 , .1148, with two positive changes for Group B and none for Group A. The last item shown in Table 5 is D_2^d , "being angry with

siblings or peers." There was a trend toward significance for this item with a probability of .1801. For item D₂d, there were two negative changes reported for Group A, the study group, and no changes reported for Group B, the control group.

Summary

The analysis of data was performed comparing behavior changes in children after birth of an orthopedically handicapped sibling with children after birth of a normal sibling. A significant difference between the groups was found for only one behavior, "paying attention." Four other behavior changes indicated a trend toward significance between groups. Overall, there was greater positive change in Group B, the control group, and slightly more negative change in Group A, the siblings of handicapped infants. This analysis met the first three purposes of the study: to determine whether or not behavior changes had occurred in either group, and to determine the direction of reported changes. The last purpose, to determine relationships between the identified changes and certain demographic characteristics, could not be carried out since insufficient data prevented meaningful analysis.

CHAPTER 5

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

This study was an investigation of changes in sibling behaviors after the birth of a child with orthopedic handicaps of the extremities into the family system. The theory of systems applied to families suggests that such a child would result in altered family interactions and psychodynamics. According to this theory, these alterations could be linked with behavioral change patterns that could be observed by mothers.

The problem of this study was to identify changes, as perceived by the mother, in behavioral characteristics of children following the birth of orthopedically handicapped siblings, and to compare those with changes in children after the birth of normal siblings. Four purposes for this study were as follows: (a) to determine if there had been changes in the behaviors of children after the birth of an orthopedically handicapped infant sibling; (b) to determine if there had been changes in the behaviors of children after the birth of an infant sibling

without orthopedic handicaps; (c) to determine the direction of change for each behavior reported in each of the two groups; and (d) to determine associations between demographic characteristics of age, sex, birth order, and family size within and between the groups.

Group A subjects were selected by convenience by the Social Service Department of a large hospital for crippled children. Group B was a control group of children chosen by convenience from clinic records of another large children's hospital. Infant siblings of Group A subjects had orthopedic handicaps, although infant siblings of Group B subjects had no diagnosed handicaps. Mothers of Group A and Group B subjects were interviewed privately after each mother had received an explanation of the study and had voluntarily signed a written consent form.

This study was a before and after design using retrospective data. A questionnaire was utilized with mothers recalling the subjects' behaviors at both periods. The independent variable in the study was the handicapped infant in a family system where such a condition did not previously exist. The dependent variables are the behavior responses of siblings when the independent variable is added.

The collected data were analyzed by a computer (Statistical Analysis System) using the Chi-Square Test of Independence to compare the groups in terms of the dependent variables within various behavioral categories. The analysis indicated that only one behavior change differed significantly between the groups at the .05 level. That behavior was "paying attention," with a probability of .0216. For this behavior, there was no change in Group A, but four positive changes occurred in Group B. Four other behaviors showed a trend toward significant difference between the sibling groups. For the behavior "differing usual mood," a negative change in Group A compared to four positive changes in Group B accounted for the trend toward a significant difference between the groups. Two behaviors, "eating neatness" and "demanding help eating" showed a trend toward significant difference between the groups, because Group A had no changes while Group B had two positive changes reported for each behavior. The last behavior showing a trend toward significance was "being angry with siblings or Peers." For this behavior, the two negative changes in Group A compared to no changes in Group B caused a slight trend toward significance. Statistical Analysis System data sheets included a warning

that the findings might not be valid because the data were so sparse.

Group B, the children with nonhandicapped infant siblings, were reported to have almost twice as many positive changes as Group A, the children who had handicapped infant siblings. Also, Group B subjects had over 13% fewer negative behavior changes than the subjects with handicapped infant siblings, Group A.

Discussion of Findings

The findings of this study are consistent with the current literature. The behavior found to differ significantly between the groups was the item "paying attention," where positive change occurred in the normal siblings group, but no changes in the other group. The finding of no positive change in some children with handicapped infant siblings might be related to the findings of other researchers. Safford and Arbitman (1975) observed families who had children with various types of physical handicaps. These researchers noticed an above average amount of negative family interactions, including negative behaviors in siblings, that seemed to relate to stress. These siblings were often beset with feelings of resentment toward the handicapped child who received so

much more parental attention. Siblings felt guilty about their resentment and had fantasies of becoming disabled. These feelings and fantasies interfered with normal concentration or paying attention.

Berggreen (1971) suggested that just the presence of a handicapped child in a family can cause parental neglect of normal siblings who then may become preoccupied with anger and resentment. McDonald (1971) emphasized the disruptive psychological effects upon siblings of a defective child when parents are negativistic related to the defective child. There may be a lack of affection toward the normal children which leads to thoughts of self blame and insecurity which can then hinder attentiveness. Miller and Cantwell (1976) found many siblings of defective children disturbed by their resentment toward a defective sibling who got more parental time and attention. The feelings of insecurity, anger, resentment, and self-blame in children about which these researchers reported may have been present in some children with orthopedically handicapped infant siblings in this study. These negative feelings may account for the lack of positive change among some children in Group A (children with orthopedically handicapped infant siblings).

The behavior showing a strong trend toward significance ($p > .0518$) was that of "differing usual mood." Group A, the study group, had less positive change and more negative change in usual mood compared with the control group, Group B. This lack of positive change and the slightly negative change trend in Group A, the study group, could be associated with the increased potential for stress in family interactions and negative feelings discussed above with other researchers' feelings concerning the "paying attention" item.

Two behaviors associated with eating showed a trend toward significance, that of "eating neatness" ($p > .1148$). Again, positive change was reported in Group B, but no change was reported in Group A for the items. In other research, Poznanski (1969) noted various attention-getting behaviors associated with eating among siblings of various handicapped children. Rimm and Somervill (1976) suggested that eating disturbances are not normally lasting or predominant features in children. Bakwin (1972) related intentional messiness to children who feel neglected, but pointed out that children may be unintentionally messy if they are preoccupied or anxious. Anxious, insecure or neglected children, according to Bakwin (1972), may seek

parental help at mealtime, since they are feeling unsatisfied dependency needs.

A slight trend toward significance ($p > .1801$) was shown for the item "being angry with peers or siblings." For this behavior, no change was observed in Group B, the normal group; but negative change was reported in the subjects with handicapped siblings, Group A. As mentioned above, apparent neglect or favoritism of parents toward a defective child may arouse negative feelings in siblings. Poznanski (1969) suggested that peers may create anger by teasing children with defective siblings. Disturbed family interactions and irritable, unhappy parents may foster anxious, easily angered children (Bakwin, 1972).

Deficiencies within the research design itself may have affected the feelings. The convenience sample used was not a good representation of the total population. It was not possible to obtain a random sample of children with an orthopedically handicapped infant sibling, although a random sample more accurately describes the population being studied. Also, it was not possible to match the control group in terms of significant demographic variables and infant sibling ages, and there were some observed differences between the groups. The small sample also overemphasized population deviants. Having more

than one subject from the same family caused more input of the bias of mothers with several children favoring a regression from the norm.

The use of an interview questionnaire about past experiences may have affected the validity of the findings. Since mothers were asked to recall behaviors of their childhood prior to their last child's birth and to compare these behaviors with behaviors of approximately a year later, much was expected of the mother in terms of good memory, observation skill, ability to evaluate change direction, willingness to share data, and ability to understand the questions.

Other studies utilized various types of recall interviews, behavior scales, teacher ratings, case studies, and multiple interviews or different interviewers. Combining some of these approaches might improve the quality of data obtained in this kind of study. Interviewer bias might be reduced by using several different interviewers or tape recording the interview questions to play while recording the responses. Several interviews to shorten elapsed time might decrease recall inaccuracies. Other persons besides the mother could be interviewed for additional data. Questions could be reworded whenever the meaning is not clear.

The tool might also have been improved initially by pre-testing on a larger and more varied group of mothers more like the mothers to be interviewed in the study. More appropriate wording of items on the questionnaire might have resulted from broader pretesting.

Conclusions

The study findings indicate that behavior differences exist between some children with an orthopedically handicapped sibling and children with a normal sibling. These behavioral differences in children can be observed within the first year after an orthopedically handicapped infant sibling is born. When normal siblings are born, other children in the family ordinarily will continue to make positive behavior changes; but, if the new sibling is handicapped, an emotional lag may occur resulting in about half as much positive behavior change and slightly more negative change than siblings of normal infants would usually show. These children with handicapped siblings have a higher than ordinary potential for experiences that promote negative feelings such as resentment, jealousy, guilt, insecurity, inadequacy, and perceived neglect. Failure by these children to make the usual amount of positive behavior changes could relate to being

preoccupied with disturbing feelings and unsatisfied dependency needs. Such children with handicapped siblings tend to fall behind other children most often in the ability to pay attention. Usual mood may follow a less positive direction than expected. Decreased eating neatness and increased demanding help eating follows a less positive than usual progression when disturbing feelings and unmet needs affect children with handicapped siblings. These children show greater than ordinary anger toward siblings and peers, which could be anticipated if resentment, insecurity, or jealousy were present.

In considering the conclusions presented above, it is important to remember that several problems in the study could have affected the accuracy of the findings from which the conclusions were drawn. First of all, there were numerous demographic differences in the two groups so that variables other than the handicapped sibling could have influenced the findings. Also, the Statistical Analysis Sheet Data sheets warned that the findings could be invalid because of the sparsity of data. Recall inaccuracy by mothers could have occurred. Use of more than one child per family as a subject could have introduced bias. Any of these problems could have affected the findings and the subsequent conclusions.

Implications

Several implications for nursing may be drawn from the conclusions reached of this study:

1. That nursing students be taught about the potential problems for children with orthopedically handicapped siblings.
2. That ways to recognize and evaluate the emotional needs of siblings related to a handicapped child in the family should be emphasized to nursing students.
3. That inservice education in orthopedic clinical settings emphasizes the nurse's role in helping families to be aware of emotional needs of family members and ways to prevent or relieve problem behaviors associated with a handicapped child in the family.
4. That nurses in clinical settings be prepared to recognize parental stress and offer resources for emotional outlets to promote more positive family interactions.
5. That nurses learn to recognize needs for referral of families to nurse family therapists when intensive, specialized treatment is indicated.
6. That school nurses be involved in helping parents and teachers to be aware of the potential problems

of children with handicapped siblings. These nurses can help parents to find ways to alleviate stress in families and to assist parents in finding outlets for stress, or to refer families to family therapists, if more specialized treatment is needed.

Recommendations

The following suggestions for future studies are offered:

1. Conduct this study with a randomly selected sample of at least 40 children with orthopedically handicapped infant siblings. Match these subjects with the same number of children with normal infants as a control group.

2. Conduct the study as in Item 1 above, but examine in more detail those categories in which significant differences or trends exist between the groups.

3. Conduct the study as in Item 1 above with a refined tool designed to obtain data at more than one time period.

4. Conduct this study as in Item 1 above using only children with infant siblings who have the same type of handicap (such as a hand defect) that requires treatment.

5. Conduct this study as in Item 1 above using no more than one child as a subject per family in the sample.

APPENDIX A

TEXAS WOMAN'S UNIVERSITY
Human Research Committee

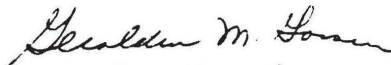
Name of Investigator: Kay Burke Center: Dallas
Address 111 Bowles Lane
Route 3
Mesquite, Texas 75181

Dear Ms. Burke:
Changes in Sibling Behaviors After Birth of a Child
Your study entitled with Orthopedic Deformities of the Extremities
has been reviewed by a committee of the Human Research Review Committee
and it appears to meet our requirements in regard to protection of the
individual's rights.

Please be reminded that both the University and the Department
of Health, Education and Welfare regulations require that written
consents must be obtained from all human subjects in your studies.
These forms must be kept on file by you.

Furthermore, should your project change, another review by
the Committee is required, according to DHEW regulations.

Sincerely,


Chairman, Human Research
Review Committee
at Dallas.

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING
DENTON, TEXAS

DALLAS CENTER
1810 Inwood Road
Dallas, Texas 75235

HOUSTON CENTER
1130 M.D. Anderson Blvd.
Houston, Texas 77025

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE Research Committee of Texas Scottish Rite Hospital for Crippled Children

GRANTS TO Kay L. Burke, R.N.

a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University; the privilege of its facilities in order to study the following problem: changes in the behavioral characteristics of siblings following the birth of a selected deformed child.

The conditions mutually agreed upon are as follows:

1. The agency (may) (~~may not~~) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (~~may not~~) be identified in the final report.
3. The agency (wants) (~~does not want~~) a conference with the student when the report is completed.
4. The agency is (willing) (~~unwilling~~) to allow the completed report to be circulated through interlibrary loan.
5. Other: A matched group of normal (or near normal) children should
be studied simultaneously.

Date August 3, 1978

Kay L. Burke
Signature of student

Deanna R. Winger MS
Signature of Agency Personnel Secretary, Research
Estelle D. Furtz
Signature of Faculty Advisor
Committee

*Fill out and sign three copies to be distributed as follows: Original - Student; first copy - agency; second copy - T.W.U. College of Nursing.

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING
DENTON, TEXAS

DALLAS CENTER
1810 Inwood Road
Dallas, Texas 75235.

HOUSTON CENTER
1130 M.D. Anderson Blvd.
Houston, Texas 77025

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE Children's Medical Center

GRANTS TO Kay Lenore Burke, R.N.

a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem: Changes in Sibling Behaviors after Birth of a Child with Orthopedic Deformities of the Extremities

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other: _____

Date 9-18-78

Kay L. Burke
Signature of student

Signature of Agency Personnel

Estelle J. Kurtz
Signature of Faculty Advisor

*Fill out and sign three copies to be distributed as follows: Original -- Student; first copy - agency; second copy - T.W.U. College of Nursing.

TEXAS WOMAN'S UNIVERSITY

(Form A--Written presentation to Subject) Group A

Consent to Act as a Subject for Research and Investigation:

(The following information is to be read to or read by subject)

1. I hereby authorize Kay Burke
Name of person who will perform
procedures or investigations
to perform the following procedures or investigations:
 - (a) to interview me in private about behavior changes that may have occurred in my children since the birth of a selected handicapped child;
 - (b) to record my responses to an interview questionnaire for each sibling of my handicapped child.
2. The procedure of investigation listed in Paragraph 1 above has been explained to me by Kay L. Burke, R.N., B.S.
3. I understand that I will be protected from possible risks described in the ways outlined in this paragraph. To protect my whole family from publication of any data connected with names, strict confidentiality will be observed. Interviews will be done in privacy, and only numbers or letters, not real names, will be used. Nothing written or verbal will be released with actual identities. So that I will not feel obligated to participate to receive services, I am hereby informed that my participation in no way affects my child's right to any services. So that I will not feel obligated to answer every question or complete the interview because of having given consent, I am hereby informed that I have the right to skip any question or withdraw at any time I choose. To avoid my feeling any inference of criticism of my child-rearing practices, I am hereby informed that this is a study based upon an established theory that suggests that such changes in family systems as occur after a handicapped child is born do have effects upon family members' behaviors,

and the particular kinds of changes seem to relate to certain types of behavioral responses. This research seeks to find behavioral responses that occur with significant regularity in siblings in the type of family system being studied.

4. I understand that the procedures and investigations described in Paragraph 1 have potential benefits to myself and others. The knowledge gained about this type of family system and its functioning would be available to those working with the particular problems of families with this kind of handicapped child in this institution and in others. The findings could lead to improved services for those who participate, as well as others.
5. An offer to answer all of my questions regarding the study has been made. If alternative procedures are more advantageous to me, they have been explained. I understand that I may terminate my participation in the study at any time.

Subject's Signature

Date

(If unable to sign) Subject is unable to sign because:

TEXAS WOMAN'S UNIVERSITY

(Form A -- Written presentation to subject) Group B

Consent to Act as a Subject for Research and Investigation:

(The following information is to be read to or read by subject)

1. I hereby authorize Kay Burke
(name of person who will perform
procedures or investigations)

to perform the following procedures or investigations:
 - a. to interview me in my home about behavior changes that may have occurred in my children since the birth of my youngest child;
 - b. to record my responses to an interview questionnaire for each sibling of my youngest child.
2. The procedure of investigation listed in Paragraph 1 above has been explained to me by Kay Burke, R.N., B.S.
3. I understand that I will be protected from possible risks described in the ways outlined in this paragraph. To protect my whole family from publication of any data connected with names, strict confidentiality will be observed. Interviews will be done in privacy, and only numbers or letters, not real names, will be used. Nothing written or verbal will be released with actual identities. So that I will not feel obligated to participate to receive services, I am hereby informed that my participation in no way affects my child's right to any services. So that I will not feel obligated to answer every question or complete the interview because of having given consent, I am hereby informed that I have the right to skip any question or withdraw at any time I choose. To avoid my feeling any inference of criticism of my child-rearing practices, I am hereby informed that this is a study based upon an established theory that suggests that such changes in family systems as

occur after a handicapped child is born do have effects upon family members' behaviors, and the particular kinds of changes seem to relate to certain types of behavioral responses. This research seeks to find behavioral responses that occur with significant regularity in siblings in the type of family system being studied. My responses about behaviors of a normal child's siblings after the birth are needed to compare with responses about families being studied.

4. I understand that the procedures and investigations described in Paragraph 1 have potential benefits to myself or to others. The knowledge gained about this type of family system and its functioning would be available to those working with the particular problems of families with this kind of handicapped child in this institution and in others. The findings could lead to improved services for those who participate, as well as others.
5. An offer to answer all of my questions regarding the study has been made. If alternative procedures are more advantageous to me, they have been explained. I understand that I may terminate my participation in the study at any time.

Subject's Signature

Date

(If unable to sign) Subject is unable to sign because:

Letter to the Mother of a Handicapped Infant
Requesting Participation in the Study

Dear Parent:

As the mother or father of a handicapped child, you know from your own experience about changes that occur in other family members after such a child arrives. Your firsthand information, plus that of other parents, can be very useful to professionals who wish to better understand and serve families such as yours. Because not much is known about how brothers and sisters of handicapped children react, I am currently starting a project designed to increase our knowledge regarding this. For the results to be meaningful, a large number of parents are needed who are willing to be interviewed privately in their homes. All of your answers will be confidential and no names will be used. I will be doing the interviews myself, and will be glad to answer any questions you might have about the study before you agree to be interviewed. Your consent may be withdrawn by you at any time and your participation in the study is strictly voluntary. The interview should take about 30 minutes or so and at the end of the study, I will send you a little summary of my findings so that you can gain more knowledge from your own participation. These findings will also be used in my Thesis as a part of my work at Texas Woman's University toward a Master of Science Degree in Nursing.

If I may contact you about being interviewed, please check below and give a phone number where you can be reached. If you have no other children, please disregard this letter, as we are primarily interested in brothers' and sisters' reactions. Since I do not yet have your name, if you have any further questions, please call Mrs. Pat Peiser or Mrs. Banna West in the Social Service Department at Scottish Rite Hospital at 521-3168. Thank you for your cooperation in this project.

Sincerely,

Kay Burke, R.N.

Yes, you may call me to arrange an interview: _____

My phone number is _____

My name is _____

My child's name is _____

Please return this letter to:

Mrs. Pat Peiser
Social Service Department
Texas Scottish Rite Hospital
2222 Welborn Street
Dallas, Texas 75219

Mrs. Kay Burke, B.S., R.N.
111 Bowles Lane, Rt. 3
Mesquite, Texas 75181
Phone: 222-2311

Dear Parent:

As the mother of a new child, you know from firsthand experiences whether changes took place in your other children's behaviors after a baby arrived. Your information along with that of other parents about what happens with children in normal families after a child is born can be very valuable. These responses can be compared with responses to the same questions from parents who have a handicapped child. This knowledge could be helpful to professionals who wish to better understand and serve such families. Because not much is known about how brothers and sisters of handicapped children are affected, I am currently beginning a study about this problem. For the results to be meaningful, I need to interview a large number of both parents with normal children like yours and parents with a handicapped child. All parents who are willing to be interviewed by me in their homes may be confident that their responses to all questions will be kept confidential. I will gladly answer any questions you have before you agree to be interviewed. Your consent may be withdrawn at any time, and your participation is voluntary. The interview would take about 30 minutes. You may have a summary, if you wish, after the study is completed. The results will also be used in my thesis as a part of my work at Texas Woman's University toward a Master of Science degree in nursing.

If you will allow me to arrange a time convenient for you for this interview, please call me after 5 p.m. at 222-2311.

Sincerely,

Kay Burke, B.S., R.N.

APPENDIX B

INTERVIEW QUESTIONNAIRE

Interviewer: Kay Burke, B.S., R.N.

I. Demographic Data for Family # _____

A. Mother's Initials _____ Age _____

Father's Initials _____ Age _____

B. Handicapped Child's Age _____ Sex _____

C. Sibling's Ages and Sexes _____

D. Occupation of Mother _____

Occupation of Father _____

E. Education of Mother _____

Education of Father _____

F. Family Economic Level (Mother's Judgment):

Below Average _____ Average _____

Above Average _____

G. Family Location (Mother's Judgment): Urban _____

Suburban _____ Rural _____

H. Other Family Members in House _____

I. Any major changes that have occurred in the family
since the handicapped child's birth: _____

1. Death of significant person _____

2. Major Illness _____

3. Major Accident _____
4. Major Injury _____
5. Divorce _____ Separation _____
Marriage _____
6. Family job change _____
Job loss _____
7. Family composition change _____

8. Major residential relocation _____

9. Other _____

II. Sibling Behaviors Since Birth of Handicapped Child:
(Complete for each sibling)

A. Eating Patterns

Question: Have you noticed any differences in the child's usual eating related behaviors?

1. Eats same amount____ considerably more____
considerably less____ other_____
2. Eating speed about the same____ eats faster____
____ eats slower____ other_____
3. Foods preferred about the same____ have
changed for the better____ have changed
for the worse____ other_____
4. Eats about as neatly____ is neater____ is
messier____ other_____
5. Food throwing is no more or less____ has
decreased____ has increased____ other_____
6. Wants about the same amount of help____ wants
less____ wants more____ other_____
7. Vomiting is no more or less____ has stopped or
decreased____ has started or increased____
other_____
8. Has remained weaned (if had been)____ was
weaned, but now is not____ other_____
9. Other (if any) changes_____

B. Elimination Patterns

Question: Have there been any noticeable changes in your child's bowel or bladder habits?

1. Bedwetting is about the same____ much less____
____ much more____ other_____
2. Bowel control is about the same____ has more
than did____ has lost some control____ other_____

3. Urine and stool disposal is about the same
 ___ is more acceptable___ is less acceptable___
 able___ other_____
4. Bladder control is about the same___ has
 more control___ has less control___ other

5. Constipation frequency has not changed much
 ___ is less frequent___ is more frequent
 ___ other_____
6. Diarrhea frequency has not changed much___
 is less frequent___ is more frequent___
 other_____
7. Other changes (if any)_____

C. Sleep Patterns

Question: Has your child's usual sleep pattern altered much in any way?

1. Frequency of insomnia or difficulty sleeping
 has not greatly changed___ is more frequent
 ___ is less frequent___ other_____
2. Nightmare frequency has not changed much___
 is less frequent___ is more frequent___
 other_____
3. Sleepwalking occurrences seem unchanged___
 are less frequent___ are more frequent___
 other_____
4. Fear of darkness seems unchanged___ has de-
 creased___ has increased___ other_____
5. Other differences (if any)_____

D. Interactions with Others

1. Parents and Other Adults

Question: Has your child's usual behavior with parents and other adults changed much?

- a. Is about as cooperative as before___ is more
 cooperative___ is less cooperative___
 other_____

- b. Requests for help seem unchanged____ seeks
less help____ seeks more help____ other____
- c. Blaming or arguing with others seems unchanged
____ has decreased____ has increased____
other_____
- d. Amount of anger seems unchanged____ seems
less angry____ seems more angry____ other____
- e. Wants to be with adults about as much as
did____ prefers less to be____ prefers more
to be____ other_____
- f. Is about as truthful as before____ is more
truthful____ is less truthful____ other____
- g. Attention seeking seems little changed____
is less frequent____ is more frequent____
other_____
- h. Other changes (if any)_____

2. Siblings and Peers

Question: Does your child act differently with other children?

- a. Is about as willing to share____ is more
willing____ is less willing____ other____
- b. Is no more likely to start fights____ is less
likely____ is more likely____ other_____
- c. Is about as cooperative____ is more coopera-
tive____ is less cooperative____ other____
- d. Is about as easily angered as was____ is less
easily angered____ is more easily angered____
other_____
- e. Time staying away from others seems unchanged
____ stays alone less____ stays alone more
____ other_____

- f. Regard for others' property seems unchanged
 _____ has increased _____ has decreased _____
 other _____
- g. Sexual modesty seems unchanged _____ has in-
 creased _____ has decreased _____ other _____
- h. Other changes (if any) _____

E. Emotional Adaptation Activities

Question: Do you notice any behaviors that seem to show a change in how your child handles feelings?

1. Usual mood is about as it was _____ is more
 positive _____ is more negative _____ other _____
2. Speech characteristics are about the same _____
 speech difficulties have decreased _____ have
 increased _____ other _____
3. Habits such as nail biting, thumb sucking,
 nose picking, hair twisting, or foot swinging
 seem no more or less frequent _____ are less
 frequent _____ are more frequent _____ other _____
4. Is about as active as before _____ is more
 active _____ is less active _____ other _____
5. Has no change in frequency of hiding or
 leaving home _____ has done this less _____ has
 done this more _____ other _____
6. Physical complaints seem about the same _____
 has fewer _____ has more _____ other _____
7. Is no more or less inclined to injure self _____
 does this less _____ does this more _____
 other _____
8. Shows fear of injury no more or less than
 did _____ shows less fear _____ shows more
 fear _____ other _____

9. Ability to pay attention seems about the same____ has increased____ has decreased____
other_____

F. School Related Behaviors

Question: Have there been any differences in your child's usual behavior concerning school performance, interactions, interests, and so forth?

1. Seems about as interested in school as before____
____ is more interested____ less interested____
____ other_____
2. School performance is about the same as before____
____ has improved____ has declined____
other_____
3. Disciplinary encounters are about the same as before____
____ have decreased____ have increased____
other_____
4. Is no more or less apt to have destructive or fighting behaviors than before____ occurs
less____ occurs more____ other_____
5. Is absent or tardy about the same as before____
____ less often____ more often____ other____
6. Attitude about school is about the same____
is more positive____ is more negative____
other_____
7. Other_____

Individual Subject's Data Sheet

Sibling Age__ Sex__
 Toddler__ Preschool__
 School Age__

Family I.D.#__
 Family Size__
 Birth Order__

Behavior Category	Score*				Behavior Category	Score			
	0	1	2	3		0	1	2	3
A. Eating Patterns					2. Siblings/Peers				
1.					a.				
2.					b.				
3.					c.				
4.					d.				
5.					e.				
6.					f.				
7.					g.				
8.					h.				
9.									
B. Elimination Patterns					E. Emotional Adaptation				
1.					1.				
2.					2.				
3.					3.				
4.					4.				
5.					5.				
6.					6.				
7.					7.				
					8.				
					9.				
C. Sleep Patterns					F. School Behaviors				
1.					1.				
2.					2.				
3.					3.				
4.					4.				
5.					5.				
D. Interactions					6.				
1. Parents/Adults					7.				
a.									
b.									
c.									
d.									
e.									
f.									
g.									
h.									

*Scores: 0 = NA 1 = +
 2 = - 3 = Other

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