Stressors and Strengths of Families with Childhood Cancer

By

Ling-Yuan Chou

A Master's Research Project

Presented to

Oregon Health Sciences University

School of Nursing

in partial fulfillment of

the requirements for the degree of

Master of Science

June, 3, 1996

APPROVED:

Shirley M. H. Hanson, RN, PhD, FAAN, Professor, Research Advisor

Vivian Gedaly-Duff, RN, DNSc, Associate Professor, Committee Member

Jane Marie Kirschling, RN, DNS, Professor and Associate Dean for Graduate Studies

Acknowledgments

I would like to give special thanks to my advisors, Dr. Shirley Hanson and Dr. Vivian Gedaly-Duff. I especially thank them for their patience and continuous guidance during my journey to completion. I also appreciate the knowledge that they have passed to me. Without their generous help, this thesis would never have been completed.

I would like to thank the doctors and nurses at the Oregon Health Sciences University pediatric oncology outpatient clinic. They helped me to approach the families. Without their help, I would not be able to obtain the family samples.

Most of all, I am indebted to my parents for their love and support. Words could no longer express my thanks to them. However, I would like to dedicate this thesis to them as a trifling feedback of mine.

Abstract

Title: Strengths and Stressors of families with childhood cancer.

Investigator: Ling-Yuan Chou

The purpose of this descriptive study was to identify both the stressors and strengths that families perceived after their children were diagnosed with cancer. The two research questions were: What were the major stressors that Caucasian and Asian families perceived after their children were diagnosed with cancer? And, what were the major strengths which helped Caucasian and Asian families to cope with the stressors after their children were diagnosed with cancer?

The participants of this study were 29 members of 10 volunteer families. The children who were diagnosed with cancer between 9 months to 53 months ago. The family members who participated in this study were older than 10 years of age.

This study used a descriptive design to systematically describe, from families' perceptions, the stressors and strengths of families whose children were diagnosed with cancer. The Family Systems Stressor and Strengths Inventory (FS^3I) was used to identify the stressors and strengths of these families. A semi-structure interview guide was used to identified cancer related stressors and strengths of these families. Additionally, the genogram and ecomap were used to obtain detailed descriptive family data that included information about kinship and community support systems.

The identified stressors were categorized as cancer related stressors and daily family life stressors. The cancer related stressors were: financial difficulty in large

expense, not having enough time to do routine work, unstable health condition of the ill children, children's response to the chemotherapy, and staying in hospital for a long time. The daily family life stressors were: economics/finance, moving, over scheduled family calendar, family members feeling unappreciated, health/illness, and teen behavior. When the families experienced the cancer related stressors, they also have the concurrent stressors in their family daily life.

The identified strengths either can be possessed by families themselves, or received from their communities. The strengths reported by the families were: teaching a sense of right and wrong, developing a sense of trust in members, displaying a sense of play and humor, having a strong sense of family in which rituals and traditions abound, affirming and supporting one another, and teaching respect for each other. The resources received from their communities were: taking care of the children, preparing the food, cleaning the house, and emotional support. The families possessing strengths also were maintaining their family functions. This leads support to the model of strengths buffering stressors. However, the other two components of the family core which were family structure and family processes, were not discussed in this study, and need further research.

This study can be improved by increasing the number of the families from each ethnic group. The implication of this study for clinical practice include the need to assess family daily life stressors, cancer related stressors, and family strengths. Culture and development life cycle stages of the families are important. Careful assessment in sources

of both stressors and strengths is needed in these area. The health care delivery system needs to expand the focus from the individual to include the family as a whole.

ABSTRACT

TITLE: Strengths and Stressors of Families with Childhood Cancer.

AUTHOR: Ling-Yuan Chou

APPROVED: [redacted]

Shirley M. H. Hanson

[redacted]

Vivian Gedaly-Duff

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CHAPTER 1

Introduction

Cancer is generally known as a "family disease" because of its immediate impact on many aspects of family life such as family functions, members' roles, and interrelationships among members. The literature on families and childhood cancer provides abundant information pertaining to the difficulties that these families experience. Much work has been done on family needs, stresses, coping, and adaptation (Aitken & Hathawa, 1993; Chesler & Barbarin, 1987; Clarke-Steffen, 1993b; Dahlquist, et al. , 1993; Fife, Norton & Groom, 1987). When families experience stress or instability, both families and professionals usually focus on the problems or weaknesses rather than on the strengths or resources (Curran, 1983). Little has been studied on the positive strengths that families bring to the cancer experience. In particular, the identification of strengths from which families draw helps them to cope with the experienced stressors of childhood cancer. Therefore, awareness of family strengths facilitates interventions that help in the prevention of family instability (Berkey & Hanson, 1991; Curran, 1983).

Not only did former work focus on problems, but most studies were done with focusing on the experiences of children themselves (Hockenberry-Eaton & Minick, 1994), the parents (Chesler & Barbarin, 1987; Dahlquist, et al. , 1993; Martinson, 1988; Schuler, et al. ,1985), and other members of the family such as the healthy siblings (Kramer, 1984; Walker, 1988) rather than on the family as a unit of analysis. While most

former studies were conducted on Caucasian families, there were a few studies which addressed the impact of the childhood cancer on Asian families (Martinson, 1989; Martinson, Kim, Yang, Cho, Lee, & Lee, 1995; Martinson & Liang, 1992, Martinson, Wong & Chao, 1982). Similarly, these studies of Asian families also focused only on the weaknesses and problems rather than on wellness or strengths.

The stressors identified by the families can help nurses to know what situations really disturbed families after their children were diagnosed with cancer. In addition, awareness of the strengths possessed by the families can help nurses to plan and give the interventions and assistance specific to the needs of the families.

The purpose of this study was to identify both the stressors and strengths that families perceive after their children were diagnosed and treated for cancer. The focus was the family as a unit of analysis and the strengths that these families used to cope with their stressors related to childhood cancer. The ecomap and genogram were used to explore family structure and the community outside of the family. The Family Systems Stressor-Strength Inventory (FS^3I) were used to examine family strengths and stressors.

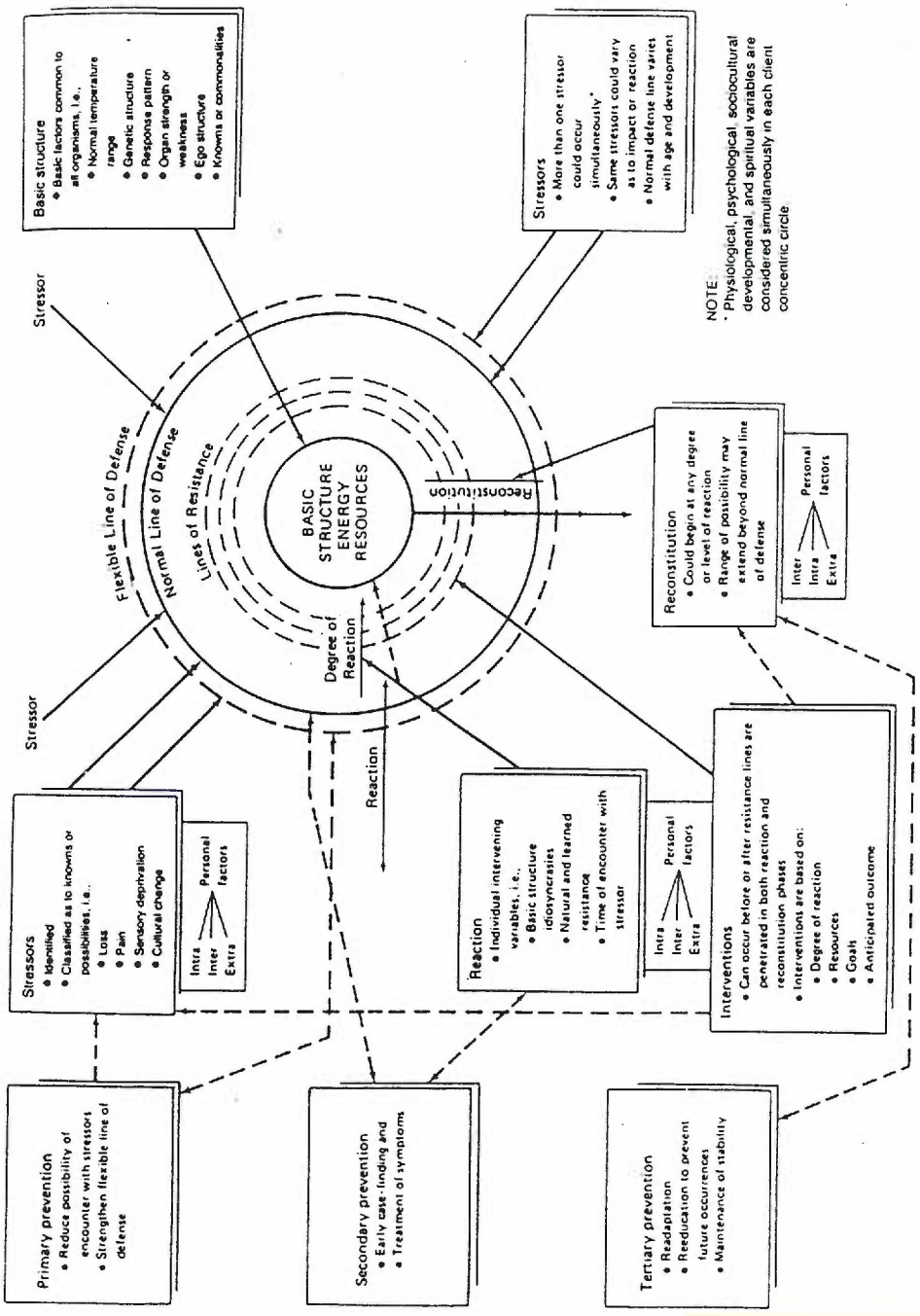
CHAPTER 2

Conceptual Framework

Neuman's System Model served as the conceptual framework background for this study (Fawcett, 1991; Neuman, 1989; Reed, 1994) (see Figure 1). This model explicated the interaction between systems and their environment. An individual or a group was defined as the system in this model. The system was depicted as a series of concentric circles with a core. These concentric circles were defined as lines of defense or resistance which form the basic protecting resources for the core of the system when stressors impinge on the system. This protection was vital because the core was the basic structure of the system which includes the essential energy resources for the system.

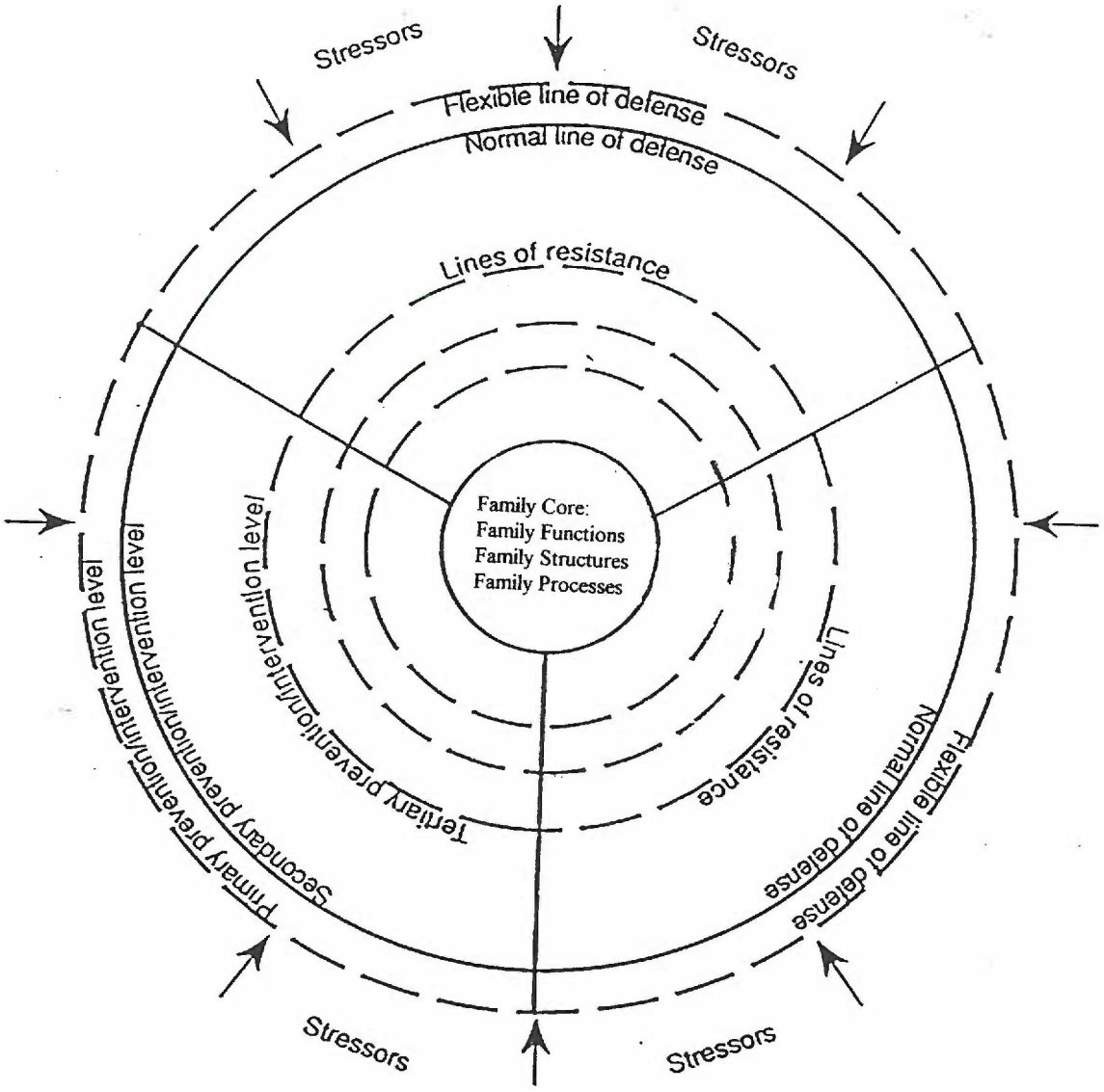
Berkey and Hanson (1991) modified Neuman's System Model in order to apply the system to families and created the Family Assessment Intervention Model (see Figure 2) and the Family Systems Stressor and Strength Inventory (FS^3I) (see Appendix C). In this interpretation, families were recognized as the open systems which interact with their environment (Reed, 1989). The family system was described as a core surrounded by protective concentric rings (lines of defense or resistance). The core of a family system was the basic structure which included the energy process for the family and was comprised of family functions, family structure, and family processes. When stressors impinged on the system, the circles surrounding the core behaved as buffer zones which protected the basic core and maintained the stability of the family system. The amount of available energy stored and used by the system was related to the maintenance of the stability and integrity of the

Figure 1. The Neuman System Model.



Note. From The Neuman System Model, by Neuman, B., 1995.

Figure 2. Family Health Assessment Intervention Model.



Note. From Family health assessment and intervention. By Mischke, K.M. , & Hanson, S.M.H. ,1995. In P.J. Bomar, (Ed.), Nurses and family health promotion: Concepts, assessment and interventions. Philidelphia: W. B. Saunders.

family system (Fawcett, 1991; Reed, 1989). Therefore, depending on the nature of the stressful situation, families should have the ability and resources to resolve their problems and adapt to stressful situation.

Based on the concepts of the Family Assessment Intervention Model (Berkey & Hanson, 1991, Hanson, 1996; Hanson & Kaakinen, 1996; Hanson & Mischke, 1996; Mischke-Berkey, Warner & Hanson, 1989), the events or problems which threaten family functioning capability, health, and stability were defined as family stressors. The work of Curran (1985) was adapted in family stressors and incorporated into the measurement instrument. There were 25 most stressful situations identified by American families which induced harmful effects on normal family life (see Table 1). Family strengths were defined as the ability and resources which families used to solve problems and adapt to these stressful situations. Twenty family traits which were known to exist in well-functioning family systems (Curran, 1983) are considered as the family strengths (see Table 2).

Illness could be viewed as one kind of stressor to the entire family. The illness of one family member affected the entire family because it caused an interaction effect which changed the family system. These changes, such as the shift in family roles, family tasks, and expectations of the family, were necessary since they reshaped the responsibilities of families to meet the patients' needs. With these changes, family members might experience strain and hardship because of the increased activities of taking care of sick members. Because families have been identified as the basic source of service providing preventive

Table 1

Family Stressors

Economic/finances/budgets	Perfectionism
Children's behavior/discipline/sibling fighting	Dieting
Insufficient couple time	Health/illness
Lake of shared responsibility in the family	Housekeeping standards
Communication with children	Insufficient family playtime
Insufficient me time	Television
Guilt for not accomplishing more	Moving
Spousal relationship (communication, friendship, sex)	Holiday
	In-law
Insufficient family playtime	Teen behavior
Over scheduled family calendar	New baby
Self-image/self-esteem/feelings of unattractiveness	Unhappiness with work situation
	Overvolunteerism
Family member(s) feeling unappreciated	Neighbors

Note. The stressors in the list are ordered according to the degree of influence they induce. From "Pocket Guide to Family Assessment and Intervention" p73, by K. M. Berkey and S. M. H. Hanson, 1991, St. Louis: Mosby Year Book. Reprinted with permission of the authors.

Table 2

Family Strengths

Communicates with and listens to one another	Has a shared religious core
Affirms and supports one another	Respects the privacy of one another
Teaches respect for others	Values service to others
Develops a sense of trust in members	Fosters family table time and conversation
Has a sense of play and humor	Shares leisure time
Has a sense of shared responsibility	Admits to and seeks help with problems
Teaches a sense of right and wrong	Honors its elders
Has a strong sense of family in which rituals and traditions abound	Accepts and encourages individual values
	Values work satisfaction
	Is Financially secure
Has a balance of interaction among members	Able to let go of grown children

Note. The strengths in the list are ordered according to the frequency of being used by the families. From "Pocket Guide to Family Assessment and Intervention" p75 by K. M. Berkey and S. M. H. Hanson, 1991, St. Louis: Mosby Year Book. Reprinted with permission of the authors.

health care and sick care for their members (Friedman, 1992), the rest of the family members were influenced by their sick members. As a result, illness of family members might create instability in family functions.

Family functions, family structures, and family processes formed the family core. Family functions referred to the abilities of the family to satisfy the needs for both individual members and wider society. Family structures referred to the patterns of family organization. Family processes referred to the interaction patterns within a family (Friedman, 1992; Hanson, 1996). For the purpose of this study, only family functions were discussed.

Family functions served as one of the essential ingredients in the core of the family system. A basic assumption of this study was: if families' functions were strong and intact, families could undertake the basic and original responsibilities of satisfying the needs of their family members. Even though some family functions were shared with social organizations or institutions, most of vital family functions remained as the responsibility of the family. Seven family functions were listed and briefly defined as follows (Friedman, 1992; Hanson, 1996):

1. Affective function - to provide psychosocial protection and support of family members.
2. Socialization and social placement function - to provide learning experiences aimed at teaching children how to function and assume adult roles in society.
3. Reproductive function - to insure the biological continuity of the family and society.

4. Economic function - to provide sufficient resources and their appropriate allocation by decision-making processes.
5. Health care function - to satisfy the needs of family members by providing food, clothing, shelter, and protection against danger.
6. Religion (cultural) function - to pass on the religious faith, traditions, values, and privileges of the family.
7. Relationship function - to maintain family interactions and satisfying relationships.

These family functions were important; however, they were sometimes vulnerable during times of illness and other stressors. Not only could the physical and mental illness of family member created imbalance and problems in family functions, but other situational stressors such as divorce, loss of job, and death also hinder these family functions.

Families must have the ability to protect their core in order to perform the daily routines of family life. Family functions as part of the family core must be protected when families were faced with stressors (Berkey & Hanson, 1991; Hanson & Mischke, 1996; Reed, 1989). In the Family Assessment Intervention Model (Berkey & Hanson, 1991, Mischke & Hanson, 1995), family stressors included all forces which either do or could produce instability within the family system. Family strengths were the abilities and resources which were used by families to solve the problems and cope with stressors (Berkey & Hanson, 1991; Hanson & Mischke, in press). Family strengths were represented by concentric circles surrounding the family core. When stressors impinged on the family system, these circles protected the basic family core against stressors and helped maintain the

stability of the entire family system. Therefore, if normal family functions were affected by stressors, family strengths provided protection in maintaining the continuum of normal family life.

Glossary of Terms

Family: Two or more individuals who depend on one another for emotional, physical and/or economical support. The family is self-defined by family members (Hanson, 1996).

Family Function: The abilities of the family to satisfy the need for both individual members and wider society (Friedman, 1992, Hanson, 1996).

Family Stressor: The forces which either do or could produce instability within the family system (Berkey & Hanson, 1991; Hanson & Mischke, 1996).

Family Strengths: The abilities and resources which are used by families to solve the problems and cope with stressors (Berkey & Hanson, 1991; Hanson & Mischke, 1996).

CHAPTER 3

Literature Review

This review of literature summarizes the research which was conducted in two major areas: families and childhood cancer as well as general family stressors and family strengths. This present study focused on the stressors and strengths of the families experienced after the diagnosis of childhood cancer was established. The review of the literature addresses the relationships between families and childhood cancer which included the impact of childhood cancer on the family, the family as a unit of analysis, and the studies conducted on Asian families. Families with childhood cancer not only encountered stressors associated with the illness, but they also experienced the stresses that existed previously or exits concurrently. Therefore, the literature about family stressors and strengths was reviewed.

Families and Childhood Cancer

In this section, the studies related to families and childhood cancer were reviewed. These studies included the impact of childhood cancer on families, families as a unit of analysis, and the studies about Chinese families.

Impact of Childhood Cancer on Families

The impact of childhood cancer on families has been broadly studied. The major emphasis of these studies was the families' stressors which related to their cancer experiences. Marital distress was one of the most frequently examined variables in the studies which related to childhood cancer. Most of the parents reported that they

experienced significant marital distress and anxiety (Barbarian, Hughes & Chesler, 1985; Cornman, 1993; Dahlquist et al. 1993; Fife, Norton & Groom, 1987; Schuler et al, 1985).

Financial burden was also a pragmatic issue concerning the economic problems caused by the child's illness (Martinson, 1989; Kupst, et al, 1982; Schuler et al, 1985). Aitken and Hathaway (1993) compared the stresses and coping behaviors of parents who had to travel different distances to the treatment center. They found that the great distance between treatment center and home resulted in many stressors, especially in financial difficulties and marital discord.

Schuler and colleagues (1985) focused on the psychosocial problems of families with childhood cancer. They proposed that the diagnosis of childhood cancer leads to profound changes in the emotion and the structure of the families. Consequently, the results showed that there is a high frequency of emotional disturbance among these parents and patients. Moreover, some studies revealed that parents experienced increasing pressure from their jobs after the diagnosis was established (Martinson, 1989; Schuler et al., 1985).

The healthy children in a family are affected in many ways by the illness of their sibling. Parents and teachers identified several reactions from the healthy children due to the cancer of their siblings. These reactions include behavioral problems, psychosomatic complaints, school difficulties, feelings of jealousy, and parental rejection. Kramer (1984) identified the stresses of healthy siblings from their perceptions. The major sources of stress which the healthy siblings experienced were: emotional realignment

within the family, separation from family members, and family disruptions and changes brought on by the ill child's therapeutic regimen. According to these stresses, there were three coping behaviors generally used by the healthy siblings: increased sensitivity and empathy for the ill child, enhanced personal maturation, and greater family cohesion. Walker (1988) also conducted a study to identify the stresses and coping strategies for siblings of children with cancer. Not only was the information obtained from siblings themselves, but also from their parents. The major stressors were loss, fear of death and change. The most commonly used coping strategies by siblings were: being within the individual's mind, relating to others or involving relationships with others, being guided or developed by the intellect rather then emotions, behaving to divert oneself from stressors, protecting oneself from the stressors.

Depending on the results of the research related to families and childhood cancer, family stresses can be classified into cancer related stressors and family daily life stressors. The disease related stressors included the physical conditions of children (Cayse, 1994; Chesler & Barbarin, 1987), children's reactions to treatment (Chesler & Barbarin, 1987), expense of treatment (Thoma , Hockenberry-Eaton & Kemp, 1993; Kupst, et al. , 1982; Martinson, 1989; Schuler, et al. , 1985), distance between home to treatment center (Aitken & Hathaway, 1993; Martinson, 1989), and telling the patient or other family members about the disease (Chesler, Paris & Barbarin, 1986, Chesler & Barbarin, 1987). The non-disease related stressors were marital distress (Dahlquist, et al. , 1993; Fife, Norton & Groom, 1987; Thoma, Hockenberry-Eaton & Kemp, 1993), work

children. The results showed that regardless of the health status of the children , the parents had similar coping behaviors. This demonstrated that the illness of a family member did not influence the coping ability of the parents. Cayse (1994) specifically focused on coping strategies of fathers of children with cancer. The most frequently used coping strategy mentioned by fathers was praying to God. Religion was recognized as a common coping strategy in other studies as well (Barbrain & Chesler, 1984; Cayse, 1994; Fife, Norton & Groom, 1987). Other coping strategies used by families were open communication (Fife, Norton & Groom, 1987), expressing feelings directly (Barbrain & Chesler, 1984; Fife, Norton & Groom, 1987; Walker, 1988), seeking support from significant others (Aitken & Hathaway, 1993; Spinetta, 1982), being optimistic (Barbrain & Chesler, 1984; Kupst, et al. , 1982), treating child as normal (Kupst, et al. , 1982;), and seeking outside assistance (Aitken & Hathaway, 1993; Cayse, 1994). Those coping strategies were used to help families through stressful situations.

There were several coping strategies that are similar to the family strengths listed in FS^3I. Some researchers found that coping was affected by several factors. These factors were family cohesion, the pre-existing problems prior to diagnosis, concurrent stress, support system, and relationship and interactions of the family members (Barbrain, Hughes & Chesler, 1985; Fife, Norton & Groom, 1987; Kupst, et al., 1982). These factors were also similar to the family strengths listed in the FS^3I. It is important to identify the relationships among coping strategies, factors that influence coping behaviors, and family strengths.

Family as a unit of Service/Analysis

Family played a significant role in terms of the health care of each member (Friedman, 1992; Gilliss, 1983). Therefore, family needs to be looked at as a unit of analysis rather than as the sum of its parts in family research.

Childhood cancer affects all of the family members as well as the sick children. However, most of the studies of the impact of cancer on family members focused either on both parents (Barbrain & Chesler, 1984; Chesler & Barbarin, 1987; Dahlquist, 1993; Kupst, et al. , 1982; Martinson, 1988, 1989; Schuler, et al. ,1985;) or only one parent (Baskin, Forehand & Saylor, 1986; Cayse, 1994). Moreover, the siblings of the identified patient have received more attention in the recent decade.(Evan, Steven, Cushway & Houghton, 1992; Kramer, 1984; Martinson, Gilliss, Colaizzo, Freeman & Bossert, 1990; Walker, 1988). Regardless of the unit of analysis used, all subjects were merely part of the family system. None of a individual responses fully represented the responses of the whole family. However, there were a few studies which focused on family as a unit of analysis. For example, Spinetta (1982) conducted a study on the impact of cancer on families in which patients, parents and siblings were all included in the data collection. Fife, Norton, and Groom (1987) measured the specific effects of the stress of childhood leukemia of various members on the family life. Cornman (1992) reported a similar study using the Kinetic Family Drawing to describe ways in which all family members responded to childhood cancer. The family system as a unit of analysis was recognized as a complete unit in the Family Assessment Intervention Model and FS^3I. The FS^3I also

compared the differences and similarities among family members. Therefore, both the whole family unit and the individual family members' responses are equally important to our understanding of the family system.

Studies about Asian Families

In terms of ethnic groups' experiences, Dr. Martinson led a series of studies about the impact of childhood cancer on Chinese families in Taiwan and China (Chen, Martinson, Chao, Lai & Gau, 1994, Martinson, 1989; Martinson, et al. ,1982; Martinson & Liang, 1992; Martinson, Zhong, & Liang, 1994; Wong & Martinson, 1982), and Korean families in Korea. These results revealed that Chinese families and Korea families encountered similar stressors as did Caucasian families. However, the Chinese families identified cancer as the most life threatening disease (Martinson, Su, & Liang, 1993; Martinson, Zhong, & Liang, 1994). The stressors occurring most frequently were financial burdens for medical care, lack of information about the disease, work strains on parents, and traveling distance from home to the treating hospital. Also, parents were still the major subjects of these studies rather than whole families as a unit of analysis.

Family Stressors and Strengths

The families with childhood cancer encountered not only the stressors associated with disease processes but also the stressors which existed in daily family life. Therefore, the studies which explored stressors that exist in the daily life of families, and the strengths they used to deal with those stressors were reviewed.

Family Stressors

Family health was a major topic for professionals working with families over the last decade. Initially, family researchers focused on family stressors which impaired daily family life and functions. Two family specialists identified general family stressors influencing the normal family life in Caucasian families (Curran, 1983; Olson et al. ,1983). Olson et al. (1983) interviewed 1000 families and identified stressors which most frequently occurred among the different stages of family life cycle. These stressors were (a) intrafamily strains including decreased husband/father time, increased family tasks and chores, increased school-age children's outside activities, increased sibling conflicts; and increased difficulty managing teenagers; (b) financial strains including increased family expenses, increased cost for medical and dental fee, increased education fee; (c) work-family strains including decreased job satisfaction, changed job, promotion; (d) caring for seriously ill family members and serious illness or death of a family member; (e) increased conflict with marital sexual relationships; (f) pregnancy and birth/adaptation of a child; and (g) family transitional strain including young adult leaving home for college or for work, and retirement of a family member.

Curran (1985) conducted a survey on common stressors in normal family life. Four hundred and fifty men and women were asked to rank top 10 stressful situations which caused most stresses in their daily family life:

1. Economics/finances/budgeting.
2. Children's behaviors.

3. Insufficient couple time.

4. Lack of shared responsibility in the family.

5. Communicating with children.

6. Insufficient me time.

7. Guilt for not accomplishing more.

8. Spousal relationship.

9. Insufficient family playtime.

10. Over scheduled family calendar.

Families not only suffered from insufficient spending money, they also were faced with problems such as how the money was spent, who had the power to spend, how loans and investments were to be made, and how to deal with fears about future security. The spousal relationship was influenced by many factors: different role expectations, lack of communication and sharing feelings, lack of support as well as existing conflicts between couples. The factors contributing to parents who manage their children's behaviors were: having higher expectations, lacking confidence to make decisions for their children, overinvolving themselves in their children's lives, spending little time with their children, having unclear expectations for children's roles, and ineffectively communicating with children. The unmanaged teens behaviors also caused the higher stress of the families.

Time pressure was a significant stressor in family daily life. When families suffered from lack of time, they also suffered from other stressors such as

communication difficulties, and the inability to deal with children's behaviors. The changing nature of male and female roles created problems as couples went about the most mundane tasks. Increased numbers of working women caused a shifting of household responsibilities. Therefore, people who held to old roles expectations while living in the new world experienced great stress in dealing with work, household responsibilities, self-esteem, and guilt.

Family Strengths

A number of family researchers changed from a problems-related focus to a strengths-related focus. They tried to identify the characteristics and behaviors of the American families that coped well with daily stressors. Moreover, these researchers wanted to identify the resources of healthy families in order to help other families build on their strengths and deal with their problems. According to the findings of one study, Pratt (1977) concluded that energized families have the following characteristics:

1. Interaction with one another on a regular basis both inside and outside the home, including doing tasks and leisure activities and general conversation.
2. Regular contact with groups and organizations outside the family, such as medical, educational, political, recreational and business groups.
3. Attempt to master their lives by taking responsibility for themselves and seeking out information to improve their diet or exercise patterns.
4. Adoption of a fluid internal role organization where roles are flexible, power is shared,

decision-making is shared and members are supportive of personal growth of other members.

5. Freedom to explore one's health and wellness development.
6. Energy that comes from regular interaction between the persons inside the family and persons or groups outside the family.

Stinnett (1979) led an investigation to determine common family strengths. One hundred and thirty families described themselves in terms of marriage satisfaction and parent-child relationship satisfaction and were included in the sample of strong family. The findings of this study revealed that strong families possess six qualities:

1. Appreciation - family members interact with each other positively, and make each other feel good about themselves.
2. Spending time together - family member structure their life styles and genuinely enjoy being together.
3. Good communication pattern - family members spend a lot time talking with each other, and listen well.
4. Commitment - families are deeply committed to promoting each others' happiness and welfare.
5. High degree of religious orientation - families attend church together, and participate in religious activities together. They also share a spiritual life style.
6. Ability to deal with crises in a positive manner - families are able to unite in dealing with crisis instead of being fragmented by it.

Similarly, Curran(1983) conducted a survey on searching for family strengths. Instead of gathering data from families, she consulted professionals such as psychologists and family therapists who worked with families. These professionals identified 15 main traits of healthy families:

1. The healthy family communicates and listens.
2. The healthy family affirms and supports one another.
3. The healthy family teaches respect for others.
4. The healthy family develops a sense of trust.
5. The healthy family has a sense of play and humor.
6. The healthy family exhibits a sense of shared responsibility.
7. The healthy family teaches a sense of right and wrong.
8. The healthy family has a strong sense of family in which rituals and traditions abound.
9. The healthy family has a balance of interaction among members.
10. The healthy family has a shared religious core.
11. The healthy family respects the privacy of one another.
12. The healthy family values service to others.
13. The healthy family fosters table time and conversation.
14. The healthy family shares leisure time.
15. The healthy family admits to and seeks help with problems.

Olson and McCubbin (1983) used the Circumplex Model to examine family cohesion and adaptability. They found that communication was the most important factor which influenced the level of cohesion and adaptation of a family.

There was one study which explored the family strengths in Asian families (cited in Olson, & DeFrain, 1996). This was Chen's study conducted in 25 Chinese families that had recently immigrated to the United States. She found that the strengths described in these families were similar to the strengths identified in Caucasian families. The strengths described by these Chinese families were: communication, commitment, respect, honor, obedience to elders, and adaptability (cited in Olson, & DeFrain, 1996)

Summary of Review of Literature

In summary, the review of literature has shown that there were many stressors and coping strategies found in the families with childhood cancer. The stressors not only related to the illness, but to the daily life of families. As a result, family functions were affected by more than one type of stressor. In these studies, coping strategies which family members used to adapt to the stressful situations were examined. When reviewing the findings of these studies, several stressors appeared to overlap or were identical to the identified stressors in the Family Assessment Intervention Model and the FS^3I. Part of the coping strategies were similar to the identified family strengths. However, using a theoretical framework that identifies family strengths in family perception will add to our knowledge about families that were successful with childhood cancer.

Research Questions

For the purpose of this study, the research questions are:

What were the major stressors that Caucasian and Asian families perceived after their children were diagnosed with cancer?

What were the major strengths which helped Caucasian and Asian families to cope with the stressors after their children were diagnosed with cancer?

CHAPTER 4

Methods

Design

This study used a descriptive design to systematically describe, from families' perceptions, the stressors and strengths of Caucasian and Asian families whose children were diagnosed with cancer (Polit & Hungler, 1995). A time period of a minimum of 12 months was selected because it is assumed that families will be past the initial crisis of diagnosis and treatment in cancer. The Family Systems Stressor and Strengths Inventory (FS^3I) was used to identify the stressors and strengths of these families. Semi-structure interview guide was used to identify specific cancer related stressors and strengths. Additionally, the genogram and ecomap were used to obtain detailed descriptive family data that includes kinship and community support information. The collected information includes both quantitative and descriptive data.

Instrumentation

There were four instruments being used in this study: (1) Family Genogram, (2) Family Ecomap (3) Family Systems Stressor-Strength Inventory (FS^3I), and (4) investigator developed semi-structure interview guide. Each instrument is summarized in the following paragraphs.

Genogram

The genogram was a graphic illustrating the kinship structure among family members for three generations (Hanson, 1996; Hanson & Kakkinen, 1996; McGoldrick

& Gerson, 1985; Ross & Cobb, 1990; Visscher & Clore, 1992). The graphic was a family tree format. The genogram also displayed health related information of the family of the identified patient. For this study, the genogram of a family included the ill children, their parents, and grandparents. The family tree also indicated siblings, spouses, divorces, and deaths. In this study, genograms helped to understand the family health history and internal family relationships. When interviewed, the family members who participated in this study developed their genograms with the investigator's assistance. The following information was required in order to complete the genogram: (1) family name; (2) age; (3) date of birth; (4) occupation; (5) health problems; (6) cause of death; (7) dates of marriages, divorces, separations, dates of co-habitation, and re-marriages; (8) education level; and (9) ethnic or religious background (see Appendix A).

Ecomap

The ecomap was a visual representation of the relationship between a family and its community (Hanson, 1996; McGoldrick & Gerson, 1985; Ross & Cobb, 1990). It also provided information pertaining to the strength of interactions among the identified patients, their families, and the world outside. The ecomap consisted of a larger circle which represented the family system and smaller circles which represented other related systems. The identified patient and the family were in the larger circle in genogram family tree format. The outside smaller circles represented other systems such as extended family, friends, health agency, or colleagues from work who interact with a family system. The connections between the family and these systems were indicated by

drawing lines between them. The ecomap showed the strength of the connections between the family and communities by using different textures of lines. By using other symbolic lines, it also helped to understand whether the connections caused strain or support to a family. Family members developed their ecomap with the investigator (see Appendix B).

Family Systems Stressor-Strength Inventory (FS^3I)

The FS^3I was originally developed by Berkey and Hanson (1991) and later modified (1993; 1996). FS^3I was focused on assessing and measuring family health, more specifically on family stressors and family strengths. The FS^3I was a pencil-paper questionnaire which focused on the perceptions of family members regarding their stressors and strengths. The FS^3I included two sections: family members' perceptions and clinicians' perceptions. Each section had a separate summary form. Both forms were merged into one with different scoring sections in 1993. Some items of stressors and strengths were reduced. For the descriptive purpose of this study, only the Family Form was used. The Family Form of FS^3I was divided into three parts: (1) Family Systems Stressors: General, (2) Family Systems Stressors: Specific, and (3) Family Systems Strengths. The first part , Family Systems Stressors: General, had 25 items pertaining to every day stressors which affected the function, health and stability of families. These 25 items used a 5-point Likert-like scale which were rated as 0 (not apply), 1 (little stress) to 5 (high stress). Examples of general family stressors included insufficient 'me' time; housekeeping standards; and finances. The second part, Family Systems Stressors:

Specific, had 12 questions which asked the families to identify the major stressor that was perceived to influence the health of the family at the time of interview. Family members were asked to rate how the identified stressor influenced their family life on a scale from 1 (little) to 5 (high), and to give a brief comment to each of their ratings. The third part, Family Systems Strengths, had 16 items referring to the strengths that contributed to the maintenance of family functions and stability. Family members were asked to rate each strength from 0 (not apply) , 1 (seldom) to 5 (always) and describe briefly each rating. Examples of these strengths were communicates with and listens to one another; affirms and supports one another; and teaches respect for others (see Appendix C).

The establishment of the psychometric properties of the FS^3I was in process. Post (1991) conducted a methodological study on this instrument. She developed an evaluation form to assess the following content validity properties: content coverage, conceptual fit, clarity, and uniqueness. Content coverage was defined as the content contained in each item. Conceptual fit referred to the respective label and definition of each item. Clarity referred to each item being clearly stated. Uniqueness was referred to peculiarity of each item. The data were collected from a convenient sample of 19 people including 10 lay people, 4 family social scientists, and 5 family nurses. The Content Validity Index (CVI) was calculated based on the proportion of items given a rating of agree or strongly agree. Then, the percentage of interrater agreement was calculated on each individual item in the item pool for content coverage, conceptual fit, clarity and

uniqueness. A priori criteria for interrater agreement was set at 80% for each concept. After completing the item-by-item analysis, there was 100% agreement among the respondents that the label and definition fit the whole set of items for each subscale. However, 73% of the participants indicated that certain items had been omitted from the Family System Stressors subscale, and 82% felt that there were items left off the Family System Strengths subscale. Fifty-two of 65 items in the total item pool (80%) were found to meet the a priori criteria of 80% interrater agreement for conceptual fit. Forty-one (63%) of the 65 items met the same criteria for clarity. Therefore, the content validity index (CVI) of FS^3I was 0.80, which was acceptable.

After completing the genogram and ecomap, each family member was given a form of FS^3I. The investigator read each question out loud to each family member. Each person marked the answers on their form as the investigator read each question. Every participant completed the FS^3I.

Semi-structured Interview Guide

This interview guide, developed by the author, included three sections: (1) demographic questionnaire, (2) specific questions about cancer, and (3) open ended questions (see Appendix D). In the first section, the demographic questionnaire requested the following information: name, age, sex, marital status, education, occupation, religious preference, referral source, ethnic background, and relationship to target child. Section two of the semi-structured guide was used to expand the concern in the part two of the FS^3I. In part two of FS^3I, each person was asked, at the time of a interview, what was

perceived as the specific stressor of the family. The specific stressor identified by families might not be related to cancer. If specific stressor identified was not related to cancer, information about the cancer was sought. In section two, the questions specific to childhood cancer included: the child's type of cancer, the time when the child was diagnosed with cancer, the stages of cancer treatment experienced, past family experiences with cancer, the stressors associated with the childhood cancer, and the strengths which were used to cope with these stressors. In section three, the open-ended questions were used to add descriptive detail that might not be illuminated on the FS^3I interview or cancer related questions.

Summary of Instrumentation

According to the assumption of this study, the family core which included family functions might be affected by stressors from both family daily life and from cancer related issues. Families also have the strengths to cope with the stressors and to maintain the stability of the family core. Therefore, the genogram, ecomap, and section one of semi-structure interview guide helped to understand family functions and structures. By using FS^3I and section three of semi-structure interview guide, family stressors and strengths could be identified. The second part of FS^3I, Family Systems Stressors: Specific, and section two of semi-structure interview guide were used to identified the disease-related stressors.

Sample

The population was families with children who were diagnosed with childhood

cancer more than one year prior to the study. This study sample consisted of five Caucasian families and five Asian volunteer families obtained through the oncology outpatient clinic of Oregon Health Sciences University Hospital and a physician's private clinic. The family members who met the following criteria were asked to participate in this study: (1) children who were diagnosed with cancer at least one year prior, possessed a fifth grade reading skill, and had the ability to answer orally when the questions were read; (2) healthy siblings who possessed fifth grade reading skill, and had the ability to answer orally when questions were read; (3) parents or adult care givers who resided with the sick children and served as the primary caregivers; and (4) adult family members who were defined by the family group as an important member of the family. To be suitable as a family subject for this study each family had to consist of two adult members and a child.

The study chose to use the small sample size because Asian families were considered as a minority in the United States; there were difficulties in recruiting subjects. In addition, a face to face interview was the main approach used in collecting data, it took more than one hour to do the interview. This also restricted the size of the sample.

Human Subjects

This study were reviewed by the Institutional Review Board for Oregon Health Sciences University to protect the human subjects. Each participating family member was informed of the purpose, risks, and benefits of taking part in this study by reading

and signing the study consent form (see Appendix F and G). The purpose of this study was to identify the stressors and strengths that families perceive after their children were diagnosed and treated for cancer over a year ago. The potential risks of participating in this study were: (1) the questions from the interview and questionnaire might facilitate the recall of unpleasant past events for the families; and (2) the different answers of the questions among family members might cause a conflict among family members. If either of these incidents occurred, the investigator stopped the interview. The investigator who was a nurse specialist in oncology would either comfort the family members, or serve as mediator between family members. The investigator would phone to determine if the family was in distress from participating in the study. If necessary, a referral to the primary physician or nursing specialist would be made. Families did not receive any direct benefit from this study beyond the opportunity to discuss the caring of a child with cancer in their family life. Any family member could refuse to participate and withdraw from this study at any time. The conversations of interview were audio tape recorded with the permission of family members for the purpose of accuracy of information gained during the interview. These audio tapes were destroyed after completion of the study. Confidentiality of subject data was maintained by: (1) reporting findings in anonymous and aggregate form, (2) keeping collected data and the audio tapes from the interviews in a locked files, (3) keeping consent forms separate from the descriptive and questionnaire data in different locked file, and (4) not asking the name or identity of the participants for publicity purposes.

Procedure

Families meeting the criteria were contacted by the investigator through the oncology outpatient clinic or by phone. The purpose of this study was explained to the families. After the families had agreed to participate, the family members were asked to complete the consent form. After consent forms were obtained, the investigator asked the family groups to develop their family genogram and ecomap together with the investigator. After completing the genogram and ecomap, each family member was given a copy of FS^3I. Family members were informed that this study was about their experiences after the cancer diagnosis was established. Each member marked his or her answers on the form of FS^3I as the investigator reads each question. Next, family members were interviewed together by the investigator using FS^3I and the semi-structure interview guide. For accuracy purpose, the interview conversations were audio tape recorded with permission from the family. Every family member had the right to withdraw at any point of the study or refuse to answer any particular questions. The location for the interviews could be either in the outpatient clinic or in a family's home. Prior to beginning of this study, a pilot study was completed in order to determine the amount of time needed for completing the genogram, ecomap, FS^3I Family Form and the interview. An abstract and thank you letter for participation were mailed to each family after the completion of this study.

Data Analysis

The data from the genograms were used to understand family structures, and

relationships among family members. The ecomap helped to understand the relationship between families and their surrounding community. Frequencies and percentiles were used to describe and interpret the findings.

The data from the FS^3I described how families perceive stressors and strengths living with a child with cancer. The data collected by using FS^3I include numerical and narrative data. The FS^3I included three parts: (1) Family Systems Stressors: General, (2) Family Systems Stressors: Specific, and (3) Family Systems Strengths. Each person in a family completed the three parts of the FS^3I. The score for each part was calculated separately because each score was interpreted differently. Scoring was explained in Appendix E. Mean and standard deviation scores were calculated for each part of the FS^3I for each family. The differences and similarities between families were compared based on these scores. Moreover, the families were divided into two groups, Caucasian families and Asian families, for the purpose of comparing the findings between families with different cultural backgrounds. Independent group t-tests were used to compare the differences between the parents and children, and differences between the fathers and mothers on each of three scale score means. Alpha level set at $p < .05$ to determine statistical significance.

Finally, the semi-structured interview was used to describe the background and disease specific information of the families. The content of the interview audio tape recording was summarized into written English language and was used to insure accurate recall of data. The background data of families was also categorized. Percentiles were

used to describe the findings. The interview data about disease related information were analyzed by descriptive statistics and narrative language.

CHAPTER 5

Findings

This chapter describes the findings of this study. It includes the characteristics of 10 sample families, the relationship between families and their communities, the findings of the family semistructured interviews, and results from the Family Systems Stressor-Strength Inventory (FS^3I). In this chapter, the 10 families were divided into two groups: Caucasian, and Asian/mixed families. Mixed families have been included in the latter category because of the parents from two Mixed families have Asian culture background. Their family values, health beliefs, and life style might be influenced by Asian culture.

Characteristics of the Sample Families

The characteristics of the sample families were obtained from the family genograms, family ecomaps, and semistructured family interviews. The family genograms provided family names, ages, occupations, health problems, education levels, and ethnic backgrounds. The ecomaps contributed the information regarding the relationships between the families and their communities. The semistructured family interview questions included the following: Who was the primary caretaker of the identified patient? Who was the primary caretaker of the healthy siblings? Which family member was responsible for taking the identified patient to the hospital for health care? Did this family have experiences with cancer in the past?

The following summary of the sample families includes the sequential information: general description, healthy siblings, identified patients, and detailed

descriptions of each family. Children diagnosed with cancer were defined as the identified patients in this study. In order to be able to clearly identify the position of each member in a child's family, the relationship was described from the child's point of view.

General Description of Families

The family sample was obtained from two pediatric outpatient clinics: Oregon Health Sciences University Hospital, and one private physician's clinic. Families meeting the criteria for this study were approached by the investigator. Nine Caucasian families and three Asian families were contacted in Oregon Health Sciences University pediatric outpatient clinic. Six Asian families were contacted through a private physician's clinic. Five Caucasian and five Asian families agreed to participate in this study.

The 10 sample families included five Caucasians, three Asians, and two Mixed families. Two out of three Asian families were from southeast Asia (Cambodia and Hong Kong), and the third one was from northeast Asia (Korea). The parents of the two mixed families had different ethnic backgrounds: in one, the father was Caucasian and the mother was Japanese; in the other, the father was Japanese and the mother was Caucasian. There were two single mother families in the samples. The first was an Asian family; the mother's boyfriend was Caucasian who lived at home and took care of the child. The second single mother family was a Caucasian family. There were three children who lived at home with the mother. Therefore, there were nine fathers participated in this study. The fathers included eight biological fathers and one boyfriend of a single mother. There were nine mothers who participated in this study. One of the

mothers from an Asian family did not participate in this study due to her language limitations. In total, there were nine fathers and nine mothers who participated in this study.

All fathers in all families, including the boyfriend of the one single mother, were working full time. Five mothers stayed at home as housewives, three mothers worked part time, two mothers worked full time. The parents' education levels ranged from high school graduates through college or advanced degree. Nine out of 10 (90%) primary caretakers for identified patients were mothers. Five out of 10 (50%) primary caretakers for the healthy children were fathers or mothers and the other five (50%) caretakers were grandmothers or friends. In the samples, seven (70%) mothers took the ill children to the hospital for health care. Three (30%) families had experience with cancer in the past (see Table 3-5).

Characteristics of the Healthy Siblings

There were a total of 23 siblings in the sample families. The age of the siblings ranged from 4 to 34 years of age. Seven (30%) were male, and sixteen (70%) were female. Ten (43.5%) siblings did not live with the identified patients. Seven (30%) out of the 23 siblings who were older than 10 years of age agreed to participate in this study (see Table 6). There were two participating siblings who did not live with the identified patients.

Characteristics of the Identified Patients

The age of the 10 identified patients ranged from 5 to 16 years of age. Four (40%)

Table 3

Characteristics of the Sample Families (N=10)

	Number of families	Percentage
Number of people in the household		
3	3	30%
4	4	40%
5	1	10%
6	2	20%
Number of participated family members		
2	5	50%
3	2	20%
4	2	20%
5	1	10%
Total monthly family income		
$2000 - $3000	2	20%
$3000 - $4000	4	40%
$4000 - $5000	3	30%
$5000 - $6000	1	10%

(table continues)

Table 3 (continued)

	Number of families	Percentage
Ethnic background		
Asian	3	30%
Caucasian	5	40%
Mixed (Caucasian & Japanese)	2	20%
Religion		
Buddhism	1	10%
Christian	5	50%
Mormon	1	10%
None	3	30%
Primary caretaker of ill children		
Father	1	10%
Mother	9	90%
Primary caretaker of healthy children		
Father	1	10%
Mother	2	20%
Friend	2	20%
Grandmother and Aunt	4	40%

(table continues)

Table 3 (continued)

	Number of families	Percentage
Primary person who took ill child to hospital		
Father	1	10%
Mother	6	60%
Father and mother together	3	30%
Previous experiences with cancer		
Once	3	30%
None	7	70%

Table 4

Characteristics of the Fathers (N=9)

	Number of fathers	Percentage
Age		
31-35	1	11.1%
36-40	3	33.3%
41-45	2	22.2%
46-50	1	11.1%
51-55	1	11.1%
56-60	1	11.1%
Education		
High school diploma	2	22.2%
Some college or higher	7	77.7%
Occupation		
Blue collar (manual labor)	2	22.2%
White collar (business clerical)	7	77.7%

Note. The boyfriend of one single mother family was included in the number of fathers.

Table 5

Characteristics of the Mothers (N=10)

	Number of mothers	Percentage
Age		
Under 30	1	10%
31-35	1	10%
36-40	3	30%
41-45	3	30%
46-50	1	10%
51-55	1	10%
Education		
High school diploma	4	40%
Some college or higher	6	60%
Work situation		
Full time	2	20%
Part time	3	30%
Housewife	5	50%

Table 6

Characteristics of the Siblings (N=23).

	Number of siblings	Percentage
Age		
Under 6	3	12.5%
6-10	4	16.67%
11-15	5	20.83%
16-20	3	12.5%
20-25	3	12.5%
26-30	4	16.67%
Above 30	2	8.33%
Gender		
Female	16	66.67%
Male	8	33.33%

Note. Some percentages do not add up to 100% due to rounding.

of them were boys, and six (60%) were girls. Only one identified patient was not born in the United States. Six (60%) out of 10 identified patients were the youngest children in their families. Two (20%) were the oldest children in their families. One was the third child, and one was the only child. Six identified patients had been diagnosed with acute lymphocytic leukemia (ALL). The diagnosis history ranged from 9 months to 53 months ago. The age of these six identified patients ranged from 5 to 16 years old. One identified patient was diagnosed with osteosarcoma 25 months prior to the study. One identified patient was diagnosed with adenocarcinoma 12 months prior. One identified patient was diagnosed with an ovarian tumor 13 months prior. One identified patient was diagnosed with lymphoma 28 months prior (see Table 7).

In certain types of pediatric cancers such as the leukemia, therapy is given in regimens with several phases of treatment. The initial induction phase is the intensive therapy with the goal of destroying enough cells to induce a remission. The following phase is the consolidation phase that incorporates intensive therapy to further destroy remaining cancer cells. The next phase is the maintenance phase that continues for a specified period of time or the remainder of therapy. The objective of this phase is to destroy any residual cancer cells. The observation phase is the period of time when therapy has ended, and the child is followed for recurrent, or late effects of the disease or its treatment (Renick-Ettinger, 1993). At the time of the families' interviews, 6 of 10 ill children had finished their treatment, while the other four children were in their maintenance stage. All of the ill children were given treatment for more than 10 months.

Table 7

Characteristics of the Identified Patients(N=10).

	Number of identified patients	Percentage
Diagnosis		
Acute Lymphocytic Leukemia	6	60%
Adenocarcinoma	1	10%
Lymphoma	1	10%
Osteosarcoma	1	10%
Ovarian Tumor	1	10%
Age at time of interview		
5	2	20%
6	2	20%
7	1	10%
11	2	20%
14	1	10%
16	2	20%
Gender		
Female	6	60%
Male	4	40%

(table continues)

Table 7 (continued)

	Number of identified patients	Percentage
Treatment stage		
Maintenance	4	40%
Treatment ended	6	60%
Months of treatment		
Under 12 months (Over 10 months)	3	30%
12-24 months	5	50%
25-36 months	2	20%
Position in family		
Oldest	2	20%
Middle	1	10%
Youngest	6	60%
Only child	1	10%

Four of the 10 identified patients who were 10 years old or older participated in this study.

Descriptions of Each Family

Each family was described in detail in the following paragraphs. For confidentiality reason, different letters were used to represent each family. In order to be able to clearly identify each member in the family, the family relationships were described from the child's point of view. For example, the mother of the identified patient's mother was called the maternal grandmother. The mother's female siblings are identified as the identified patient's aunts. The description of each family includes: the ethnic background of the family; the study participants; overview of parents and healthy siblings; persons living in the household; overview of the identified patient; relationship between the family and its communities; the findings of the Family Systems Stressor Strength Inventory (FS^3I) and semistructured interview.

Family A. Family A was a Caucasian family which consisted of a single mother and six children. The mother and the three younger children were interviewed at their home.

The mother was 42 years old and worked as a full time clerk for a supermarket. Her education background was high school level. She was divorced just before the final treatment of her ill daughter. There were six children, ages 23, 18, 17, 15, 13, and 11. Only the three younger children lived with their mother. The mother was the primary caretaker of the identified patient and also was the person who took the identified patient

to the hospital. The maternal grandmother was the primary care taker of the healthy siblings.

The identified patient was the 11 year old child. She was diagnosed with osteosarcoma in 1994 and finished her last treatment when her family was interviewed. She was the youngest child in the family. This family had no experience with cancer in the past. In addition, the maternal grandmother was diagnosed with bone cancer shortly after the identified patient finished her treatment.

The maternal aunt, uncle and grandparents lived in southern Oregon. The aunt and grandmother came to visit this family frequently and helped take care of the other healthy siblings or prepare the food. If they could not come to visit, they made phone calls instead to check the condition of the identified patient and the siblings and to comfort the mother. One of the mother's friends brought the food for the family for seven months. Friends from the church came to visit either at the hospital or home, or sent cards expressing their concern.

The findings of the FS^3I mean scores were reported in the sequence: mean score of each part for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the mother in three parts were: general stressors-2.954, specific stressors-3.556, and strengths-4.438. The FS^3I mean scores of the male sibling in three parts were: general stressors-1.642, specific stressors-3.000, and strengths-1.875. The FS^3I mean scores of the female sibling in three parts were: general stressors-2.706, specific stressors-2.444, and strengths-2.625. The FS^3I mean scores of the identified

patient in three parts were: general stressors-1.769, specific stressors-3.000, and strengths-3.000. The family mean scores in three parts of FS^3I were: general stressors-2.268, specific stressors-3.000, and strengths-3.026.

The other findings of the FS^3I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The mother chose "health/illness", and "over scheduled family calendar" as the highest stressful situations. The male sibling chose "health/illness" and "insufficient family play time", and "over scheduled family calendar" as the highest stressful situations. The female sibling chose "health/illness", and "economics/finances/budgets" as the highest stressful situations. The identified patient chose "children's behavior/discipline/sibling fighting" and "economics/finances/budgets" as the highest stressful situations. From the family mean score, the general stressors which were chosen by the families members as the highest stressful situations were: "over scheduled family calendar, health/illness, economic/finance/budgets, and children's behaviors/discipline/sibling fighting."

The specific stressor identified by the mother and the two healthy siblings was health condition of the identified patient. The specific stressor identified by identified patient was fighting between family members or siblings.

The mother selected 8 out of 15 strengths as the most frequently used strengths. The female siblings ranked "displays a sense of play and humor", and "has a balance of interaction among members" as the most frequently used family strengths. The male siblings ranked "has a strong sense of family in which rituals and traditions abound",

"displays a sense of play and humor", "teaches a sense of right and wrong" as the most frequently used family strengths. The identified patient ranked "teaches a sense of right and wrong", "has a shared religious core", "respects the privacy of one another" as the most frequently used family strengths. From the family mean scores, the most frequently used family strengths were: "display a sense of play and humor, teaches a sense of right and wrong, fosters family table time and conversation, has a balance of interaction among members, and has a shared religious core."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: financial problems, children's school performance, health condition of the ill child, fighting between siblings, and not having enough time to do things. The cancer related strengths were: sharing responsibility, being realistic, loving and caring for each other, allocating time for self, and the belief in God.

Family B. Family B was an Asian family which consisted of both parents and five children. The original country of the parents was Cambodia. The father and the identified patient were interviewed at their home. Due to the limitation of the language ability, the mother did not participate in this study.

The father was 60 years old and could speak and read English. He worked as an employee of an import/export agency. His education background was college level. The mother was 55 years old and she could only communicate in simple English and could not read English. She worked as a part time waitress at an oriental restaurant. Her education background was high school level. The five children were 36, 32, 27, 25 and

14 years of age. The four older children were married and did not live with the parents. The youngest child was the only child who lived with the parents. The father was the primary caretaker of the identified patient, and also was the primary person who took identified patient to the hospital. The healthy siblings were old enough to take care of themselves, and they did not live at home. Therefore, there was no primary caretaker for the healthy siblings.

The identified patient was the 14 year old child. She was diagnosed with adenocarcinoma in 1995. She had received the maintenance stage of her treatment at the time her family was interviewed. She was the youngest child in the family.

The aunt, uncle and grandparents on both parent's sides lived in Cambodia. The family members did not go to church and did not have any specific religion. The father could not bring the child to the hospital for every treatment. Friends of the father offered to help drive the ill child to the hospital and bring her back, but the father in turn had to pay for it. The father's coworkers sometimes helped take over the father's work, so that he could take time off. In addition, the coworkers of the father expressed their concern about the health condition of the ill child frequently.

The findings of the FS^3I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the father in three parts were: the general stressors-1.444, specific stressors-3.200, and strengths-2.813. The FS^3I mean scores of the identified patient in three parts were: the general stressors-2.667, specific stressors-3.100, and

strengths-2.375. The family mean scores in three parts of FS^3I were: general stressors-2.036, specific stressors-3.150, and strengths-2.640.

The other findings of the FS^3I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose "economic/finances/budgets", "insufficient 'me' time", "health/illness", "family members feel unappreciated", "self-image/self-esteem/feelings of unattractiveness", and "teen behavior" as the highest stressful situation. The identified patient chose "insufficient family playtime", "television", and "unhappiness with work situation" as the highest stressful situation. From the family mean score, the general stressors which were chosen by the family members as the highest stressful situations were: "insufficient family playtime, television, economic/finances/budgets, unhappiness with work situation, and self-image/self-esteem/feelings of unattractiveness."

The specific stressor identified by the father was the health condition of the identified patient. The specific stressor described by the identified patient was staying in hospital for a long time and decreasing the school activities.

The father chose "affirms and supports one another", "teaches respect for others", "develops a sense of trust in members", "respects the privacy of one another" as the most frequently used strengths. The identified patient chose "teaches respect for others" as the most frequently used family strength. From the family mean score, the most frequently used family strengths were: "teaches respect for others, affirms and supports one another, develops a sense of trust in members, exhibits a sense of shared responsibility, teaches a

sense of right and wrong, respects the privacy of one another, and values service to others."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: finance, language barriers, staying in hospital a long time, and health condition of the child. The cancer related strengths were: treat child as normal, recognized the realities and do what need to be done.

Family C. Family C was an Asian family which consisted of one single mother, her only son, and her boyfriend. The mother's country of origin was Korea. The mother and her boyfriend were interviewed at their home.

The mother was 40 years old, and worked as a supervisor of a car company. Her education background was college level. She was born in Korea, and immigrated with her parents to Hawaii when she was two years old. She divorced one year before the child was diagnosed with cancer. The mother had an American boyfriend who lived with this family and had been the other caretaker of the ill child since 1993. He was 40 years old and was a computer programmer. His education background was college level. The mother was the primary caretaker of the identified patient and also the primary person who took the identified patient to the hospital.

The identified patient was 11 years old, and was deaf and mentally retarded since he was born. He was diagnosed with ALL in 1991 and finished his treatment in 1993. He was the only child in this family.

The maternal grandparents lived in Hawaii. The maternal aunts and uncles lived in different cities in the United States. The maternal grandparents, aunts and uncles called often. They not only were concerned about the health condition of the ill child, but also gave the mother emotional support. The mother has a deep faith in God, but she did not attend church.

The findings of the FS^3I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the mother in three parts were: the general stressors-1.941, specific stressors-2.778, and strengths-4.563. The FS^3I mean scores of the mother's boyfriend in three parts were: general stressors-1.688, specific stressors-3.000, and strengths-3.625. The family mean scores in three parts of FS^3I were: general stressors-1.814, specific stressors-2.889, and strengths-4.094.

The other findings of the FS^3I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The mother chose "health/illness", "communication with child", "guilt for not accomplishing more", and "economic/finances/budgets" as the highest stressful situations. The mother's boyfriend chose "communication with children", "over scheduled family calendar", and "economic/finances/budgets" as the highest stressful situations. From the mean score, the general stressors which were chosen as the highest stressful situations were: "communication with children, health/illness, and economic/finances/budgets, guilt for not accomplishing more, and over scheduled family calendar."

The specific stressors identified by the mother and her boyfriend were communication with child and child's health condition.

The mother chose nine strengths as the most frequently used family strengths. Her boyfriend ranked "has a shared religious core", "respects the privacy of one another", "values service to others" as the most frequently used family strengths. From the family mean scores, the most frequently used family strengths were: "has a shared religious core, respects the privacy of one another, teaches respect for others, develops a sense of trust in members, and values service to others."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: fear about the child dying, child's health, and communication with children. The cancer related strengths were: the belief in God, commitment, caring each other, and sharing responsibilities.

Family D. Family D was a Caucasian family which consisted of both parents and three children. Both of the parents and the two older children were interviewed in the clinic.

The father was 42 years old and worked as a sales person. His education background was college level. The mother was 44 years old and worked as a part time basketball referee. Her education background was college level. The children were 16, 13, and 11 years of age. All of the children lived with their parents. The mother was the primary caretaker of the identified patient. The friends of the family were the primary

caretaker of the healthy siblings. The father and mother were the primary people who took the identified patient to the hospital.

The identified patient was the 16 years old child. She was diagnosed with ALL in 1995. When her family was interviewed, she had received the maintenance stage of her treatment. She was the oldest child in the family. This was the second experience with cancer in this family. The previous family experience with cancer was the maternal grandfather having been diagnosed with skin cancer.

Both the paternal and maternal grandparents, aunts and uncles lived in southern Oregon. The paternal grandmother gave this family financial support. The paternal uncle and the maternal grandparents called frequently to express their concern about the child's health and family situation. Friends of this family and neighbors helped take care of the younger children. Church members provided emotional support, prayer, visits and cards.

The findings of the FS^3I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the father in three parts were: general stressors-1.957, specific stressors-2.500, and strengths-4.250. The FS^3I mean scores of the mother in three parts were: general stressors-3.087, specific stressors-2.667, and strengths-3.750. The FS^3I mean scores of the female sibling in three parts were: general stressors-2.000, specific stressors-2.889, and strengths-3.625. The FS^3I mean scores of the identified patient in three parts were: general stressors-1.533, specific stressors-2.889, and strengths-3.750.

The family mean scores in three parts of FS^3I were: general stressors-2.144, specific stressors-2.736, and strengths-3.888.

The other findings of the FS^3I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose "insufficient 'me' time", "communication with children", "economics/finances/budgets", and "insufficient couple time" as the highest stressful situation. The mother chose "health/illness", "holiday", "economics/finances/budgets", and "insufficient couple time" as the highest stressful situations. The female siblings chose "guilt for not accomplishing more", "over scheduled family calendar", "self-image/self-esteem/feelings of unattractiveness", and "perfectionism" as the highest stressful situations. The identified patient chose "self-image/self-esteem/feelings of unattractiveness", "perfectionism", "holidays", and "economics/finances/budgets" as the highest stressful situations. From the mean score, the general stressors which were chosen by family members as the highest stressful situations were: "insufficient couple time, economics/finances/budgets, guilt for not accomplishing more, holidays, and family members feel unappreciated."

The specific stressor identified by the father was finance. The specific stressor identified by the mother was the reaction of the identified patient to the chemotherapy. The specific stressor identified by the female sibling was the health condition of the identified patient. The specific stressors identified by the identified patient were health condition and finance.

The father ranked "displays a sense of play and humor", "has a shared religious core", "teaches a sense of right and wrong", "has a strong sense of family in which rituals and traditions abound", "fosters family table time and conversation" and "shares leisure time", as the most frequently used family strengths. The mother ranked "has a shared religious core", "displays a sense of play and humor", as the most frequently used family strengths. The female sibling ranked "develops a sense of trust in members" as the most frequently used family strengths. The identified patient ranked "affirms and supports one another", "teaches a sense of right and wrong", "has a shared religious core", as the most frequently used family strengths. From the family mean score, the most frequently used family strengths were: "has a shared religious core, display a sense of play and humor, teaches a sense of right and wrong, develops a sense of trust in members, and has a strong sense of family in which rituals and traditions abound."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: not having enough time, repeating in telling people the story of child's cancer, people's concern, and school. The cancer related strengths were: love each other, the belief in God, having positive attitude and humor, support each other.

Family E. Family E was a Caucasian family which consisted of both parents and four children. Both parents and one of the older children were interviewed in the clinic.

The father was 50 years old and worked as a supervisor for a trade report company. His education background college level. The mother was 43 years old and was

a housewife. Her education background was college level. The children were 26, 18, 8, and 6 years of age. Only the three younger children lived with the parents. The mother was the primary care taker of the identified patient and healthy siblings, and also was the primary person who took the identified patient to the hospital.

The identified patient was the six years old child. He was diagnosed with ALL in 1994. His treatment was in the last maintenance stage when his family was interviewed. He was the youngest child in the family.

The extended family of the father lived in San Francisco. The mother's extended family lived in Los Angeles. The extended family members called occasionally. The family members indicated that they did not use outside family resources very often. The mother said: "when my son was just diagnosed, everyone helped us. However, when the situation continued, nobody can give you support in a long time period. You needed to do everything by yourself."

The findings of the FS^3I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the father in three parts were: general stressors-1.917, specific stressors-2.889, and strengths-3.813. The FS^3I mean scores of the mother in three parts were: general stressors-1.632, specific stressors-2.444, and strengths-4.750. The FS^3I mean scores of the female sibling in three parts were: general stressors-2.176, specific stressors-2.800, and strengths-3.813. The family mean scores in three parts of FS^3I were: general stressors-1.908, specific stressors-2.711, and strengths-4.125.

The other findings of the FS^{3}I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose "health/illness", "moving", "holidays" and "children's behavior/discipline/sibling fighting", as the highest stressful situations. The mother chose "children's behavior/discipline/sibling fighting", "moving", and "teen behavior" as the highest stressful situation. The female sibling chose "children's behavior/discipline/sibling fighting", "moving", "over scheduled family calendar", and "unhappiness with work situation" as the highest stressful situations. From the mean score, the general stressors which were chosen by family members as the highest stressful situations were: "moving, children's behavior/discipline/sibling fighting, and holidays."

The specific stressors identified by the father, mother and the female sibling were the identified patient's health condition.

The father ranked "communicates and listens to one another", and "teaches respect for others" as the most frequently used family strengths. The mother selected 11 out of 15 strengths listed in the FS^{3}I as the most frequently used family strengths. The female sibling ranked "teaches a sense of right and wrong", and "shared leisure time" as the most frequently used family strengths. From the family mean score, the most frequently used family strengths were: "teaches respect for others, teaches a sense of right and wrong, shared leisure time, affirms and supports one another, develops a sense of trust in members, has a shared religious core, and fosters family table time and conversation."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: not having enough time, child's health condition, and school. The cancer related strengths were: having positive attitude, support each other, understanding each other, working together, and helping each other.

Family F. Family F was an Asian family which consisted of both parents and two children. The father came from Hong Kong. The mother came from China. Both parents were interviewed in the clinic.

The father was 38 years old, and worked as a chef. His education background was high school level. The mother was 37 years old and worked as a part time waitress. Her education background was college level. The two children were seven and six years of age. Both of them lived with their parents. The maternal grandparents lived with the family. They could not speak or understand English. Because of the language limitation, the maternal grandparents did not participate in this study. The mother was the primary caretaker of the identified patient, and also was the primary person who took the identified patient to the hospital. The maternal grandmother was the primary caretaker of the healthy sibling.

The identified patient was the six years old child. He was diagnosed with ALL in 1992. When the family was interviewed, his treatment was finished. He was the youngest child in the family.

One of the paternal uncles lived in Portland. The other paternal uncles were still in Hong Kong. The maternal uncles and aunts lived in southern Oregon. Both paternal

and maternal uncles and aunts called occasionally. They could not give more assistance because of the poverty. The maternal grandparents helped by doing some house work, and taking care of the healthy child. Friends of the family helped take care of the children by driving them to school. Neighbors invited the healthy child over to play with their children frequently, and baked cakes for the children.

The findings of the FS^{3}I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^{3}I mean scores of the father in three parts were: general stressors-2.350, specific stressors-3.222, and strengths-4.063. The FS^{3}I mean scores of the mother in three parts were: general stressors-2.381, specific stressors-3.222, and strengths-4.188. The family mean scores in three parts of FS^{3}I were: general stressors-2.401, specific stressors-3.222, and strengths-4.125.

The other findings of the FS^{3}I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose "family members feel unappreciated", "guilt for not accomplishing more", "insufficient me time", "over scheduled family calendar", and "economics/finances/budgets" as the highest stressful situations. The mother chose "family members feel unappreciated", "guilt for not accomplishing more", "insufficient me time", "over scheduled family calendar", "holidays", and "economics/finances/budgets" as the highest stressful situations. From the mean score, the general stressors which were chosen by family

members as the highest stressful situations were: "family members feel unappreciated, guilt for not accomplishing more, insufficient me time, and economics/finances/budgets."

The specific stressor identified by both of the parents was the child's health condition.

The father ranked "communicates and listens to one another", "affirms and supports one another", "develops a sense of trust in members", "exhibits a sense of shared responsibility", and "teaches a sense of right and wrong" as the most frequently used family strengths. The mother ranked "communicates and listens to one another", "affirms and supports one another", "develops a sense of trust in members", "exhibits a sense of shared responsibility", "teaches a sense of right and wrong", "shared leisured time", and "admits to and seeks help with problems" as the most frequently used family strengths. From the family mean scores, the most frequently used family strengths were: "communicates and listens to one another, affirms and supports one another, develops a sense of trust in members, exhibits a sense of shared responsibility, and teaches a sense of right and wrong."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: finance, language barriers, work strain, child's reaction to treatment and lacking knowledge about taking care of ill child. The cancer related strengths which related to cancer were support each other, recognized the realities and do what need to be done, treat child as normal.

Family G. Family G was a mixed family which consisted of both parents and four children. The father was Japanese but was born in the United States. The mother was an American. Both parents and three of the children were interviewed at their home.

The father was 53 years old and worked as a machinist. His education background was high school level. The mother was 50 years old and was a housewife. Her education background was high school level. The four children were 26, 23, 20, and 16 years of age. Two of them were married and had moved out. They visited their parents frequently. One of them left home for school. The youngest child was the only one who lived with the parents. The mother was the primary caretaker of the identified patient. The father was the primary caretaker of the healthy siblings. The father and the mother were the people who took the identified patient to the hospital.

The identified patient was the 16 years old child. She was diagnosed with teratoma in 1992, and was diagnosed with an ovarian tumor in 1995. When her family was interviewed, she had received the last stage treatment. She was the youngest child of the family and was the only one who lived with the parents.

The parental uncles and aunts lived in Los Angeles. The paternal aunt called frequently. The maternal aunts lived in New York. They did not contact this family frequently. Friends of family helped cook, clean house, or came to visit either at home or in the hospital. This family did not have specific religion. The identified patient was the only family member who went to church regularly.

The findings of the FS^3I mean score were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the father in three parts were: general stressors-1.421, specific stressors-2.800, and strengths-3.467. The FS^3I mean scores of the mother in three parts were: general stressors-1.727, specific stressors-2.600, and strengths-2.625. The FS^3I mean scores of the first female sibling in three parts were: general stressors-2.227, specific stressors-3.000, and strengths-4.563. The FS^3I mean scores of the second female sibling in three parts were: general stressors-3.500, specific stressors-2.667, and strengths-4.400. The FS^3I mean scores of the identified patient in three parts were: general stressors-1.714, specific stressors-2.700, and strengths-3.933. The family mean scores in three parts of FS^3I were: general stressors-2.753, specific stressors-2.753, and strengths-3.798.

The other findings of the FS^3I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose "spousal relationship", "teen behaviors", and "economics/finances/budgets" as the highest stressful situations. The mother chose "health/illness", "children's behaviors/discipline/sibling fighting", and "over scheduled family calendar" as the highest stressful situations. The first female siblings chose "perfectionism", "housekeeping standard", "insufficient family play time", and "over scheduled family calendar" as the highest stressful situations. The second female sibling chose "perfectionism", "housekeeping standard", and "over scheduled family calendar" as the

highest stressful situations. The identified patient chose "family members feel unappreciated" and "economics/finances/budgets" as the highest stressful situations. From the mean score, the general stressors which were chosen as the highest stressful situations were: "over scheduled family calendar, perfectionism, and economics/finances/budgets."

The specific stressor identified by the father were staying for hospital in a long time and influencing his regular work. The specific stressor identified by the mother was staying in hospital for a long time. The specific stressor identified by the female siblings was to know how to help parents and the identified patients. The specific stressor identified by identified patient was finance.

The father ranked display a sense of play and humor as the most frequently used family strength. The mother selected 11 out of 15 strengths listed in FS^3I as the usually used family strengths. The first female selected 11 out of 15 strengths listed in FS^3I as the most frequently used family strengths. The second female sibling ranked "teaches respect for others", "develops a sense of trust in members", "display a sense of play and humor", "teaches a sense of right and wrong", "has a strong sense of family in which rituals and traditions abound", "respects the privacy of one another", and "values service to others" as the most frequently family strengths. The identified patient ranked "teaches a sense of right and wrong", "has a strong sense of family in which rituals and traditions abound" as the most frequently family strengths. From the family mean score, the most frequently used family strengths were: "teaches a sense of right and wrong, display a sense of play

and humor, has a strong sense of family in which rituals and traditions abound, teaches respect for others, develops a sense of trust in members, has a balance of interaction among members, values service to others."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: staying in hospital, taking care the other children, chaotic family routine, and child's reaction to the treatment. The cancer related strengths were: doing what needs to be done, support each other, and helping each other dealing with problems.

Family H. Family H was a mixed family which consisted of both parents and two children. The father was an American. The mother was Japanese. The parents were interviewed at their home.

The father was 42 years old and worked as a manager. His education background was college level. The mother was 38 years old and was a housewife. Her education background was college level. The children were eight and six years of age. The mother was the primary caretaker of the identified patient. Friends of the family were the primary caretaker of the healthy sibling. The father and mother were the primary people who took the identified patient to the hospital.

The identified patient was the six years old child. She was diagnosed with lymphoma in 1993, and finished her treatment in 1995. She was the youngest child in the family.

The paternal uncles and grandparents lived in different cities of Oregon. The maternal aunts and grandparents lived in Japan. Both paternal and maternal grandparents came to visit frequently after the identified patient was diagnosed with cancer. The paternal grandmother had been staying with the family for six months to help take care of the healthy child. The neighbors and friends helped take care of the healthy child, and bring her to school and back.

The findings of the FS^3I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the father in three parts were: general stressors-1.555, specific stressors-2.222, and strengths-3.625. The FS^3I mean scores of the mother in three parts were: general stressors-1.636, specific stressors-1.667, and strengths-4.200. The family mean scores of FS^3I were: general stressors-1.596, specific stressors-1.944, and strengths-3.913.

The other findings of the FS^3I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose over scheduled family calendar as the highest stressful situations. The mother chose perfectionism, and spousal relationship as the highest stressful situations. From the mean score, the general stressors which were chose as the highest stressful situations were: perfectionism, spousal relationship, over scheduled family calendar, insufficient couple time, and economics/finance/budgets.

The specific stressor identified by father was fears cancer recurrent. The specific stressor identified by the mother was the health condition of the identified patient.

The father selected 11 out of 15 strengths listed in FS^{3}I as the frequently used family strengths. The mother ranked "affirms and supports one another", "teaches respect for others", "develops a sense of trust in members", and "has a strong sense of family in which rituals and traditions abound" as the most frequently used family strengths. From the family mean score, the most frequently used family strengths were: "affirms and supports one another, teaches respect for others, display a sense of play and humor, teaches a sense of right and wrong, and respects the privacy of one another."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: different opinions about treatment and appropriate way of taking care of ill child between parents, fear about cancer recurrent, and how to take care of child appropriately. The cancer related strengths were: support each other, help and respect each other, and doing what needs to be done.

Family I. Family I was a Caucasian family which consisted of both parents and four children. Both of parents and the oldest children were interviewed in the clinic. The father was 34 years old, and worked as a software programmer. His education background was college level. The mother was 31 years old and was a housewife. Her education background was high school level. The children in ages were 11, 9, 7, and 5 years old. The mother was the primary caretaker of the identified patient, and also was

the person who took the identified patient to the hospital. The maternal grandmother and paternal aunt were the primary care taker of the healthy siblings.

The identified patient was the seven year old child. He was diagnosed with ALL in 1995. He had received the maintenance stage of treatment when his family was interviewed. He was the third child in the family. The previous family experience with cancer was the maternal grandmother having been diagnosed with colon cancer, breast cancer, and an ovarian tumor.

Both parents' extended families lived near their house. The paternal aunts and maternal uncles helped take care of the healthy children, clean house, and cook. Friends of the family helped clean house, or bring over meals. The company which the father worked for gave the family financial support for the medical expanses and gasoline for transportation. The coworkers called and brought gifts to the family.

The findings of the FS^3I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the father in three parts were: general stressors-1.778, specific stressors-2.778, and strengths-3.938. The FS^3I mean scores of the mother in three parts were: general stressors-2.500, specific stressors-3.444, and strengths-4.625. The FS^3I mean scores of the female sibling were: general stressors-1.625, specific stressors-2.778, and strengths-4.625. The family mean scores of FS^3I were: general stressors-1.968, specific stressors-3.000, and strengths-4.396.

The other findings of the FS^{3}I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose "health/illness", "insufficient couple time", and "economics/finances/budgets" as the highest stressful situations. The mother chose "family members feel unappreciated", "communication with children", "insufficient family play time", "children's behaviors/discipline/sibling fighting", and "lack of shared responsibility in the family" as the highest stressful situations. The female sibling chose "health/illness", and "insufficient family play time" as the highest stressful situations. From the mean score, the general stressors which were chosen by family members as the highest stressful situations were: "economics/finances/budgets, children's behaviors/discipline/sibling fighting, health/illness, family members feel unappreciated, and insufficient family play time."

The specific stressor identified by the father was the health condition of the identified patient. The specific stressor identified by the mother was the healthy sibling's welfare. The specific stressor identified by female sibling was fears cancer recurrent.

The father selected 14 out of 15 strengths listed in FS^{3}I as the frequently used family strengths. The mother selected 10 out of 15 strengths listed in FS^{3}I as the most frequently used family strengths. The female sibling selected 9 out of 15 strengths listed in FS^{3}I as the most frequently used family strengths. From the family mean score, the most frequently used family strengths were: "develops a sense of trust in members, teaches a sense of right and wrong, has a strong sense of family in which rituals and

traditions abound, has a shared religious core, respects the privacy of one another, values services to other, and fosters family table time and conversation."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: child's reaction to treatment, healthy children without mother in home, disrupted family routine, and finance. The cancer related strengths were: spousal support, faith in God, enjoy time together, work together, and loving and caring each other.

Family J. Family J was a Caucasian family which consisted of two parents and two children. Both of the parents were interviewed in the clinic.

The father was 36 years old, and worked as a real estate. His education background was college level. The mother was 28 years old and a housewife. Her education background was college level. The children were five and four years of age. The mother was the primary care taker of the identified patient and also was the person who took the identified patient to the hospital. The maternal aunt was the primary caretaker of the healthy sibling.

The identified patient was the five years old child. He was diagnosed with ALL in 1995. He had received the maintenance stage treatment when his family was interviewed. He was the oldest child in the family. The previous family experience with cancer was the paternal grandmother having died of lung cancer.

Both parents' extended families lived near the family house. The maternal aunt helped take care of the healthy child. The maternal grandmother helped raise a fund for

them. Friends from their church helped paint the house, bring meals, and raise a community donation.

The findings of the FS^3I mean scores were reported in the sequence: mean score of each parts for each family member, the total mean score of the family in three parts. The FS^3I mean scores of the father in three parts were: general stressors-2.333, specific stressor-3.556, and strength-3.125. The FS^3I mean scores of the mother in three parts were: general stressors-2.294, specific stressors-2.778, and strengths-3.625. The family mean scores of FS^3I were: general stressors-2.353, specific stressors-3.167, and strengths-3.375.

The other findings of the FS^3I were reported in the description of the most frequently stated general stressors, specific stressors, and strengths. The father chose "perfectionism", "housekeeping standard", and "spousal relationship" as the highest stressful situations. The mother chose "children's behaviors/discipline/sibling fighting", and "economics/finances/budgets" as the highest stressful situations. From the mean score, the general stressors which were chose as the highest stressful situations were: "spousal relationship, house keeping standard, insufficient couple time, insufficient family play time, television, and economics/finances/budgets. "

The specific stressor identified by both of the parents was the health condition of the identified patient.

The father ranked "develops a sense of trust in members", "teaches a sense of right and wrong", "has a shared religious core", "respects the privacy of one another",

and "values service to others". The mother selected 11 out of
as the frequently used family strengths. From the family mean
used family strengths were: "develops a sense of trust in meml
right and wrong, and has a shared religious core."

The semistructured interview reported the stressors and strengths which related to cancer. The cancer related stressors were: ill child's health condition, medical expense, moving to a new house. The cancer related strengths were: faith in God, working together, and treat child as normal.

Resources Obtained From Families' Communities

The resources of the families could be divided into two groups: resources within the families and resources outside the families. The resources within the families were reported in the above section. The resources outside the families will be reported in this section.

These findings were gained from the family ecomap. The ecomap was used to examine the relationships between families and their communities. The family communities included friends, extended families, church, school, work, and neighbors. This part of the findings also described the assistance and supports the families gained from those communities.

The sample families received help from their communities in caring for their ill child and families. Nine (90%) out of 10 families mentioned that they have close relationships with their friends and obtained assistance from their friends. The families

described that their friends were willing to take care of the other children, cook, and give emotional support such as making a phone call or sending a greeting cards to the families. The following paragraph was an example of a mother who received help from her friends:

> They helped me to clean the house, brought food for almost seven months. Also they took care of my children such as driving them to school, and brought them back. Sometimes, they might bring my children to the hospital for visiting. They called all the time, and sent me cards.

Seven (70%) out of 10 families mentioned that they obtained assistance from their extended families. The assistance from extended family included cooking food, taking care of children, financial support, and emotional support. A father described:

> My mother came to stay with us after the younger daughter was diagnosed with cancer. She took care of the older daughter. In addition, she talked with my wife all the time to encourage her and give some support. My wife's parents called frequently to express their concern about the condition of the sick daughter and our family's situation.

Six fathers or mothers mentioned that they obtained help from their colleagues from work. Their colleagues were willing to take over the father's or the mother's work, so that the fathers or the mothers could spend more time at home or in the hospital. Four (40%) families mentioned that they got support from the church. The people from church prayed for them, and helped take care of the healthy children. Three families mentioned

that their neighbors helped by driving the children to school, taking care of the children, and bringing food.

It can be concluded that the most frequently used community resources of a Caucasian families came from their extended families and friends. On the other hand, friends and health care professionals were the most frequently used support system of the Asian/mixed families.

Family Systems Stressor-Strength Inventory (FS^3I)

Family Systems Stressor-Strength Inventory (FS^3I) (see Appendix C) was used to assess family stressors and strengths from the family's perspective. FS^3I includes three parts: (1) General stressors, (2) Specific Stressors and (3) Strengths. Data were analyzed in two different ways. First, the mean and standard deviation of each part of the FS^3I was calculated for each family. Second, the mean and standard deviation of each item of FS^3I was calculated.

Mean Scores of Three Parts in the FS^3I

The data from the FS^3I were calculated by using the scoring summary (see Appendix E). Each family had their own mean and standard deviation for each of the three parts of the FS^3I (Table 8). The following descriptions of the mean scores and standard deviation for each part of the FS^3I included all 10 families, Caucasian families and Asian/mixed families.

The mean scores of each family's general stressors scores ranged from 2.401 to 1.596. The mean scores of each family's specific stressor scores ranged from 3.222 to

1.944. The mean scores of each family's strength score ranged from 4.369 to 2.640. The total mean score for 10 families were: general stressors-2.047, specific stressors-2.848, and strengths-3.726 (see Table 8).

The mean scores of Caucasian families were: general stressors-2.119, specific stressors-2.091, and strengths-3.727. The mean scores of Asian/mixed families were: general stressors-2.019, specific stressors-2.783, and strengths-3.726. There was no significant difference between Caucasian families and Asian/mixed families (see Table 9). The general and specific stressor scores of the Caucasian families were higher than the Asian/mixed families. However, the Caucasian families had higher score of strengths than Asian/mixed families.

General Stressors

The mean and standard deviation of each item chosen from general and specific stressors were calculated by adding up the scores of one item from all of the participants and then dividing by the number of participants. The 0, "not apply", responses were omitted from the calculations. After the calculations were completed, each item was arranged by its mean from high to low (see Table 10). The higher the mean of one item, the more stress the participants experienced. All 10 families rated "economic/finance" as the most frequently occurred stressor. The followed five frequently occurred stressors in order were: "moving, over scheduled family calendar, family members feeling unappreciated, health/illness, and teen behavior."

Table 8

Mean Scores of Each Family in the Family Systems Stressor-Strength Inventory (FS^3I)

Family name	Number of members	Stressors		Specific Stressor		Strengths	
		M	SD	M	SD	M	SD
A	4	2.268	0.659	3.000	0.454	3.026	1.044
B	2	2.036	0.711	3.150	0.071	2.640	0.245
C	2	1.814	0.179	2.889	0.157	4.094	0.663
D	4	2.144	0.663	2.736	0.189	3.888	0.243
E	3	1.908	0.273	2.711	0.235	4.125	0.541
F	2	2.401	0.028	3.222	0.000	4.125	0.088
G	5	2.753	0.156	2.753	0.156	3.798	0.783
H	2	1.596	0.057	1.944	0.393	3.913	0.407
I	3	1.968	0.467	3.000	0.385	4.396	0.397
J	2	2.353	0.083	3.167	0.550	3.375	0.354
Total	29	2.074	0.531	2.848	0.393	3.726	0.743

Table 9

Family Score of the Family System Stressors and Strengths Inventory (FS^3I) in Different Ethnic Group

	Caucasain family	Asian/mixed family	P
General stressors			
M	2.119	2.019	
SD	0.488	0.594	0.47
Specific stressors			
M	2.091	2.783	
SD	0.352	0.444	0.39
Strengths			
M	3.727	3.726	
SD	0.777	0.731	0.84

Table 10

General Stressors Scores of Ten Families on the FS[3]I Part I

General stressors	N[a]	n[b]	M	SD
Economic/finances/budgets	10	26	2.808	1.167
Moving	2	6	2.667	1.633
Over scheduled family calendar	10	27	2.370	1.445
Family member(s) feeling unappreciated	9	25	2.360	1.381
Health/illness	10	29	2.345	1.446
Guilt for not accomplishing more	10	26	2.231	1.243
Insufficient family playtime	10	29	2.207	1.292
Insufficient couple time	10	20	2.200	1.056
Insufficient "me" time	10	25	2.160	1.106
Teen behavior	4	14	2.143	1.099
Perfectionism	10	27	2.111	1.281
Children's behavior/discipline/sibling fighting	10	28	2.107	1.286
Communication with children	10	22	2.091	1.269
Spousal relationship	10	20	2.050	1.317
Holiday	10	24	2.042	1.268
Housekeeping standards	10	19	1.947	1.311

(table continues)

Table 10 (continued)

General stressors	N[a]	n[b]	M	SD
Lack of shared responsibility in the family	10	23	1.913	1.240
Dieting	9	20	1.900	1.071
Self-image/self-esteem/feelings of unattractiveness	9	24	1.833	1.090
In-law	8	12	1.667	1.073
Unhappiness with work situation	10	17	1.824	1.131
Television	9	23	1.696	1.146
Overvolunteerism	5	14	1.643	1.151
Neighbors	5	13	1.385	0.650
New baby	0	0	0	0

Note. The stressors are arranged by means from highest to lowest.

[a] The number of the families that considered the stressor applied. [b] Total participants in 10 families were 29; n is the number of the participants who considered the stressor applied.

Caucasian families rated "economic/finance" as the most frequently occurred stressor. The following five frequently occurred stressors in order were: "children's behavior/discipline/sibling fighting, moving, spousal relationship, insufficient couple time, and health/illness" (See Table 11).

Asian/mixed families also rated economic/finance as the most frequently occurring stressor. The following five frequently occurring stressors were: "teen behavior, over scheduled family calendar, family members feeling unappreciated, insufficient family play time, and perfectionism" (See Table 12).

Both groups of families rated "economic/finance" as the most frequently occurred stressor. However, the other five frequently occurred stressors were different between the two groups.

Specific Stressors

In the specific stressors part of the FS^3I, families were asked to identify those they considered as the most influential stressful situations for families. According to these identified specific stressors, the families was asked to answer the 12 questions.

The most frequently identified specific stressor by all 10 families was health condition of the identified patients. The other high frequency specific stressors were finance, staying in hospital for a long time, and fear of cancer recurring (see Table 13).

There were 12 question items in this part. Two of them asked the families to rate their family members' physical and mental conditions. When doing the calculation, these two question items were omitted. The mean and standard deviation of the other 10 items

Table 11

General Stressors Scores of Five Caucasian Families on the FS[3]I Part I

General stressors	N[a]	n[b]	M	SD
Economic/finances/budgets	5	14	2.857	1.351
Moving	2	5	2.800	1.789
Insufficient couple time	5	9	2.778	1.202
Children's behavior/discipline/sibling fighting	5	16	2.688	1.352
Health/illness	5	16	2.563	1.632
Holiday	5	14	2.357	1.393
Family member(s) feeling unappreciated	5	15	2.333	1.175
Guilt for not accomplishing more	5	13	2.231	1.092
Housekeeping standards	5	9	2.222	1.093
Spousal relationship	5	9	2.222	1.302
Insufficient family playtime	5	16	2.188	1.223
Insufficient "me" time	5	13	2.154	1.144
Communication with children	5	13	2.154	1.281
In-laws	5	8	2.000	1.195
Lack of shared responsibility in the family	5	12	2.083	1.240
Over scheduled family calendar	5	15	2.067	1.387

(table continues)

Table 11 (continued)

General stressors	N[a]	n[b]	M	SD
Teen behavior	3	11	2.091	1.044
Unhappiness with work situation	5	8	2.000	0.962
Perfectionism	5	15	1.933	0.961
Television	4	12	1.833	1.030
Dieting	4	10	1.800	1.135
Self-image/self-esteem/feelings of unattractiveness	5	14	1.500	0.760
Overvolunteerism	3	8	1.375	0.518
Neighbors	2	5	1.200	0.447
New baby	0	0	0	0

Note. The stressors were arranged by means from highest to lowest.

[a] The number of the families that considered the stressor applied. [b] Total participants in five Caucasian families were16; n is the number of the participants who considered the stressor applied.

Table 12

General Stressors Scores of Five Asian/Mixed Families on the FS[3]I Part I

General stressors	N[a]	n[b]	M	SD
Economic/finances/budgets	5	12	2.750	0.965
Over scheduled family calendar	5	12	2.750	1.485
Family member(s) feeling unappreciated	4	10	2.400	1.713
Teen behavior	2	3	2.333	1.528
Perfectionism	5	12	2.333	1.614
Self-image/self-esteem/feelings of unattractiveness	4	10	2.300	1.337
Insufficient family playtime	5	13	2.231	1.423
Guilt for not accomplishing more	5	13	2.231	1.423
Insufficient "me" time	5	12	2.167	1.115
Health/illness	5	13	2.077	1.188
Dieting	5	10	2.000	1.054
Moving	1	1	2.000	0.000
Overvolunteerism	2	6	2.000	1.673
Spousal relationship	5	11	1.909	1.375
Communication with children	5	9	2.000	1.323
Insufficient couple time	5	11	1.727	0.647

(table continues)

Table 12 (continued)

General stressors	N[a]	n[b]	M	SD
Lack of shared responsibility in the family	5	11	1.727	1.272
Housekeeping standards	5	10	1.700	1.494
Unhappiness with work situation	5	9	1.667	1.323
Holiday	5	10	1.600	0.966
Television	5	11	1.545	1.293
Neighbors	3	8	1.500	0.756
Children's behavior/discipline/sibling fighting	5	12	1.333	0.651
In-laws	4	4	1.000	0.000
New baby	0	0	0	0

Note. The stressors were arranged by means from highest to lowest.

[a] The number of the families that considered the stressor applied. [b] Total participants in five Asian/mixed families were 13; n is the number of the participants who considered the stressor applied.

Table 13

Specific Stressors Identified by Ten Families on the FS^3I Part II

Identified specific stressors	Number of participants	Percent
Health condition of the ill child	14	48.3
The fighting among family members or siblings	1	3.45
Communication with children	2	6.90
Finance	3	10.34
Ill child's reaction to chemotherapy	1	3.45
Staying in hospital for a long time	3	10.34
Help parents and ill siblings	2	6.90
Fears about recurrent cancer	2	6.90
Healthy children's welfare	1	3.45

Note. These specific stressors were written by the family members, and were considered more stressful when affecting their family life.

were calculated by adding up the scores of one item from all of the participants and then dividing by the number of participants. The 0, not apply, responses were omitted from the calculations (see Table 14). The scores ranged from 3.172 to 2.103. Mean scores and standard deviation of each item for two different ethnic groups were calculated (see Table 15, & 16). The scores of Caucasian families ranged from 3.813 to 1.938. The scores of Asian/mixed families ranged from 3.600 to 1.923.

Strengths

The mean and standard deviation of each item chosen from the strengths part was calculated by adding up the scores of one item from all of the participants and then dividing by the number of the participants. The 0, "not apply", responses were omitted from the calculations. After the calculations were completed, each item was arranged by its mean from high to low (See Table 17). The higher the mean of one item, the more frequently the strength was used. All 10 families rated "teaches a sense of right and wrong" as the most frequently used strength. The following five most frequently used strengths in the order were: "develops a sense of trust in member, displays a sense of play and humor, has a strong sense of family in which rituals and traditions abound, affirms and supports one another, and teaches respect for each other."

Caucasian families rated "teaches a sense of right and wrong" as the most frequently used strengths. The following five most frequently used strengths in the order were: "has a shared religious core, displays a sense of play and humor, has a strong sense

Table 14

Specific Stressors Scores of Ten Families on the FS^{3}I

Specific stressors	N[a]	n[b]	M	SD
Family bothered by the stressor	10	29	3.172	1.311
The stressor's affect on family's usually pattern of living	10	29	3.103	1.235
The stressor affects family's ability to work together as a unit	10	29	2.448	1.270
The family dealing with the stressor in the past	3	8	3.125	1.356
The stressor affects family's future	10	29	3.207	1.346
Family members able to help themselves in this stressor	10	29	3.276	1.360
Expecting others to help family with the stressor	10	29	3.414	1.240
Family overall function	10	29	2.448	0.985
Overall physical health status of the family	10	29	2.379	0.775
Overall mental health status of the family	10	29	2.103	0.900

Note. The items are displayed by the order in FS^{3}I. Two items which asked families to rate their family members' physical and mental conditions were omitted in this table.

[a] The number of the families that considered the stressor applied. [b] Total participants in 10 families were 29; n is the number of the participants who considered the stressor applied.

Table 15

Specific Stressors Scores of Five Caucasian Families on the FS[3]I Part II

Specific stressors	N[a]	n[b]	M	SD
Family bothered by the stressor	5	16	3.348	1.153
The stressor's affect on family's usually pattern of living	5	16	3.313	1.401
The stressor affects family's ability to work together as a unit	5	16	2.875	1.258
The family dealing with the stressor in the past	2	3	2.333	1.528
The stressor affects family's future	5	16	3.813	0.911
Family members able to help themselves in this stressor	5	16	2.875	1.455
Expecting others to help family with the stressor	5	16	3.375	1.360
Family overall function	5	16	2.250	1.000
Overall physical health status of the family	5	16	2.313	0.602
Overall mental health status of the family	5	16	1.938	0.998

Note. The items are displayed by the order in FS[3]I. Two items which asked families to rate their family members' physical and mental conditions were omitted in this table.

[a] The number of the families that considered the stressor applied. [b] Total participants in five Caucasian families were 16; n is the number of the participants who considered the stressor applied.

Table 16

Specific Stressors Scores of Asian/Mixed Families on the FS^{3}I

Specific stressors	N[a]	n[b]	M	SD
Family bothered by the stressor	5	13	2.846	1.463
The stressor's affect on family's usually pattern of living	5	13	2.846	0.978
The stressor affects family's ability to work together as a unit	5	13	1.923	1.115
The family dealing with the stressor in the past	5	5	3.600	1.140
The stressor affects family's future	5	13	2.462	1.450
Family members able to help themselves in this stressor	5	13	3.769	1.092
Expecting others to help family with the stressor	5	13	3.462	1.127
Family overall function	5	13	2.692	0.947
Overall physical health status of the family	5	13	2.462	0.967
Overall mental health status of the family	5	13	2.308	0.751

Note. The items are displayed by the order in FS^{3}I. Two items which asked families to rate their family members' physical and mental conditions were omitted in this table.

[a] The number of the families that considered the stressor applied. [b] Total participants in five Asain/mixed families were 13; n is the number of the participants who considered the stressor applied.

Table 17

Strength Scores of Ten Families on the FS[3]I Part III

Strengths	N[a]	n[b]	M	SD
Teaches a sense of right and wrong	10	29	4.310	0.761
Develops a sense of trust in members	10	29	4.034	0.981
Displays a sense of play and humor	10	29	3.966	0.865
Has a strong sense of family in which rituals and traditions abound	10	29	3.931	1.033
Affirms and supports one another	10	29	3.828	1.002
Teaches respect for others	10	29	3.793	1.048
Values service to others	10	29	3.655	1.045
Has a balance of interaction among members	10	29	3.690	0.850
Has a shared religious core	9	25	3.680	1.435
Exhibits a sense of shared responsibility	10	29	3.621	1.049
Respects the privacy of one another	10	29	3.552	1.121
Shared leisure time	10	29	3.552	1.152
Fosters family table time and conversation	10	29	3.276	1.386

(table continues)

Table 17 (continued)

Strengths	N[a]	n[b]	M	SD
Communicates with and listens to one another	10	29	3.517	1,214
Admits to and seeks help with problems	10	29	3.276	1.222
Family overall strength	10	29	3.897	0.772

Note. The strengths are arranged by means from highest to lowest.

[a] The number of the families that considered the stressor applied. [b] Total participants in 10 families were 29; n is the number of the participants who considered the stressor applied.

of family in which rituals and traditions abound, develops a sense of trust in member, and has a balance of interaction among members" (See Table 18).

Asian/mixed families rated "teaches respect for each other" as the most frequently used strength. The following five most frequently used strengths in order were: "develops a sense of trust in member, teaches a sense of right and wrong, affirms and supports one another, values service to others, and respects the privacy of one another" (See Table 19).

Both groups of families rated teaching a sense of right and wrong as a frequently used strength of families. The other highly rated strengths were different between two groups of families.

Differences Between Parents and Children

The participants were divided into two groups: one was the parents' group and the other the children's group. There were 18 participants in the parents' group, and 11 participants in the children's group. One single mother's boyfriend was included in the parents' group. The children's group included ill children and healthy siblings. Mean and standard deviation of each item in FS^3I were calculated for each group. T-tests were used to compare the difference between the two groups.

In the general stressor part, parents' total mean score was lower than children's. On the other hand, parents had nine items' mean scores which were higher than the children's (see Table 20). The nine general stressors were "family members feel unappreciated, self-image/self-esteem/feeling of unattractiveness, health/illness,

Table 18

Strength Scores of Five Caucasian Families on the FS[3]I Part III

Strengths	N[a]	n[b]	M	SD
Teaches a sense of right and wrong	5	16	4.438	0.629
Has a shared religious core	5	16	4.250	1.000
Displays a sense of play and humor	5	16	4.125	0.806
Has a strong sense of family in which rituals and traditions abound	5	16	4.063	0.929
Develops a sense of trust in members	5	16	3.938	1.124
Has a balance of interaction among members	5	16	3.750	0.775
Affirms and supports one another	5	16	3.625	1.204
Shared leisure time	5	16	3.625	1.258
Values service to others	5	16	3.563	1.031
Teaches respect for others	5	16	3.500	1.211
Exhibits a sense of shared responsibility	5	16	3.500	1.154
Communicates with and listens to one another	5	16	3.375	1.258
Admits to and seeks help with problems	5	16	3.375	1.147

(table continues)

Table 18 (continued)

Strengths	N[a]	n[b]	M	SD
Respects the privacy of one another	5	16	3.313	1.138
Fosters family table time and conversation	5	16	3.187	1.601
Family overall strength	5	16	4.000	0.861

Note. The strengths are arranged by means from highest to lowest.

[a] The number of the families that considered the stressor applied. [b] Total participants in five Caucasian families were 16; n is the number of the participants who considered the stressor applied.

Table 19

Strength Scores of Five Asian/Mixed Families on the FS[3]I Part III

Strengths	N[a]	n[b]	M	SD
Teaches respect for others	5	13	4.154	0.689
Develops a sense of trust in members	5	13	4.154	0.801
Teaches a sense of right and wrong	5	13	4.154	0.899
Affirms and supports one another	5	13	4.077	0.641
Values service to others	5	13	3.769	1.092
Respects the privacy of one another	5	13	3.846	1.068
Displays a sense of play and humor	5	13	3.769	0.927
Exhibits a sense of shared responsibility	5	13	3.769	0.927
Has a strong sense of family in which rituals and traditions abound	5	13	3.769	1.166
Communicates with and listens to one another	5	13	3.692	1.182
Has a balance of interaction among members	5	13	3.615	0.961
Shared leisure time	5	13	3.462	1.050
Fosters family table time and conversation	5	13	3.385	1.121

(table continues)

Table 19 (continued)

Strengths	N[a]	n[b]	M	SD
Admits to and seeks help with problems	5	13	3.154	1.345
Has a shared religious core	4	9	2.677	1.581
Family overall strength	5	13	3.769	0.725

Note. The strengths are arranged by means from highest to lowest.

[a] The number of the families that considered the stressor applied. [b] Total participants in five Asain/mixed families were 29; n is the number of the participants who considered the stressor applied.

Table 20

Differences Between General Stressor Scores of Parents and Children on the FS[3]I Part I

General stressors	Parents			Children			P
	n[a]	M	SD	n[b]	M	SD	
Family members feel unappreciated	15	2.733	1.438	10	1.800	1.135	0.48
Guilt for not accomplishing more	17	2.176	1.286	9	2.333	1.225	0.93
Insufficient "me" time	16	2.438	1.153	9	1.667	0.866	0.42
Self image/self esteem/feelings of unattractiveness	15	1.667	0.900	9	2.111	1.364	0.17
Perfectionism	17	2.000	1.225	10	2.300	1.418	0.58
Dieting	14	1.643	0.842	6	2.500	1.378	0.14
Health/illness	18	2.444	1.617	11	2.182	1.168	0.30
Communication with children	16	2.313	1.401	6	1.500	0.548	0.05*
Housekeeping standards	13	1.846	1.068	6	2.167	1.835	0.12
Insufficient couple time	18	2.167	1.098	2	2.500	0.707	0.94
Insufficient family play time	18	2.167	1.200	11	2.273	1.489	0.42
Children's behavior/discipline/ sibling fighting	18	2.167	1.339	10	2.000	1.247	0.86
Television	15	1.533	0.915	8	2.000	1.512	0.10
Over scheduled family calendar	18	2.056	1.392	9	3.000	1.414	0.90

(table continues)

Table 20 (continued)

General stressors	Parents			Children			P
	n[a]	M	SD	n[b]	M	SD	
Lack of shared responsibility in the family	16	1.750	1.125	7	2.286	1.496	0.35
Moving	4	2.500	1.915	2	3.000	1.414	0.97
Spousal relationship	18	2.167	1.339	2	1.000	0.000	0.001*
Holidays	14	2.071	1.385	10	2.000	1.155	0.59
In laws	10	1.700	1.160	2	1.500	0.707	0.89
Teen behaviors	8	2.125	1.126	6	2.167	1.169	0.89
New baby	0	0.000	0.000	0	0.000	0.000	0.00
Economics/finances/budgets	18	2.833	1.150	8	2.750	1.282	0.67
Unhappiness with work situation	12	1.500	0.674	5	2.600	.673	0.01*
Overvolunteerism	7	1.286	1.488	7	2.000	1.528	0.01*
Neighbors	9	1.222	0.441	4	1.750	0.957	0.07

Note. n is number of the participants who considered the stressors applied. [a] The total number of participating parents was 18. [b] The total number of participating children was 11.

* P< .05.

communication with children, children's behavior/discipline/sibling fighting, spousal relationship, holidays, in-laws, and economics/finances/budgets." Four general stressor items had significant differences in two groups. They were "communication with children, unhappiness with work situation, overvolunteerism, and neighbor."

In the specific stressor part, the most frequently identified specific stressor for children was health condition of ill children. This specific stressor also was the most frequently identified by the parents (see Table 21).

The parents' total mean score was lower than the children's. On the other hand, parents had five items' mean scores higher than children (see Table 22). The five specific stressor items were "family bothered by stressor, stressor's effect on family's usual pattern of living, stressor's affect on family's ability to work together as a family unit, stressor's effect family's future, and overall family health status."

In the strength part, parents' total mean scores were higher mean scores than children's. On the other hand, parents had twelve items' mean scores higher than children (see Table 23). The four strengths in which children's mean score was higher than parents' mean score were "displays a sense of play and humor, exhibits a sense of shared responsibility, teaches a sense of right and wrong, has a sense of family in which rituals and traditions abound, and family overall strengths. There were significant differences in the five strengths. These five strengths were affirms and supports one another, teaches respect for others, develops a sense of trust in members, has a balance

Table 21

Specific Stressors Identified by Parents and Children on FS[3]I Part II

Identified specific stressors	Parents	Children
	n[a]	n[b]
Health condition of the ill child	8	6
The fighting among family members or siblings	0	1
Communication with children	2	0
Finances	1	2
Ill child's reaction to chemotherapy	1	0
Staying in hospital for a long time	2	1
Helping parents and ill sibling	0	2
Fears about recurrent illness	1	1
Healthy children's welfare	1	0

Note. These stressors were considered more stressful when affecting their family life.

[a] The total number of participating parents was 18. [b] The total number of participating children was 11. These specific stressors were written by the family members.

Table 22

Differences between Specific Stressor Scores of Parents and Children on the FS[3]I

Specific stressors	Parents			Children			P
	n[a]	M	SD	n[b]	M	SD	
Family bothered by the stressor	18	3.333	1.414	11	2.909	1.136	0.49
The stressor's affect on family's usually pattern of living	18	3.333	1.188	11	2.727	1.272	0.77
The stressor affects on family's ability to work together as a unit	18	2.611	1.461	11	2.182	0.874	0.10
The family was dealing with the stressor in the past	4	2.750	1.500	4	3.500	1.291	0.81
The stressor affects family's future	18	3.333	1.283	11	3.000	1.483	0.58
Family members able to help themselves in this stressor	18	3.056	1.305	11	3.636	1.433	0.70
Expecting others to help family with the stressor	18	3.222	1.215	11	3727	1.272	0.83
Family's overall function	18	3.333	0.970	11	2.636	1.027	0.80

(table continues)

Table 22 (continued)

Specific stressors	Parents			Children			P
	n[a]	M	SD	n[b]	M	SD	
Overall physical health status	18	2.444	0.705	11	2.273	0.905	0.35
Overall mental health status	18	2.000	0.840	11	2.273	1.009	0.49

Note. n is number of the participants who considered the stressors applied. [a] The total number of participating parents was 18. [b] The total number of participating children was 11.

Table 23

Differences Between Strength Scores of Parents and Children on the FS[3]I

Strengths	Parents			Children			P
	n[a]	M	SD	n[b]	M	SD	
Communicates and listens to one another	18	3.833	1.098	11	3.000	1.265	0.58
Affirms and supports one another	18	4.056	0.639	11	3.455	1.368	0.01*
Teaches respect for others	18	4.000	0.767	11	3.455	1.368	0.03*
Develops a sense of trust in members	18	4.278	0.669	11	3.636	1.286	0.02*
Displays a sense of play and humor	18	3.833	0.985	11	4.182	0.603	0.12
Exhibits a sense of shared responsibility	18	3.778	0.943	11	3.364	1.206	0.36
Teaches a sense of right and wrong	18	4.222	0.732	11	4.455	0.820	0.65
Has a strong sense of family in which rituals and traditions abound	18	3.833	1.043	11	4.091	1.044	0.96
Has a balance of interaction among members	18	3.833	0.618	11	3.455	1.128	0.03
Has a shared religious core	16	3.938	1.237	9	3.222	1.716	0.26
Respects the privacy of one another	18	3.667	0.907	11	3.364	1.433	0.09
Values service to others	18	3.889	0.583	11	3.273	1.489	0.001*

(table continues)

Table 23 (continued)

Strengths	Parents			Children			P
	n[a]	M	SD	n[b]	M	SD	
Fosters family table time and conversation	18	3.444	1.199	11	3.000	1.673	0.22
Shares leisure time	18	3.833	0.924	11	3.091	1.375	0.14
Admits to and seeks help with problems	18	3.444	1.097	11	3.000	1.414	0.34
Family overall strengths	18	3.889	0.676	11	3.909	0.944	0.22

Note. n is number of the participants who considered the strengths applied. [a] The total number of participating parents was 18. [b] The total number of participating children was 11.

* P< .05

interaction among members, and values services to others. In summary, the parents viewed that the families have lower stressors, higher strengths.

Difference Between Fathers and Mothers

The mean score of each item was calculated for the fathers and mothers. The mothers' group included two single mothers. One of the mother from an Asian family did not participate in this study due to the language barrier. The fathers included one single mother's boyfriend. There were nine fathers and nine mothers. T-tests were used to compare the difference between the fathers and the mothers.

In the general stressors part, the fathers' total mean score was lower than the mothers'. On the other hand, the fathers had two general stressor items' mean scores higher than the mothers' (see Table 24). These two stressors were "insufficient 'me' time, and unhappiness with work situation." Only one general stressor, lack of shared responsibility in the family, had a significant difference.

In the specific stressors part, the specific stressors most frequently identified by the fathers and mothers was health condition of the ill children (see Table 25). The fathers' total mean score was higher than the mothers'. The mothers had three specific stressor items mean scores higher than the father's mean score (see Table 26). These three items were the stressor effect on family's usual pattern of living, family successful in dealing with the stressor, and the stressor's affect family's future. There was a significant difference in the item "overall physical health status" between fathers and mothers.

Table 24

Differences Between General Stressor Scores of Fathers and Mothers on the FS^{3}I

General stressors	Father			Mother			P
	n[a]	M	SD	n[b]	M	SD	
Family members feel unappreciated	8	2.375	1.302	7	3.143	1.574	0.63
Guilt for not accomplishing more	9	1.889	1.167	8	2.500	1.414	0.60
Insufficient "me" time	8	2.500	1.195	8	2.375	1.188	0.99
Self image/self esteem/feelings of unattractiveness	8	1.500	0.756	7	1.857	1.069	0.39
Perfectionism	8	1.875	1.126	9	2.111	1.364	0.62
Dieting	7	1.286	0.488	7	2.000	1.000	0.10
Health/illness	9	2.333	1.323	9	2.556	1.944	0.30
Communication with children	8	2.125	1.126	8	2.500	1.690	0.31
Housekeeping standards	6	1.833	1.329	7	1.857	0.900	0.37
Insufficient couple time	9	2.111	1.054	9	2.222	1.202	0.72
Insufficient family play time	9	1.889	0.928	9	2.444	1.424	0.25
Children's behavior/discipline/ sibling fighting	9	1.556	0.916	9	2.778	1.481	0.16
Television	8	1.250	0.707	7	1.857	1.069	0.30
Over scheduled family calendar	9	1.778	1.202	9	2.333	1.581	0.45

(table continues)

Table 24 (continued)

General stressors	Father			Mother			P
	n[a]	M	SD	n[b]	M	SD	
Lack of shared responsibility in the family	8	1.250	0.463	8	2.250	1.389	0.01*
Moving	2	2.000	1.414	2	3.000	2.828	0.59
Spousal relationship	9	2.000	1.500	9	2.333	1.225	0.58
Holidays	6	1.667	0.816	8	2.375	1.685	0.13
In laws	6	1.667	1.033	4	1.750	1.500	0.43
Teen behaviors	4	2.000	1.414	4	2.250	0.957	0.54
New baby	0	0.000	0.000	0	0.000	0.000	0
Economics/finances/budgets	9	2.778	0.833	9	2.889	1.453	0.14
Unhappiness with work situation	7	1.286	0.448	5	1.800	0.837	0.23
Overvolunteerism	3	1.000	0.000	4	1.500	0.577	0.20
Neighbors	5	1.200	0.447	4	1.250	0.500	0.81

Note. n is number of the participants who considered the stressors applied. [a] The total number of participating fathers was nine. The fathers included eight biological fathers and one boyfriend of a single mother. [b] The total number of participating mothers was nine. One Asian mother could not speak English, and did not participated in this study.

* $p < .05$

Table 25

Specific Stressor Identified by Fathers and Mothers on FS[3]I Part II

Identified specific stressors	Fathers	Mothers
	n[a]	n[b]
Health condition of the ill child	4	4
The fighting among family members or siblings	0	0
Communication with children	1	1
Finances	1	0
Ill child's reaction to chemotherapy	0	1
Staying in hospital for a long time	1	1
Helping parents and ill sibling	0	0
fears about recurrent	1	0
Healthy children's welfare	0	1

Note. These specific stressors were written by the family members. These stressors were considered more stressful when affecting their family life.

[a] The total number of participating fathers was nine. The fathers included eight biological fathers and one boyfriend of a single mother. [b] The total number of participating mothers was nine. One Asian mother could not speak English, and did not participated in this study.

Table 26

Differences Between Specific Stressor Scores of Fathers and Mothers on the FS[3]I

Specific stressors	Father			Mother			P
	n[a]	M	SD	n[b]	M	SD	
Family bothered by the stressor	9	3.333	1.225	9	3.333	1.658	0.41
The stressor's affect on family's usually pattern of living	9	3.222	1.093	9	3.444	1.333	0.59
The stressor affects family's ability to work together as a unit	9	2.778	1.093	9	2.444	1.810	0.17
The family was dealing with the stressor in the past	3	2.333	1.528	1	4.000	0.000	0.44
The stressor affects family's future	9	3.222	1.093	9	3.444	1.509	0.38
Family members able to help themselves in this stressor	9	3.111	1.167	9	3.000	1.500	0.49
Expecting others to help family with the stressor	9	3.556	1.014	9	2.889	1.364	0.42
Family overall function	9	2.444	0.882	9	2.222	1.093	0.56

(table continues)

Table 26 (continued)

Specific stressors	Father			Mother			P
	n[a]	M	SD	n[a]	M	SD	
Overall physical health status	9	2.667	0.866	9	2.222	0.441	0.01*
Overall mental health status	9	2.000	0.866	9	2.000	0.866	1.00

Note. n is number of the participants who considered the stressors applied. [a] The total number of participating fathers was nine. The fathers included eight biological fathers and one boyfriend of a single mother. [b] The total number of participating mothers was nine. One Asian mother could not speak English, and did not participate in this study.

$p < .05$

In the strengths part, the fathers' total mean score was higher than the mothers'. The fathers had three strength items' mean scores higher than the mothers' (see Table 27). These three strengths were: "respects the privacy of one another, values service to others, and fosters family table time and conversation. There was no significant difference between fathers and mothers in strengths.

Semi-structured Interview

The interview questions were guided by the semi-structure interviewed guide. These questions specifically address the concerns of stressful situations, abilities, and resources related to cancer.

Problems and Stressful Situations of the Families

The semi-structured interview question was: After one of the children in your family was diagnosed with cancer, what were the problems and stressful situations associated with cancer your family experienced?

The problems and stressful situations identified by the families with childhood cancer were different depending on the subjective and objective conditions in each family. However, financial difficulty was the most outstanding problems in all 10 families, especially the large amount of medical expense which caused a heavy burden to the families. The second most frequently occurring problem was not having enough time to do routine work. One of the fathers described "Everyone focused on the ill child. The ill child's things were more important than anything else. When anything happened to the ill child, you just stopped the regular things in order to deal with the situation." The other

Table 27

Differences Between Strength Scores of Fathers and Mothers on the FS[3]I

Strengths	Father			Mother			P
	n[a]	M	SD	n[b]	M	SD	
Communicates and listens to one another	9	3.444	1.236	9	4.222	0.833	0.29
Affirms and supports one another	9	3.889	0.601	9	4.222	0.667	0.78
Teaches respect for others	9	3.778	0.667	9	4.222	0.833	0.54
Develops a sense of trust in members	9	4.000	0.500	9	4.556	0.726	0.31
Displays a sense of play and humor	9	3.556	1.130	9	4.111	0.782	0.32
Exhibits a sense of shared responsibility	9	3.444	0.882	9	4.111	0.928	0.89
Teaches a sense of right and wrong	9	4.000	0.707	9	4.444	0.726	0.94
Has a strong sense of family in which rituals and traditions abound	9	3.222	0.972	9	4.444	0.726	0.43
Has a balance of interaction among members	9	3.667	0.707	9	4.000	0.500	0.35
Has a shared religious core	8	3.750	1.035	8	4.125	1.456	0.39
Respects the privacy of one another	9	3.778	0.833	9	3.556	1.014	0.59
Values service to others	9	3.889	0.601	9	3.889	0.601	1.00
Fosters family table time and conversation	9	3.444	0.882	9	3.444	1.509	0.15
Shares leisure time	9	3.667	0.866	9	4.000	1.000	0.69

(table continues)

Table 27 (continued)

Strengths	Father			Mother			P
	n[a]	M	SD	n[b]	M	SD	
Admits to and seeks help with problems	9	2.889	0.928	9	4.000	1.000	0.84
Family overall strengths	9	3.778	0.667	9	4.000	0.707	0.87

Note. n is number of the participants who considered the strengths applied. [a] The total number of participating fathers was nine. The fathers included eight biological fathers and one boyfriend of a single mother. [b] The total number of participating mothers was nine. One Asian mother could not speak English, and did not participated in this study.

frequently happening problems were: unstable health condition of the ill child, child's response to the chemotherapy, and staying in hospital for a long time.

Caucasian families mentioned that the financial difficulty was the most frequently occurring problem. They also mentioned unstable children's health conditions as the second most frequently occurring problem. The other problems in the order of their frequency of occurrence were: not having enough time to do routine works, fear that the ill child may die or the cancer may reoccur, and decreasing school activities or worse academic performance of healthy children.

Asian/mixed families also mentioned financial difficulty as their most frequently occurring problem. They mentioned language barriers and staying in the hospital for a long time as the next most frequently occurring problems. The following problems in the order of their occurrence were: not having enough time to do routine work, fear that the ill child may die or cancer recurrent, ill child's reaction to the chemotherapy, health condition of the ill child, and did not know how to take care of child appropriately.

Abilities and Resources of the Families

The semistructured question was: What were your family's abilities and resources that had been used to solve the problems and deal with the stressful situations after the child in your family was diagnosed with cancer?

All 10 families considered supporting another family members as their most used family ability and resource. The other five highest mentioned abilities and resources in order of priority were: family members working together for the stressful situation, loving

and caring of other family members, believing in God, having a positive attitude or humor, treating ill children as the same, and maintaining normal family life routines.

Caucasian families identified their most frequently used family abilities and resources in order of priority: supporting each family member, family members working together in stressful situations, faith in God, loving and caring each other, having positive attitude and humor, and talking and listening to each other. Asian/mixed families identified their frequently used family strengths in order as: supporting each family member, loving and caring each other, recognizing realities and doing what need to be done, treating children as the same, and working together.

Caucasian families considered more frequently their faith and religion, having positive attitudes and humor, and talking and listening to each other as their strengths. On the other hand, Asian/mixed families considered more frequently that recognizing realities and doing what needed to be done, and treating children as normal as their strengths.

CHAPTER 6

Discussion and Conclusion

This chapter discusses the findings of family stressors and family strengths as well as the supports obtained from outside communities. The conceptual framework will be discussed also. The conclusion will follow.

Discussion

This section will describe the research questions and discuss the findings of this study. The relationship between conceptual framework and findings will also be discussed in this section.

Family Stressors

One of the research question was: What were the stressors of the families perceived after their children were diagnosed with cancer? The two parts of the FS^3I included general stressors and specific stressors used to identify the stressors which affected the families. The semistructured interview question was to identify the stressors more specific to the cancer related stressors. The specific stressors identified by the families in the FS^3I included the stressors associated with cancer and the stressors associated with daily family life. In addition, the stressors identified in prior research also separated the stressors which were related to cancer or were not related to cancer. Therefore, the stressors identified in this study were separated into cancer related stressors and daily family life stressors. The cancer related stressors included the stressors identified by the families in the semistructured interview and specific stressors

in the FS^3I. The daily family life stressors include the stressors identified in the general stressors and specific stressors of the FS^3I.

Each family had different stressors due to each family's particular background. However, financial problems were the most frequently mentioned stressor either in daily family life stressors or cancer related stressors. Two Asian families and two Caucasian families did not have insurance to cover their children's medical expenses. As a result, paying the money to the hospital became a heavy burden for them. In addition, when their children were diagnosed, one Caucasian mother quit her job, one Asian mother changed her full time work to part time work. The decreasing family income worsened the situation. Some literature also revealed that treatment expense was a stressor for the families with childhood cancer (Thoma , Hockenberry-Eaton & Kemp, 1993; Martinson, 1989; Chen, Martinson, Chao, Lai & Gau, 1994; Martinson & Liang, 1992). This also can be shown in the prior research conducted in China and Taiwan that families had problems when insurance could not cover the medical expenses, or the insurance coverage did not include the cancer treatment. A study conducted in Korea also had the same findings (Martinson, Kim, Yang, Cho, Lee, & Lee, 1995). In addition, there was a study which explored that long distances between home and hospital can cause a financial burden (Aitken & Hathaway, 1993).

This study's finding showed that time was a big stressor for families either in general or cancer related stressors. The identified cancer related stressors which related to the time stressor were: not having enough time to do routine work, and staying in the

hospital for a long period of time. The identified general stressors which were related to time stressors were: over scheduled family calendar, insufficient couple time, and insufficient family play time. However, time did not show as a stressor in the cancer literature. There may need to be more study on the time stressor. One example was a description of a father from family G "Over scheduled family calendar. No, I did not over schedule my calendar. When my daughter needed me, I just canceled all of the things on my calendar."

When the findings of this study were compared to the cancer literature, the cancer related stressors identified in this study were similar to the stressors identified in the cancer literature. The identified stressors related to cancer in this study were: unstable health condition of ill children, fear of the cancer's recurrence or the child may die, child's reaction to chemotherapy, and not knowing the appropriate way of taking care of the ill child. The cancer related stressors revealed by prior research were physical conditions of ill child (Cayse, 1994; Chesler & Barbarin, 1987), and child's reaction to treatment (Chesler & Barbarin, 1987). These stressors were mentioned in this study for Caucasian families and Asian/mixed families. However, the Asian families mentioned more the stressor, not knowing the appropriate ways of taking care of the ill child, than the Caucasian families did. Prior research conducted on Chinese families (Chen, Martinson, Chao, Lai & Gau, 1994, Martinson, 1989; Martinson, et al. ,1982; Martinson & Liang, 1992; Wong & Martinson, 1982), also found that Chinese families lacked

information about disease and the appropriate ways of taking care of their children. It is important to explore the causes of the stressor as it may go beyond language barrier.

The daily family life stressors identified by the families in this study were similar to the none cancer stressors found in prior cancer research. These stressors also were similar to other family research concerned with childrearing families. The daily family life stressors identified in this study were: teen behaviors, children's behavior/discipline/siblings fighting, decreasing school activities and worse academic performance of healthy siblings. These stressors were similar to the stressor, inappropriate healthy siblings behaviors, which was revealed in prior cancer research (Fife, Norton & Groom, 1987; Schuler, et al. , 1985; Thoma, Hockenberry-Eaton & Kemp, 1993). These stressors were also similar to the stressors which occurred in the childrearing family life stage (Olson, 1983). A daily family life stressor, spousal relationship, was related to the strained relationships between family members (Schuler, et al. , 1985). The daily family life stressors, insufficient couple time and spousal relationship, were related to marital distress (Dahlquist, et al. , 1993; Fife, Norton & Groom, 1987; Thoma, Hockenberry-Eaton & Kemp, 1993). The family daily life stressors can be viewed the same as the stressors not related to cancer which affect normal family life. This means that the families with childhood cancer also have stressors of every day family life.

This study showed that the cancer related stressors were similar between two different ethnic groups. However, the stressors related to daily family life stressors were

different between the two ethnic family groups. The stressors identified by Caucasian families not only focused on the sick children, but also related to the healthy children. The Caucasian families were concerned about the healthy siblings' feelings, academic performance, and decreasing activities. In contrast, Asian/mixed families focused more on the ill children. The reason could be that Asian families perceived cancer as a life threatening illness (Chen, Martinson, Chao, Lai & Gau, 1994, Martinson & Liang, 1992). Therefore, the Asian families paid more attention to the sick children. Also, Caucasian families had more available resources than Asian/mixed families did. Therefore, the Caucasian parents might have more energy to pay attention to the healthy siblings.

The general stressor items of the FS^3I were adapted from Curran's (1985) survey on searching common stresses in the family. Curran's survey was conducted based on 169 couples, 239 married women, and 42 single mothers. Compared to the top 10 stressors ranked by the total group in Curran's survey, this study finding had six identical stressors (see Table 28). These stressors were: economics/finances/budgets, over scheduled family calendar, guilt for not accomplishing more, insufficient family play time, insufficient couple time, and children's behavior/discipline/sibling's fighting. However, the ranking order of the stressors were different between Curren's survey and this study. This can be explained in several ways. First, Curran's survey was conducted on parents only, while this study included ill children and their healthy siblings. Second, the children might have different perceptions than the parents about the family stressors. Third, the families in this study had the major stressors of children diagnosed with

Table 28

Differences in Rankings Between Curran's and this study in Family General Stressors

Rankings in Curran's survey	Rankings in this study finding
Economic/finances/budgeting	Economic/finances/budgeting
Children's behavior/discipline/sibling fighting	Moving
Insufficient couple time	Over scheduled family calendar
Lake of shared responsibility in the family	Family member(s) feeling unappreciated
Communication with children	Health/illness
Insufficient "me" time	Teen behavior
Guilt for not accomplishing more	Guilt for not accomplishing more
Spousal relationship	Insufficient family playtime
Insufficient family playtime	Insufficient couple time
Over scheduled family calendar	Insufficient "me" time

Note. The rank order of the stressors in the two studies is from higher to lower score.

cancer. The other stressors might be related to or caused by this major stressor. This study indicated that when families encounter the illness-related stressors, they experienced a series ofchanges related to the illness. These changes might also cause stressors for families. Therefore, the families in this study not only had the stressors from everyday life, but also the stressors associated with cancer.

Family Strengths

Another research question of this study was: What were the family's strengths after their children were diagnosed with cancer. Family strengths were defined as the resources and the abilities which were used by families to solve the problems and deal with the stressors. This study intended to identify the abilities and resources which the families used to deal with their stressors. The strength part of the FS^3I and the semistructured interview question was used to obtain the answers. The findings of the strength part of the FS^3I and semistructured interview were similar. Thus, in this section, the strengths either identified in the FS^3I or the semistructured interview were combined for the discussion.

The cancer literature did not explore family strengths of families with childhood cancer. Most of the prior cancer research discussed the coping strategies, or social supports of families. Compared to prior research, this study's findings showed some identified family strengths which were similar to some of the family coping strategies. These similar family strengths were: sharing religion, working together, having positive manner, supporting each other, loving and caring for each other, and treating children as normal. Family coping is a complex process of adjustment and adaptation. Coping strategies were

used to control the stressful situation and assist the family coping process (Mealey, Richardson, Dimico, 1996). For example, being optimistic was revealed as a coping strategy in the prior cancer research (Kupst, et al., 1982). Families could deal with stressors by using this coping strategies. In this study, families also identified positive attitude as a family strength which was used to deal with the stressors. Therefore, both coping and strengths were the mediators of stressors. Therefore, coping can be viewed as the ability of the families to deal with stressors.

Communication was mentioned as an important family strength by several family researchers (Stinnet, 1979; Curran, 1983; Olson, McCubbin, 1983). This study showed that the sample families did not choose communication as a frequently used family strength. Only two Caucasian families mentioned talking and listening to each other as their family strength. In addition, the mean scores for the two communication related strengths items, communicates with and listens to one another and fosters family table time and conversation were very low. Did that mean that there was less family communication among family members? Or family members viewed communication as a family process rather than as a family strengths? This question needs to be clarified and is not included in this study.

There were some identified family strengths which were similar in both ethnic groups. These strengths were: teaches respect for others, teaches a sense of right and wrong, develops a sense of trust in members, affirms and supports one another, respects the privacy of one another, and has a strong sense of family in which rituals and

traditions abound. Most of the family strengths are related to building family rules or educating children. All 10 families were in the childrearing stage. The important tasks in this stage were: setting up the family rules, meeting every family member's needs, and educating the children to meet the social needs. The families built up the abilities and resources to meet the tasks when they entered into the childrearing stage. A child being diagnosed with cancer can be viewed as an event which can cause a significant amount of stresses for these families. The families had to adjust to deal with the stressful events. In addition, the families still had to meet the needs of every family member, including the sick children. During the adaptation, families had to adjust their abilities and resources to meet the ill children's needs, as well as the needs of the other family members. If the families still could meet their family members' needs, the families thought they could maintain their family functions. Therefore, as perceived by the families the abilities that could maintain the family's functions was family strengths.

The family strength items of FS^3I were adapted from Curran's 20 family traits (1983). The Curran's survey of searching family strengths was conducted based on 500 professionals who worked with families. The rank order of strengths in Curran's study was different from the findings of this study (see Table 29). The differences between Curran's survey and this study might be caused by three reasons. First, the family strengths identified in Curran's survey were from family professionals' perspective. The family professionals identified the traits of well-functioning families according to their experiences working with families. This study identified the family strengths from the family's perspective. The family members and professionals might perceive the family

Table 29

Difference in Ranking Between Curran's and This study in Family Strength

Rankings in Curran's survey	Rankings in this study finding
Communicates with and listens to one another	Teaches a sense of right and wrong
Affirms and supports one another	Develops a sense of trust in members
Teaches respect for others	Displays a sense of play and humor
Develops a sense of trust in members	Has a strong sense of family in which rituals and traditions abound
Has a sense of play and humor	Affirms and supports one another
Has a sense of shared responsibility	Teaches respect for others
Teaches a sense of right and wrong	Values service to others
Has a strong sense of family in which rituals and traditions abound	Has a balance of interaction among members
Has a balance of interaction among members	Has a shared religious core
Has a shared religious core	Exhibits a sense of shared responsibility
Respects the privacy of one another	Respects the privacy of one another
Values service to others	Shared leisure time
Fosters family table time and conversation	Fosters family table time and conversation
Shars leisure time	Communicates with and listens to one another
Admits to and seeks help with problems	Admits to and seeks help with problems

Note. The rank order of the strengths in two studies is from higher to lower score.

strengths differently. Second, the families in Curran's survey were in normal situations. The families only had stressors in their everyday life. Whereas, the families in this study had cancer related stressors as well as their everyday life stressors. Thus, the problemsand stressors of these sample families were different from the families in Curran's survey. The abilities and resources used to deal with the stressors were also different in the two studies. Third, the families in this study were in the childrearing life cycle stage. The families that the family professionals worked with were not defined. Since families have different tasks in different stages, their resources and abilities might be different. This helps explain that the ranks of the family strengths were different.

Family Community Resources

Family strengths were defined as the abilities and resources which were used by families to solve the problems and cope with stressors. The families in this study used their own abilities and resources to deal with the stressors. They also sought supports from their communities. Therefore, the supports from the communities could be viewed as the resources outside of families. The resources within the families were discussed in the previous section: family strengths and family functions. The resources outside of the families will be discussed in this section. In addition, the relationship between social support and the assistance received from family's communities will be discussed.

The sample families of this study obtained most of their assistance from their friends and extended families. Caucasian families mostly obtained assistance from their friends and extended families. On the other hand, the Asian/mixed families obtained their assistance

from their friends and health care professionals. Assistance was interpreted as taking care of children, preparing food, and providing emotional support.

Social support included emotional, instrumental (tangible), and informational functions, which can be received from family members, friends, peers, and health care providers (Stewart, 1993). A social network was referred to the communities of the families such as friends, extended families, colleagues, neighbors, and schools. The size or extent of the social network was an indication of the available degree of social support.

Compared to the social support literature, the communities outside the families such as friends and neighbors could be viewed as the family social network which give assistance to the families. The assistance obtained from the communities could be viewed as the social support to the families. The larger the family social network, the more social support the families obtained.

The size and extent of the social network might be related to the availability of the social support (Roth, 1996). The results of this study showed that the smaller the social network, the less support the families obtained. Asian families had fewer resources than Caucasian families did. Each Asian family might have only one or two resources from outside the family to help them cope with stressful situations. The Asian families did not seem to have many interactions within their society. The major reason might be the language barriers. The other reason may be that they spend many hours working to increase their income just to maintain their basic needs and to pay medical expenses.

Most of their friends were from their country of origin. They did not have many interactions with neighbors. They had their own religious belief, and did not attend church. Due to these reasons, their communication with the society was limited as well as the resources they might have used. In contrast, the extended families of the Caucasian families lived nearby which made it easier and more convenient for them to obtain support. In addition, they went to church regularly, interacted with neighbors frequently and joined more community activities. This extended their social network and made additional social support available.

Friends and extended families were the most frequently used social support resources. The investigator hypothesized that Asian families would receive more support and assistance from their extended families than Caucasian families would. However, in this study, Asian families did not frequently seek their extended families as resources. There may be two reasons. First, two pairs of Asian parents and one Asian mother from one mixed family were first generation immigrants. Their extended families were in their country of origin. It is hard to get support across such a long distance. Second, the extended families of one Asian family and one mixed family lived in the United States. However, these extended families had to work hard to support themselves. Therefore, the Asian sample families were hesitant to ask for their assistance.

For all 10 families, the assistance the families obtained for social support resources was mostly instrumental support such as taking care of children, cleaning the house, and preparing food. The next most frequently obtained support was emotional

support such as comforting phone calls, visiting, and sending cards. Informational support was less sought. Only Asian families reported getting informational support from health care professionals. Most of the assistance obtained from communities helped families maintain their family functions. For instance, the instrumental assistance such as taking care of the children, cleaning the house, and preparing food are considered as family health care functions. The emotional support is a family affective function. Therefore, the support obtained from the family communities can help the families maintain their family functions and protect the family core.

Theoretical Expansion of the Model

Family system was described as the core surrounded by protective concentric rings in the Family Assessment Intervention Model (see Figure 2). The family core included three essential ingredients: family functions, structures and processes. In this model, family strengths are represented by the concentric circles surrounding the family core. When stressors impinge on the family system, these circles which were considered as family strengths protect the basic family core against stressors and help maintain the stability of entire family system. In this study, only family functions were discussed. In essence, if normal family functions are affected by stressors, family strengths provide protection in maintaining the continuum of normal family life. Therefore, families need to have the ability to protect their core in order to meet their seven basic family functions: affective, socialization and social placement, reproductive, economic, health care, religion (cultural), and relationship. These seven family functions are important, and also are

vulnerable during times of illness and other stressors. When the stressors are more potent than the family strengths, the family functions may be affected or damaged. When the essential part of the family core is threatened, the essence of the family may be torn apart.

Family Stressors and Family Functions

Family stressors included all forces which either do or could produce instability within the family system. For the family sample of this study, the stressors might arise from the illness, or the family everyday life. The stressors arising from illness were the identified stressors which were related to cancer. The stressors arising from everyday family life were the identified general stressors.

The questions in the semistructured interview guide asked families to identify their problems and stressful situations related to cancer after their children were diagnosed. These cancer related problems and stressful situations were considered as stressors for the families. The cancer related problems and stressful situations had the potential to cause instability in the families. In addition, these cancer related problems and stressful situations affected family functioning. On the other hand, families were asked to identify their general stressors which created stress to the families in their normal life in the FS^3I. They also were asked to identify their specific stressors which were the specific situations that influenced their families' lives. Family functions also could be affected by these identified general stressors and specific stressors.

The cancer related problems and stressful situations identified by families were financial, not having enough time to do routine work, unstable health condition of the ill children, children's response to the chemotherapy, and staying in hospital for a long period of time. The general stressors identified in FS^3I were: economic, moving, over scheduled family calendar, family members feeling unappreciated, health/illness, and teen behavior. The specific stressors identified in FS^3I were: health condition of the ill children, finance, staying in the hospital, communication with children, fears about cancer recurring, and giving help to parents and ill siblings. All of the identified stressors and problems which could be categorized into the cancer related stressors in this study were: finance, not having enough time to do routine work, unstable health condition of the ill children, children's response to the chemotherapy, and staying in the hospital for a long time, health/illness, fears about cancer recurring, and giving help to parents and ill siblings. All of the identified stressors and problems which could be categorized into daily life stressors were: financial, not having enough time to do routine work, moving, over scheduled family calendar, family members feeling unappreciated, and teen behaviors. In conclusion, this study found that the families with childhood cancer were not only disturbed by the stressors related to illness, but the stressors in families' daily life.

The identified cancer related stressors were also associated with the family functions. For example, financial difficulty was related to family economic function. The concern about the unstable health condition of the ill children, and children's response to

the chemotherapy were related to the family health care function. The general stressors listed in FS^{3}I were also related to family functions (see Table 30). In addition, some of the specific stressors identified in this study related to family functions. For example, the specific stressors, health conditions of the children, was related to health care function. The model assumed that stressors affected the family core. Furthermore, one of the core components, family functions, also could be affected by the stressors. This study's findings revealed that family functions were affected by both of the cancer related stressors and family daily life stressors. For instance, when the families had financial difficulties paying the medical expanses, the families could not provide enough health care resources for their sick family members. Another example was the families reported difficulty communicating with children. This would influence the family education and socialization functions. In conclusion, when families encountered either the cancer stressors or daily life stressors, the related family functions could be affected.

The family functions can be affected by the cancer related stressors and family daily life stressors. Family functions are the essential part of the family core. Therefore, if the family functions were affected by the stressors, the family core was also threaten by the stressors.

Family Strengths and Family Functions

Family strengths were defined as the abilities and resources which were used by families to solve the problems and cope with stressors. The interview questions asked families to identify their family abilities and resources which were used to solve the

Table 30

Relationship Between Family Functions and Family Stressors Listed in FS[3]I

Family functions	General stressors
Affective	Family members feel unappreciated
	Holiday
Socialization	Self-image/self-esteem/feelings of unattractive
	Perfectionism
	Communication with children
	Housekeeping standard
	Children's behavior/discipline/sibling fighting
	Television
	Lack of shared responsibility in the family
	Teen behaviors
Reproductive	New baby
Economic	Economic/finance/budgets
Health care	Dieting
	Health/illness
	Moving
Religion	--[a]

Table 30 (continued)

Family functions	General stressors
Relationship	Guilt for not accomplishing more
	Insufficient couple time
	Insufficient family playtime
	Spousal relationship
	In-laws
Others	Insufficient me time
	Over scheduled family calendar
	Unhappiness with work situation
	Overvolunteerism
	Neighbors

Note. The family stressors were displayed in the order of matching to their related family functions. [a] This symbol means that there is no family stressor item that can match this family function.

problems and deal with the stressful situations after their children were diagnosed with cancer. These abilities and resources were viewed as family strengths by the investigator. The families also were asked to identify the family strengths which contributed to dealing with some aspects of family life. These identified family strengths were assumed to help maintain the stability of the family system during the time the stressors were impinging on the family system. Moreover, family functions were protected by the identified family strengths. If the family strengths could not resist the stressors, the family core and family functions could be damaged.

The family strengths identified by 10 families in FS^3I were: teaches a sense of right and wrong, develops a sense of trust in members, displays a sense of play and humor, has a strong sense of family in which rituals and traditions abound, affirming and supporting one another, teaches respect for each other, family member working together to deal with the stressful situations, believing in God, treating ill children as the same, and maintaining normal family life and routines.

The family strengths listed in the FS^3I could be related to family functions (see Table 31). The strengths related to family affective function were: affirms and supports each other, loving and caring, and having a strong sense of family in which rituals and traditions abound. The strengths related to family socialization function were: have a positive attitude or humor, treat ill children as the same, teaches a sense of right and wrong, displays a sense of play and humor, teaches respect for each other. The strengths related to family relationship functions are the development of a sense of trust among

Table 31

Relationship Between Family Functions and Family Strengths listed in FS[3]I

Family functions	Family strengths
Affective	Affirms and supports on another
	Develops a sense of trust in members
	Has a strong sense of family in which rituals and traditions abound
	Fosters family table time and conversation
	Shared leisured time
	Communicates and listens to one another
Socialization	Teaches respect for others
	Develops a sense of trust in members
	Displays a sense of play and humor
	Exhibits a sense of shared responsibility
	Teaches a sense of right and wrong
	Respects the privacy of one another
	--[a]
Reproductive	--[a]
Economic	--[a]
Health care	Has a shared religious core
Religion	

Table 31 (Continued)

Family functions	Family strengths
Relationship	Has a balance of interaction among members
Others	Values services to others
	Admits to and seeks help with problems

Note. The family strengths were displayed in the order of matching to their related family functions.

[a] This symbol means that there is no family strength item can match to this family function

members. The strengths related to religious function are the trust in God, having a shared religious core. Families in this study used their abilities and resources to deal with their problems and stressful situations in order to maintain the stability of the family systems. For example, the families reported they were still able to provide loving and caring for each other, and supporting and affirming each other. This showed that the family affective function was maintained. Another example was the socialization function. The strengths item was teach a sense of right and wrong, which had a mean score of 4.438. This indicated that families maintained their socialization function above the average level. In conclusion, the family strengths could protect the family core and maintain the family functions when families encountered the stressors.

Conclusion

The families with childhood cancer experienced many stressors which could affect their family life. Some families could maintain their normal family life, and keep the family functioning. Therefore, it is important to explore just how these families could maintain their family functions.

The families with childhood cancer were assumed to have many stressors. The stressors identified by the families included cancer related stressors, and daily family life stressors. The daily family life stressors affected the families as well as the cancer related stressors.

Family strengths were defined as the abilities and resources which families used to deal with the stressful situations. The families that managed their stressors well were

assumed to possess family strengths. Once the families could identify their family strengths, it could be viewed that the family could maintain their family functions. Moreover, the family strengths mean score was 3.726 in FS^3I. This showed that these families rated their family strengths higher than average. Therefore, the family strengths could maintain the family functions.

Every family has stressors or problems in their daily life. Besides the daily stressors, the families in this study also experienced a major stressor: one child was diagnosed with cancer. Even though these families encountered many stressors, they maintained their family stability and functions. The family strengths included not only the abilities and resources within the families, but also the support from outside the communities. The more the families interacted with their communities, the more support the families received from their communities. Therefore, families who have abilities and resources can reduce the influence of the stressors and keep the family functioning.

CHAPTER 7

Implications and Recommendations

The implications of this study are described in this chapter. In addition, at the end of this chapter, the recommendations are given.

Implications

The implication of this study included four parts: implication for theory, implication for research, implication for practice, and implication for health care delivery.

Implications for Theory

The family system was described as a core surrounded by protective concentric rings in Family Assessment Intervention Model (see Figure 2). The core of a family system is comprised of family functions, structure, and processes. In this model, family stressors included all forces which either did or could produce instability within the family system. Family strengths were the abilities and resources which were used by families to solve the problems and cope with stressors. Family strengths were represented by the concentric circles which surrounded the family core. When stressors impinged on the family system, these concentric circles which represented family strengths protected the basic family core and maintained the stability of the entire family system against stressors.

The stressors identified in the Family Assessment Intervention Model were the stressful situations which existed in daily family life and might have affected the family core. This study confirmed that the families with childhood cancer were affected by stressors that

existed in daily family life. In addition, this study found that the illness of one family member could also be a major stressor for the families. Therefore, the family core could be affected by both the cancer related stressors and family daily life stressors.

This model assumed that the families had strengths which could protect the family core. If the family core integrity could be maintained, families could conduct their family functions. In essence, the family strengths could protect the family core and maintain family functions. This study examined family functions by identified family strengths. If the families possessed their family strengths, the families could conduct their family functions well. For example, if families possessed the supporting and affirming each member strength, families could maintain their affective family functions. Therefore, when the families encountered stressors, the families used their strengths to decrease the influences of the stressors. If the strengths could resist the intrusion of the stressors, the family core could be protected. Furthermore, if the core maintained integrity, the family functions could also be maintained.

Implications for Research

This study suggests some points for further research. First of all, the cultural differences among the Asian families need to clarified. In this study, the families which came from Asia were categorized into the same group. However, there are some cultural differences between the families which came from different ethnicity. Different cultures can cause different influences for the families. For example, the health belief and religions of the families in Japan and China were different (Janosik & Green, 1992; Lasky & Martz, 1993). These differences may caused the families have different stressors or deal with stressors

differently. Therefore, if the study can obtain more families from the same ethnicity, the cultural variables can be examined more closely. The family stressors and strengths identified by the same ethnic background families can have more meanings. In essence, the large numbers of families from different cultures can verify the differences among these families.

Second, any further studies should include more children. This study revealed that both ill children and healthy siblings reported higher stresses than the parents. In addition, they perceived different stressors than parents. Children are also the family members who were also affected by the stressors. Therefore, including more children in the sample can improve the understanding of the families' stressors and strengths.

Implication for Practice

The cancer related stressors were identified by the families according to the interview questions. The families also identified the general stressors and specific stressors in FS^3I. Either the stressors were identified in FS^3I or identified in the interview. The stressors can be categorized into two groups: cancer related stressors, and daily family life stressors. This study found that the daily family life stressors affected the families as well as the cancer related stressors. Thus, the assessment of the families' stressors have to include the cancer related stressors and their daily life stressors. On the other hand, the identified daily family life stressors were found related to family development life cycle stages. For example, teen behaviors was one of the identified general stressors which related to the family socialization function of childrearing

families. Therefore, when assessing the daily family life stressors, nurses need to pay attention to the life cycle stages of the families, and the stressors related to that stage.

In this study, families were viewed from a systems perspective. Therefore, the assessment and intervention were focused on the whole family unit rather than the individual. However, this study also found that the individual family members had different stressors regarding their roles in family. Each family member was affected differently by different stressors. This study found that the children reported they experienced higher stress than their parents. Mothers reported more stress than fathers. Therefore, the assessment of individual family member's stressors is also important and essential. Appropriate interventions must be given to individual family members are as well as given to the whole family system.

The families with childhood cancer were assumed to have experienced extreme stress. These families were thought to be vulnerable and could easily be destroyed by the stressors. When working with these families, nurses usually focus on the problems and stressors of the families. However, some families are strong and can keep their family functions when they encounter stressors. This study revealed that families can use their family strengths to decrease the affects of the stressors. Furthermore, these families reported using their strengths to maintain their family functions and perform their daily activities. Therefore, when working with families with childhood cancer, nurses need to shift their focus from families' weaknesses to families' strengths. The assessment of the family strengths is as important as the assessment of family stressors. By awareness of

family strengths, nurses can give the more specific interventions to the families according to the families' needs.

Implication for Health Care Delivery

For family nursing, the family is viewed as an interaction system in which the whole is more than the sum of its parts (Hanson & Boyd, 1996). The emphasis is on the interaction among the family members. When something happens to one part of the system, the other parts of the system are also affected. This study found that when a child is diagnosed with cancer, the whole family is affected. In addition, the family may influence the individual's health by serving the health care, and forming the health belief, values and patterns. Therefore, the family needs to be viewed as a unit for health service. However, the health care system usually focuses on the individuals, especially the ill members. It is important for the health care system to expand its focus from the individual to the family unit. Policies and education need to be revised from the individual focus to the family focus.

Recommendations

In this study, only one component of the family core, family functions, was discussed. This study revealed that family functions are affected by stressors and protected by the family strengths. The strong family functions increase the family's abilities to deal with the stressors. However, the family core dose not consist of only family functions. The family core also includes family structures and family processes. When families encounter stressors, will the family structures and family processes be affected by the stressors? To what extent are the family structure and family processes affected by stressors? Will the family strengths

also protect family structures and family processes? In addition, will the family structures and family processes influence the implementation of the family strengths? All these questions need to be explored. Therefore, the theory can be generated.

This study found that different family members perceived stressors differently. Each family member needed to achieve different role expectations in order to implement the family functions. When the family encounters stressors the role expectations may be changed. The family functions may not be accomplished. Therefore, the relationship among the three components of the family core needed to be clarified. To what extent do they interact or interrelate with each other? To what extent do they affect each other? In addition, this study did not ask the family members to identify what tasks the family members did in relation to family functions. Thus, these questions need to be explored in order to clearly understand the relationship among family functions, family structures and family processes.

There is a missing part in the model: Do the families having strong family strengths means that these families are healthy and well functioning families? This study did not measure the degree of success for each family function because the FS^3I was not designed for that purpose. In addition, not all of the family functions were discussed in this study. The FS^3I currently refers to affective, socialization, and relationship functions but not economic, health care and reproductive functions. Therefore, this needs further research.

If people desired to use the FS^3I to examine family strengths attention needs to be paid to the structure and content of the questionnaires. This study was designed for

identifying healthy families. However, it is not clearly described whether the families can be identified by their family strengths as healthy families. In addition, the descriptions of some items were not easy understood by children. Therefore, if this instrument is to be used with children, the descriptions of each item need to be modified to accommodate their level of comprehension.

This study did not examine how long the Asian families were in the United States since their immigration. Thus, the influence of American culture on the Asian families is not assessed. This needs further research. This study used a small sample size of families for each ethnic group. For someone interested in further research, the number of sample families for each ethnic group needs to be increased. In addition, the number of families from the same ethnic minority group needs to be increased. This can help to distinguish the differences.

This study sample included the ill children and healthy siblings. However, the numbers of the children was still small. It is necessary to include more children in the sample. The study results can represent more characteristics of the families by increasing the number of children.

Summary

The purpose of this descriptive study was to identify both the stressors and strengths that families perceived after their children were diagnosed and treated for cancer. The two research question were: what were the major stressors that Caucasian and Asian families perceived after their children were diagnosed with cancer? And, what

were the major strengths which helped Caucasian and Asian families cope with the stressors after their children were diagnosed with cancer?

The literature on families and childhood cancer provided abundant information pertaining to the difficulties that these families experienced. Much work has been done on family needs, stresses, coping, and adaptation. No prior study has explored the strengths of the families. In addition, most of the literature focused on the individual family member rather than the whole family unit.

The Family Assessment Intervention Model served as the conceptual framework of this study. Family was recognized as the open system which contained a core surrounded by protective concentric rings (lines of defense or resistance). The core consisted of family functions, family structures and family processes. Family strengths were represented by concentric circles surrounding the family core. When stressors impinged on the family system, these circles protected the basic family core against stressors.

This study used a descriptive design to systematically describe, from the families' perspectives, the stressors and strengths of families whose children were diagnosed with cancer. The Family Systems Stressor and Strengths Inventory (FS^3I) and semi-structure interview guide were used to identify the stressors and strengths of these families. Additionally, the genogram and ecomap were used to obtain detailed descriptive family data that included kinship and community support information.

The volunteer families were obtained from the pediatric oncology outpatient clinic of Oregon Health Sciences University Hospital, and a physician's private oncology

clinic. Twenty-nine members of 10 families of children who had been diagnosed with cancer for more 10 months participated in this study.

The cancer related stressors were: financial difficulty in large medical expense, not having enough time to do routine work, unstable health condition of the ill children, children's response to the chemotherapy, and staying in hospital for a long time. The general stressors identified in FS^{3}I were: "economics/finances/budgets, moving, over scheduled family calendar, family members feeling unappreciated, health/illness, and teen behavior." The specific stressors identified in FS^{3}I were: health condition of the ill children, finance, staying in hospital in a long time, and fears about cancer recurring. All of the stressors identified by the families can be categorized into two groups: cancer related stressors and daily family life stressors. These stressors could affect family functions.

The strengths identified by the families were: "teaching a sense of right and wrong, developing a sense of trust in member, displaying a sense of play and humor, having a strong sense of family in which rituals and traditions abound, affirming and supporting one another, and teaching respect for each other." The abilities and resources used in dealing with the stressors were supporting each other family member, family members working together for the stressful situation, loving and caring for each family member, believing in God, having a positive attitude or humor, treating ill children as the same, and maintaining normal family life and routines. These strengths can protect family functions.

The families obtained supports from their friends, extended families, church people, colleagues, and health care professionals. The obtained supports were: taking care of the children, preparing food, cleaning the house, and emotional support. These supports could help the families maintain their family functions.

The findings were consistent with much of the prior research on cancer and family life. The family strengths are similar to those found in family literature. The difference between the literature and the findings of this study can be explained by the different family developmental life cycles, and different ethnicity and cultural backgrounds. The family functions can be affected by the stressors, however, the families can use the family strengths and support obtained from their communities to maintain the family functions.

The theory implications of this study include the influence of the cancer related stressors as well as the daily life stressors, and family functions can be protected by family strengths. The research implication is that further exploration and research with a larger sample, and increased number of families of different ethnicity should be conducted. The implication for clinical practice includes the needs for assessment of daily family life stressors, cancer related stressors, and family strengths. The assessment of culture and developmental life cycle stages of the family are also important. The health care delivery system needs to change the focus from the individuals to the family as a whole.

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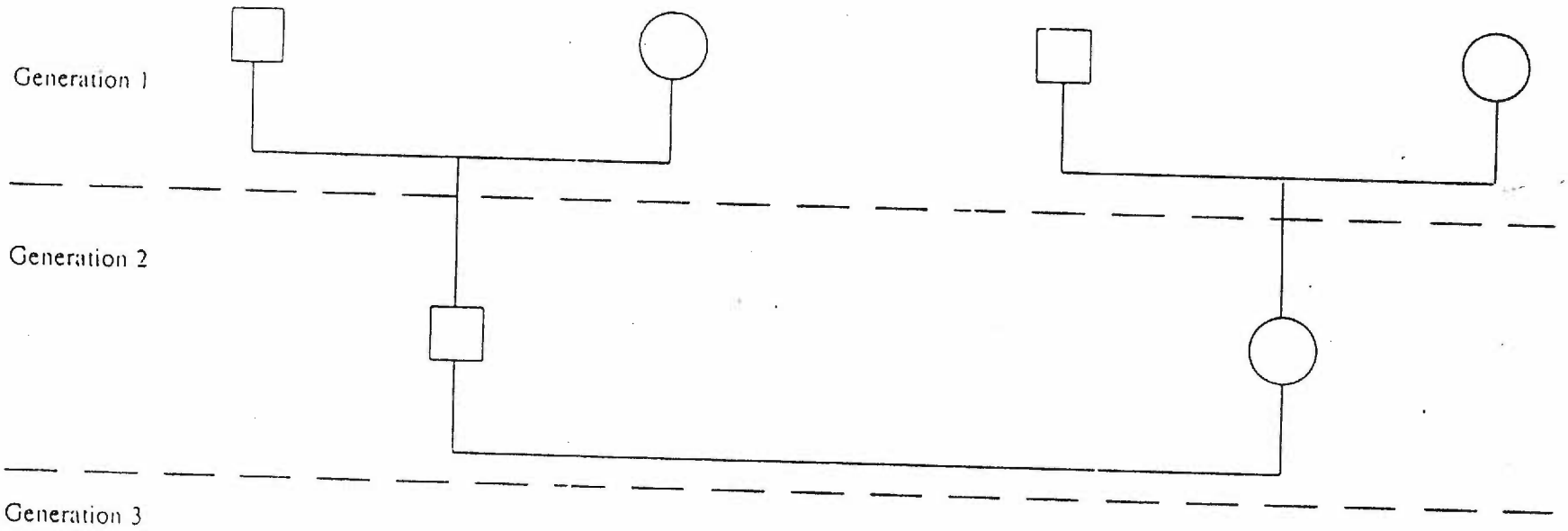
Genogram Form

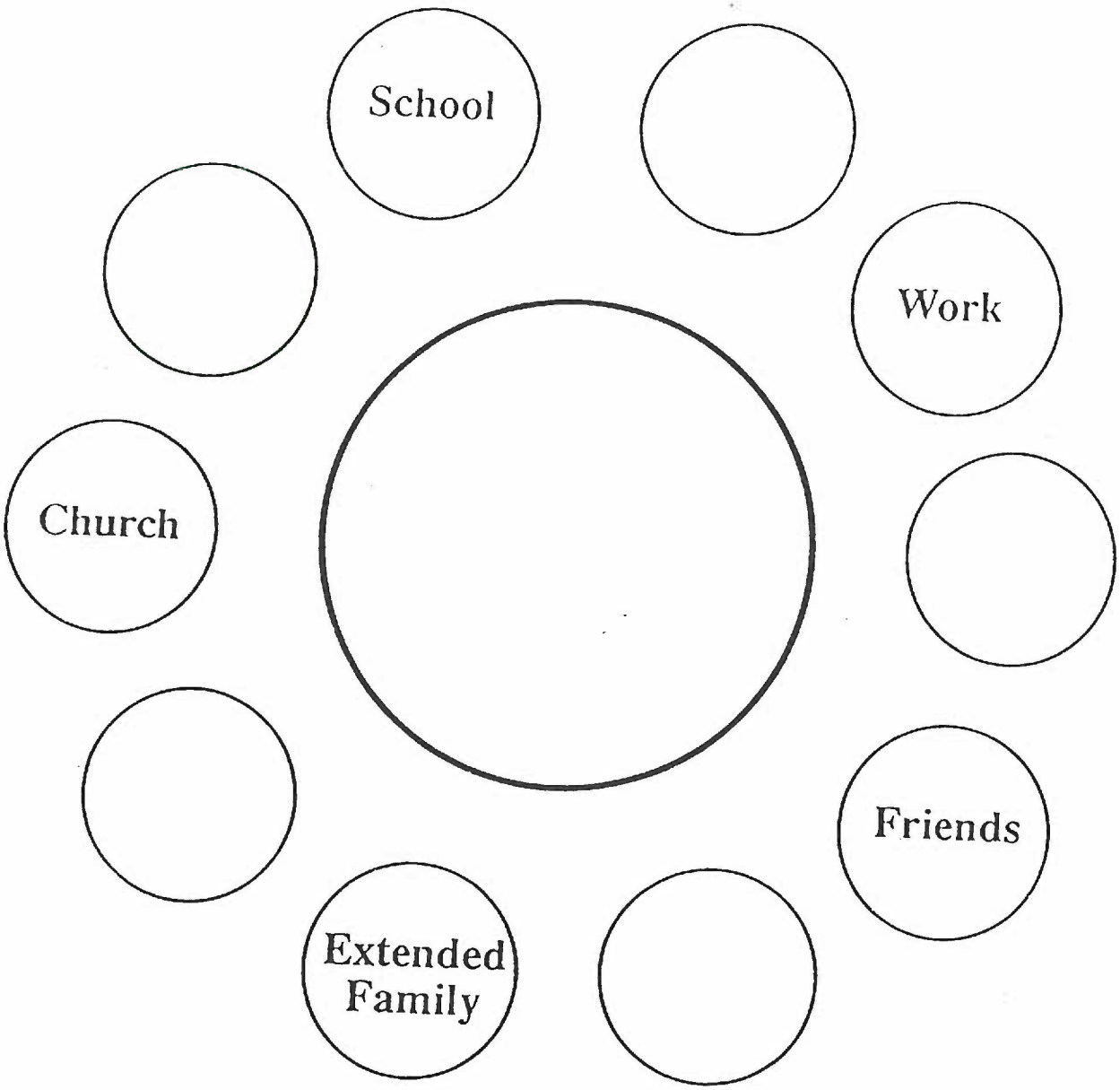
Date _____ Completed By _____

Family Name _____



Adapted from: McGoldrick, M. & Gerson, R. (1985). Genograms in Family Assessment. NY: W.W. Norton. Pg., 156.

ECOMAP FORM



Adapted from Friedman, M.M. (1992) Family Nursing: Theory & Practice. Norwalk, Conn: Appleton & Lange.

Key

Strong
Tenuous
Stressful
Energy flow

Appendix C

Family Systems Stressor–Strength Inventory (FS^3I)

Family Systems Stressor–Strength Inventory (FS^{3}I)[1]

Karen B. Mischke, RN, OGNP/WHCNP, PhD, CFLE

Hillsboro Womens Clinic
620 SE Oak Street
Hillsboro, Oregon 97123

*Shirley M. H. Hanson, RN, PMHNP, PhD, FAAN, CFLE, LMFT

Professor, School of Nursing
Department of Family Nursing
Oregon Health Sciences University
Portland, Oregon 97201
Telephone: 503-494-3869
Fax: 503-494-3878
E-Mail: hanson@ohsu.edu

Instructions for Administration[1]

The Family Systems Stressor-Strength Inventory (FS^{3}I) is an assessment/measurement instrument intended for use with families. It focuses on identifying stressful situations occurring in families and the strengths families use to maintain healthy family functioning. Each family member is asked to complete the instrument on an individual form prior to an interview with the clinician. Questions can be read to members unable to read.

Following completion of the instrument the clinician evaluates the family on each of the stressful situations (general and specific) and the available strengths they possess. This evaluation is recorded on the family member form.

The clinician records the individual family member's score and the clinician perception score on the Quantitative Summary. A different color code is used for each family member. The clinician also completes the Qualitative Summary synthesizing the information gleaned from all participants. Clinicians can use the Family Care Plan to prioritize diagnoses, set goals, develop prevention/intervention activities and evaluate outcomes.

[1]Source: Mischke-Berkey, K. & Hanson, S. M. H. (1991). Pocket guide to family assessment and intervention. St. Louis: Mosby Year Book.

*Respondent to inquires

Family Systems Stressor–Strength Inventory (FS³I)
Part I: Family Systems Stressors (General)

DIRECTIONS: Each of the 25 situations/stressors listed here deals with some aspect of normal family life. They have the potential for creating stress within families or between families and the world in which they live. We are interested in your overall impression of how these situations affect your family life. Please circle a number (0 through 5) that best describes the amount of stress or tension they create for you.

Stressors:	Family Perception Score: Not Apply	Little Stress	Medium Stress		High Stress	Clinician Perception Score
1. Family member(s) feel unappreciated	0	1	2	3	4	5
2. Guilt for not accomplishing more	0	1	2	3	4	5
3. Insufficient "me" time	0	1	2	3	4	5
4. Self–image/self–esteem/feelings of unattractiveness	0	1	2	3	4	5
5. Perfectionism	0	1	2	3	4	5
6. Dieting	0	1	2	3	4	5
7. Health/Illness	0	1	2	3	4	5
8. Communication with children	0	1	2	3	4	5
9. Housekeeping standards	0	1	2	3	4	5
10. Insufficient couple time	0	1	2	3	4	5
11. Insufficient family playtime	0	1	2	3	4	5
12. Children's behavior/discipline/sibling fighting	0	1	2	3	4	5
13. Television	0	1	2	3	4	5
14. Over scheduled family calendar	0	1	2	3	4	5
15. Lack of shared responsibility in the family	0	1	2	3	4	5
16. Moving	0	1	2	3	4	5
17. Spousal relationship (communication, friendship, sex)	0	1	2	3.	4	5
18. Holidays	0	1	2	3	4	5
19. In–laws	0	1	2	3	4	5
20. Teen behaviors (communication, music, friends, school)	0	1	2	3	4	5
21. New baby	0	1	2	3	4	5
22. Economics/finances/budgets	0	1	2	3	4	5
23. Unhappiness with work situation	0	1	2	3	4	5
24. Overvolunteerism	0	1	2	3	4	5
25. Neighbors	0	1	2	3	4	5

Additional Stressors: _____

_____

Family Remarks: _____

_____

Clinician: Clarification of stressful situations/concerns with family members.

Prioritize in order of importance to family members: _____

_____

Family Systems Stressor–Strength Inventory (FS³I)
Part II: Family Systems Stressors (Specific)

DIRECTIONS: The following 12 questions are designed to provide information about your specific stress producing situation/problem, or area of concern influencing your family's health. Pleases circle a number (1 through 5) that best describes the influence this situation has on your family's life and how well you perceive your family's overall functioning.

The specific stress producing situation/problem or area of concern at this time is: _____

_____

_____

Stressors:	Family Perception Score: Little		Medium		High	Clinician Perception Score
1. To what extent is your family bothered by this problem or stressful situation? (e.g. effects on family interactions, communication among members, emotional & social relationships)	1	2	3	4	5	____
Family Remarks: _____						
Clinician Remarks: _____						
2. How much of an effect does this stressful situation have on your family's usual pattern of living? (e.g. effects on lifestyle patterns & family developmental tasks)	1	2	3	4	5	____
Family Remarks: _____						
Clinician Remarks: _____						
3. How much has this situation affected your family's ability to work together as a family unit? (e.g. alteration in family roles, completion of family tasks, following through with responsibilities)	1	2	3	4	5	____
Family Remarks: _____						
Clinician Remarks: _____						

Has your family ever experienced a similar concern in the past?

1. YES — If YES, complete question 4
2. NO — If NO, complete question 5

Stressors:	Family Perception Score: Little	Medium	High	Clinician Perception Score
4. How successful was your family in dealing with this situation/problem/concern in the past? (e.g. workable coping strategies developed, adaptive measures useful, situation improved)	1	2 3 4	5	____
Family Remarks: _____				
Clinician Remarks: _____				
5. How strongly do you feel this current situation/problem/concern will affect your family's future? (e.g. anticipated consequences)	1	2 3 4	5	____
Family Remarks: _____				
Clinician Remarks: _____				
6. To what extent are family members able to help themselves in this present situation/ problem/concern? (e.g. self-assistive efforts, family expectations, spiritual influence, & family resources)	1	2 3 4	5	____
Family Remarks: _____				
Clinician Remarks: _____				
7. To what extent do you expect others to help your family with this situation/problem/concern? (e.g. what roles would helpers play; how available are extra-family resources)	1	2 3 4	5	____
Family Remarks: _____				
Clinician Remarks: _____				

Stressors:	Family Perception Score: Poor	Satisfactory	Excellent	Clinician Perception Score
8. How would you rate the way your family functions overall? (e.g. how your family members relate to each other and to larger family and community)	1	2 3 4	5	____
Family Remarks: _____				
Clinician Remarks: _____				

Stressors:	Family Perception Score: Poor	Satisfactory	Excellent	Clinician Perception Score:
9. How would you rate the overall physical health status of each family member by name? (Include yourself as a family member; record additional names on back.)				
a. _____	1	2	3	4 5 ____
b. _____	1	2	3	4 5 ____
c. _____	1	2	3	4 5 ____
d. _____	1	2	3	4 5 ____
e. _____	1	2	3	4 5 ____
10.. How would you rate the overall physical health status of your family as a whole?	1	2	3	4 5 ____
Family Remarks: _____				
_____				
Clinician Perceptions: _____				
_____				
11. How would you rate the overall mental health status of each family member by name? (Include yourself as a family member; record additional names on back.)				
a. _____	1	2	3	4 5 ____
b. _____	1	2	3	4 5 ____
c. _____	1	2	3	4 5 ____
d. _____	1	2	3	4 5 ____
e. _____	1	2	3	4 5 ____
12. How would you rate the overall mental health status of your family as a whole?	1	2	3	4 5 ____
Family Remarks: _____				
_____				
Clinician Perceptions: _____				
_____				

Part III: Family Systems Strengths

Directions: Each of the 16 traits/attributes listed below deal with some aspect of family life and its overall functioning. Each one contributes to the health and well-being of family members as individuals and to the family as a whole. Please circle a number (0 through 5) that best describes the extent that the trait applies to your family.

My Family:	Family Perception Score: Not Apply	Seldom	Usually	Always	Clinician Perception Score:
1. Communicates and listens to one another:	0	1	2	3 4 5	____
Family Remarks: _____					
_____					
Clinician Remarks: _____					
_____					

Family System Stressor–Strength Inventory (FS³I)

My Family:	Family Perception Score: Not Apply	Seldom		Usually		Always	Clinician Perception Score
2. Affirms and supports one another	0	1	2	3	4	5	____
Family Remarks: _____							
Clinician Remarks: _____							
3. Teaches respect for others	0	1	2	3	4	5	____
Family Remarks: _____							
Clinician Remarks: _____							
4. Develops a sense of trust in members	0	1	2	3	4	5	____
Family Remarks: _____							
Clinician Remarks: _____							
5. Displays a sense of play and humor	0	1	2	3	4	5	____
Family Remarks: _____							
Clinician Remarks: _____							
6. Exhibits a sense of shared responsibility	0	1	2	3	4	5	____
Family Remarks: _____							
Clinician Remarks: _____							
7. Teaches a sense of right and wrong	0	1	2	3	4	5	____
Family Remarks: _____							
Clinician Remarks: _____							
8. Has a strong sense of family in which rituals and traditions abound	0	1	2	3	4	5	____
Family Remarks: _____							
Clinician Remarks: _____							

Family System Stressor–Strength Inventory (FS³I)

My Family:	Family Perception Score: Not Apply	Seldom	Usually	Always	Clinician Perception Score
9. Has a balance of interaction among members	0	1	2	3	4 5 ____
Family Remarks: _____					
Clinician Remarks: _____					
10. Has a shared religious core	0	1	2	3	4 5 ____
Family Remarks: _____					
Clinician Remarks: _____					
11. Respects the privacy of one another	0	1	2	3	4 5 ____
Family Remarks: _____					
Clinician Remarks: _____					
2. Values service to others	0	1	2	3	4 5 ____
Family Remarks: _____					
Clinician Remarks: _____					
13. Fosters family table time and conversation	0	1	2	3	4 5 ____
Family Remarks _____					
Clinician Remarks: _____					
14. Shares leisure time	0	1	2	3	4 5 ____
Family Remarks: _____					
Clinician Remarks: _____					
15. Admits to and seeks help with problems	0	1	2	3	4 5 ____
Family Remarks: _____					
Clinician Remarks: _____					

My Family:	Family Perception Score: Not Apply	Seldom	Usually	Always	Clinician Perception Score
16 a. How would you rate the overall strengths that exist in your family?	0	1	2	3	4 5 ____

Family Remarks: _____

_____

Clinician Remarks: _____

_____

16 b. Additional Family Strengths: _____

_____

_____

_____

16 c. Clinician: Clarification of family strengths with individual members: _____

_____

_____

_____

_____

Appendix D

Interview Guide

Section One: Demographic questionnaire

Family name:

Ethnic background:

Family total monthly income:

Name	Age	Sex	Education	Occupation	Religion	Relationship with Identified Patient	Primary care giver

****

Section Two: Questions about cancer

1. What type cancer do you (or your child) have?

2. When were you (or your child) diagnosed with cancer?

3. What stage of cancer treatment are you (or your child) in?

4. Did your family have any experiences with cancer before?

5. From your point of view, what are the problems and stressful situations associated with cancer in your experience?

6. From your point of view, what are the abilities and resources that helped you in dealing with those stressors identified above?

7. Who is responsible of taking care of the sick child in your home?

8. Who is responsible of taking care of the healthy children in your home?

9. Who brings the child to the hospital most frequently?

****

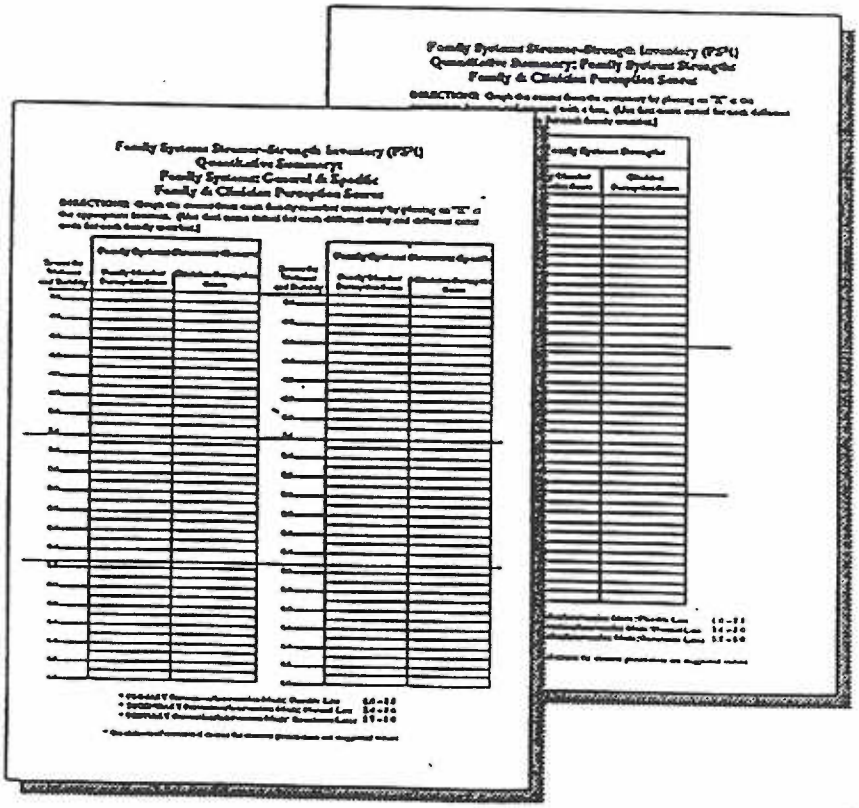
Section Three:

1. Are there any stressors or strengths not identified above?

2. Are there any problems or resources not included in the previous questions?

Appendix E

Family Systems Stressor–Strength Inventory (FS^3I) Scoring Summary



Family Systems Stressor–Strength Inventory (FS^3I)
Scoring Summary

Section 1: Family Perception Scores

Part I Family Systems Stressors (General)

Add scores from questions 1 to 25 and calculate an overall numerical score for Family System Stressors (General). Ratings are from 1 (most positive) to 5 (most negative). The Not Apply (0) responses are omitted from the calculations. Total scores range from 25 to 125.

Family Systems Stressor Score: General

$$\frac{(\quad)}{25} \times 1 = \_\_\_\_\_$$

Graph score on Quantitative Summary, Family Systems Stressors: General, Family Member Perception. Color code to differentiate family members.

Record additional stressors and family remarks in Part I, Qualitative Summary: Family and Clinician Remarks

Part II Family Systems Stressors: Specific

Add scores from questions 1–8, 10, & 12 and calculate a numerical score for Family Systems Stressors: Specific. Ratings are from 1 (most positive) to 5 (most negative). Questions 4, 6, 7 8, 10, & 12 are reverse scored.* Total scores range from 10 - 50.

Family Systems Stressor Score: Specific

$$\frac{(\quad)}{10} \times 1 = \_\_\_\_\_$$

Graph score on Quantitative Summary : Family Systems Stressor: Specific. (Family Member Perceptions). Color code to differentiate family members.

Summarize data from questions 9 & 11 (reverse scored) and record family remarks in Part II, Qualitative Summary: Family and Clinician Remarks

Part III Family Systems Strengths

Add scores from questions 1 to 16 and calculate a numerical score for Family Systems Strengths. Ratings are from 1 (seldom) to 5 (always). The Not Apply (0) responses are omitted from the calculations. Total scores range from 16 to 80.

$$\frac{(\quad)}{16} \times 1 = \_\_\_\_\_$$

Graph score on Quantitative Summary: Family Systems Strengths (Family Member Perception).

Record Additional Family Strengths and Family Remarks in Part III, Qualitative Summary: Family and Clinician Remarks.

* Reverse Scoring:

Question answered as (1) is scored 5 points
Question answered as (2) is scored 4 points
Question answered as (3) is scored 3 points
Question answered as (4) is scored 2 points
Question answered as (5) is scored 1 point

Appendix F

IRB# 4040
Approved (Jan. 29, 1996)

OREGON HEALTH SCIENCES UNIVERSITY

Consent Form

TITLE.

Strengths and stressors of families with childhood cancer.

PRINCIPAL INVESTIGATOR.

Ling-Yuan Chou, BSN. Telephone: (503) 222-9583

ADVISORS.

Shirley M. H. Hanson, RN, PMHNP, Ph.D., Telephone: (503) 494-3869

Vivian Gedaly-Duff, RN, DNSc, Telephone: (503) 494-3866

PURPOSE.

You, your children, and other family members are invited to participate in this research study because your child has been diagnosed with cancer for one year or more. The purpose of this study is to identify the stressors and strengths that your family experienced after your child was diagnosed with cancer one year ago. In addition, this study will compare Caucasian and Asian families for similarity and differences in their experiences.

PROCEDURES.

The whole interview procedure will take approximately 60 minutes. Your family will be asked to develop your family genogram (family tree) and ecomap (the people that interact with your family such as teachers and neighbors) with the investigator. The questionnaire (Family Systems Stressors and Strength Inventory-FS^{3}I) has 54 short-answer questions. Each person in your family who agrees to participate will be asked to fill out a questionnaire. The investigator will read the questions to young children who can not read or understand the questions. An example of a question is: "Does it cause stress in your family when family members do not appreciate you?". After completing the questions, your family

will be interviewed as a group by the investigator. It is expected that different family members may have different answers to the questions. This group family interview will allow the family to talk about their answers. In order to avoid misunderstanding and losing important information, the family interview will be tape recorded. The interview can be done either at the hospital or in your home.

RISK AND DISCOMFORTS.

The potential risks of participating in this study are: (1) the questions in questionnaire or the interview may cause recall of unpleasant past events, and (2) different responses by various family members may cause conflict in the family. If either situation occurs, the investigator will interrupt the interview and discuss with the family this situation. If any family member wants to stop the interview, the investigator will terminate the interview with no questions asked. The investigator will contact your family by phone one week after the interview to address and clarify any problems that may have arisen. If necessary, a referral to the primary health provider will be made.

BENEFITS.

You, your children and your family may or may not personally benefit from participating in this study. However, by serving as a research subject, you may contribute new information which may benefit other patients in the future. The potential benefit of this study is the opportunity to discuss your experience and the impact caused by a child with cancer on family life. The findings of this study may help the health professionals to understand family experiences of childhood cancer. In addition, this study may help researchers and clinicians to understand both of the similar and different experiences of living with childhood cancer between Caucasian and Asian families.

ALTERNATIVE.

The alternative is to not participate in this study.

CONFIDENTIALITY.

All data will be kept strictly confidential. Collected data will be kept in a locked file. Neither the names nor identities of the participants will be used for publication or publicity purposes. The recorded audio tapes will be also kept in a locked file and will be destroyed at the end of the study. According to Oregon law, suspected child or elder abuse must be reported to appropriate authorities.

COST.

There will be no costs to you, your child and your family for participating in this study.

LIABILITY.

The Oregon Health Sciences University, as a public institution, is subject to the Oregon Tort Claims Act, and is self-insured for liability claims. If you, your child, or your family suffer any injury from this research project, compensation would be available to you only if you establish that the injury occurred through the fault of the University, its officers, or employees. If you have further questions, please call the Medical Services Director at (503) 494-8014.

PARTICIPATION.

Ling-Yuan Chou (phone: 503-222-9583) has offered to answer any other questions you may have about this study. If you have any questions regarding your rights as a research subject, you may contact the Oregon Health Sciences University Institutional Review Board at (503) 494-7887. You or any member of your family may refuse to participate, or may withdraw from this study at any time. You will not receive a different treatment from Oregon Health Sciences University because of doing so. Each family member will receive a copy of their signed consent form. Your signature below indicates that you have read the

foregoing and agree for you or your children to participate in this study. Thank you for your willingness to participate.

Participant	Date
Participant / Guardian	Date
Witness	Date
Investigator	Date

Appendix G

IRB# 4040
Approved (Jan. 29, 1996)

Oregon Health Sciences University
Child Assent Form

FOR CHILDREN 10 YEARS OF AGE OR OLDER:

Nurse Ling-yuan Chou has explained this research study to me. I know how it may or may not help me. I also know that this study will help nurses to know more about my family's problems, and the resources that my family used to deal with the problems after I was diagnosed with cancer.

I have thought about being a part of the study. I have asked and received answers to my questions. I agree to be in this study. I know that I do not have to agree to be in this study. Even though I agree to be in the study now, I may not want to later. I know that I may stop being in the study.

_____ _____

Name/ Signature Date