A study of at-risk siblings of children with cancer in remission.

Doris J. Swan

University of Windsor

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LA THÈSE A ÉTÉ MICROFILMÉE TELLE QUE NOUS L'AVONS RECEUE
A STUDY OF AT-RISK SIBLINGS OF
CHILDREN WITH CANCER IN REMISSION

by

Doris J. Swan

HONS. B.A., University of Windsor, 1979

A Thesis
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the
Requirements for the Degree
of Master of Arts at the
University of Windsor
Windsor, Ontario, Canada

C 1984
ABSTRACT

Two groups, a cancer group and a control group, were compared using the House-Tree-Person (HTP) and Kinetic Family Drawing - Revised (KFD-R) tests. The cancer group consisted of 17 subjects, 6 diagnosed cancer patients who had been in remission an average of four years, and 11 physically healthy peers. The control group was rigorously matched by family to the cancer group on the following seven variables: (1) Whether single or two parent family; (2) Approximate age of parent(s); (3) Parent(s) occupation; (4) Family income; (5) Religious affiliation; (6) Sex of the sibling; (7) Age of the sibling. It was hypothesized that the HTP and KFD-R protocols of the physically healthy siblings of the diagnosed cancer patients would show a significantly lower level of functioning than the protocols of either the diagnosed cancer patients or the matched controls. A t-test performed on the data from the HTP supported the hypothesis at the .05 level of significance, although data from the KFD-R showed no differences. It was concluded that the scoring guide designed for use with the HTP is a sensitive instrument for this population.
ACKNOWLEDGEMENTS

I would like to thank the following people for their assistance in the successful completion of my thesis: Dr. William Balance, my committee chairman, who was a constant source of encouragement, Dr. Cornelius Holland for the very generous contribution of his time and expertise, and Professor Robert Chandler, Dr. Miriam Bunt and Dr. Arthur Smith for their thoughtful recommendations.

I wish to thank Mary Ricketts, M.A., Dr. David Reynolds and Dr. Antoon Leenaars, who along with Dr. William Balance carefully scored the test protocols.

I would especially like to express my appreciation to the children and young adults whose voluntary participation made this thesis possible.

I would also like to thank Donna Hamelin for typing the manuscript so quickly and efficiently.

Finally, I wish to express my appreciation to Ashley Compton, whose contributions to this thesis have been invaluable.
DEDICATION

I dedicate this thesis to the memory of my mother Jennie R.
Swan, whose curiosity knew no bounds.
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Siblings are not told what is happening and their needs go unrecognized. Justifiably they may feel that, 'if you're the sick one, everybody cares. If you're the brother or sister, they don't give a hoot'.

(Gyulay, 1978, p. 41)

CHAPTER I

INTRODUCTION

When a child is diagnosed as having cancer, there are serious implications for the mental health of each family member. Individuals in families are organized as interdependent units; therefore if one member of the family becomes ill, there is a significant impact on each family member (Kramer, 1981; Futterman & Hoffman, 1973). When an illness is life-threatening, the potential for assault upon individual and family integrity is substantial. When the disease is childhood cancer, the probability of emotional and/or behavioral disturbances in family members is greatly intensified (Kaplan, Grobstein & Smith, 1976; Cairns, Clark, Smith & Lansky, 1979).

Over the past decade the medical profession has become increasingly aware of the effects of diagnosis of childhood cancer on families, and has expanded its care to include not only the patient, but the parents as well. As a result, research has focused both on the child with cancer and her or his parents, but the needs of siblings have often been neglected. What happens to the other children in the family? Siblings are often excluded
from the diagnosis and treatment phases of the illness as the parents focus their energies on the medical needs of the sick child (Everson, 1977; Gyulay, 1978; Kaplan et al., 1976).

Recent advances in the treatment of childhood cancer have changed cancer from an acute to a chronic disease (Krulik, 1982; Cairns et al., 1979). Children who might have died quickly in the past are now living for an extended period of time, and no childhood cancer is considered incurable. For all forms of cancer occurring in children under the age of 15, the five year survival rate adjusted for normal life expectancy has increased to 84% (Krulik, 1982). One result of this advance is that families may be involved in complex out-patient treatment programs for many years.

This burden can have a devastating effect on family members. While the parents cope with the financial, emotional, and medical needs of the ill child, siblings may be left to face their developmental tasks alone (Kramer, 1981; Spinetta, 1981). Due to these excessive demands on the parents, siblings are frequently forced to assume greater responsibility both for themselves and the day-to-day chores of the family (Iles, 1979). These demands can result in the siblings having to forego many of the more enjoyable activities of childhood such as: girl guides, boy scouts, movies, having friends visit, and other after-school recreation. The lack of personal attention and the increased
demands upon the siblings to assume adult responsibilities often result in feelings of repressed anger and guilt (Kramer, 1981). These feelings may become manifest in the emotional and behavioral development of the child. Problems such as excessive jealousy, enuresis, encopresis, sleep disorders, somatic complaints, and poor school performance are frequently observed in the siblings of children with life-threatening illness (Binger, 1973; Cairns et al., 1979). As the siblings may live through the experience with the same intensity as the patient and parents, and will live longest with the feelings associated with the disease, it is of paramount importance that their needs also be recognized, and effective intervention techniques utilized on their behalf.

Although the problems encountered by the siblings have been observed by health care professionals, little has been done in the area of identifying those siblings at-risk. In an attempt to rectify the situation, the present study used two projective drawing tests: the House-Tree-Person Technique (HTP) and the Kinetic Family Drawing-Revised test (KFD-R). These projective tests were used to study the physically healthy siblings of children with diagnosed cancer, the cancer patients, and a matched control group of physically healthy peers. The drawing tests were chosen as the testing instrument because drawings have previously been used as a vehicle to discover feelings which children find hard to verbalize. Furth (1981) believes that a child expresses
her/his conscious and unconscious feelings freely and directly onto
the drawing paper. In addition, recent studies have found that
projective drawing tests can provide important clinical information
for diagnosis and treatment of problems in young children (Offord
& Aponte, 1967; Raskin & Pitcher-Baker, 1977; Blain, Bergner, Lewis
& Goldstein, 1981; Spinetta, McLaren, Fox & Sparta, 1981). Also,
the unobtrusive nature of these tests was considered to be
important, as the sample under study was assumed to be already
experiencing a great deal of stress.

It had been hoped that information resulting from this study
could provide an effective method to identify those healthy
siblings of children with life-threatening disease who may be at-
risk. Professional attention can then be provided to assist these
children in coping with life crises.

Review of the Literature and Hypotheses

A review of the relevant literature reveals shifting emphases
starting in the early sixties. During this period, when childhood
cancer was considered invariably fatal, most investigation focused
on death (Bluebond-Langner, 1977; Drøtøf, 1977; Kalish, 1977;
Kastenbaum, 1977; Spinetta, 1974; Spinetta, 1977; Waechter, 1971;
Krieger & Bascue, 1975). As a result, parents were counselled in
preparation for the death of their child (Blinder, 1972; Spinetta,
1982). Clinicians relying on the work of Nagy (1959), who
reported that young children viewed death as a reversible event,
recommended the practice of shielding the young patient from knowing that she/he had a life-threatening disease (Natterson & Knudson, 1960). This "protective" approach was widely advocated during the late fifties and early sixties (Share, 1972). However, Binger, Albin, Feuerstein, Kushner, Zoger & Mikkelsen (1969) reported that "most children above four years of age, although not told directly of the diagnosis, presented evidence to their parents that they were aware of the seriousness of their disease and even anticipated their premature death" (p. 415). Heffron, Bommelaere & Masters (1973) found that young leukemic patients tried to communicate their concerns about their life-threatening illness, either through direct or symbolic questions. In the late sixties and early seventies the "open" approach that advocates full communication with the patient and family became the recommended method. All of these issues have been dealt with at length in reviews published during the last few years (Share, 1972; Lewis & Armstrong, 1977; Gogan, O'Malley & Foster, 1977). Kalnins (1977) advocates a shift of interest away from the study of death to the study of the child's illness experience. Kalnins believes that this emphasis on the prognosis was unnecessarily narrowing the investigators' approach. As the prognosis for childhood cancer improved, research interest shifted away from death and began to focus on childhood cancer as a family crisis. Recent reviews have documented this phenomenon (Fife, 1980; Slavin, 1981).
As modern medical treatment has changed childhood cancer from an acute to a chronic life-threatening disease, preparation for impending death could no longer be considered the family's primary coping task (Slavin, 1981). The problem now became one of living with cancer and investigators began to study the emotional and psychological impact of a chronically ill child upon the family (Binger, 1973; Fife, 1980; Kalnins, 1977; Krulik, 1982; Pearse, 1977; Kaplan et al., 1976; Gogan, Koocher, Foster & O'Malley, 1977). However, the emphasis of this investigation was on the ill child and the parents and did not include the other children in the family (Kagen-Goodheart, 1977).

Siblings of the child with a life-threatening illness became the forgotten children (Craft, 1979; Spinetta, 1981). However, an early clinical study focusing on children's responses to the death of a sibling produced some disturbing findings (Cain, Fast & Erickson, 1964). This study reported that the children's disturbed reactions to the death of a sibling included such areas as affect, cognition, belief systems, superego functioning and objective relationships. Retrospective studies conducted by Binger et al. (1969) and by Binger in 1973 showed that previously well adjusted siblings experienced considerable difficulty during the illness of a sibling. Physical complaints that mimicked symptoms of the ill child were often reported by the siblings (Blinder, 1972). In 1969, Wold and Townes interviewed six
families, with a total of sixteen healthy siblings. In every family interviewed one or more healthy children were identified by their parents as having adjustment problems.

Lavigne and Ryan (1979) assessed psychological adjustment among healthy siblings of children with a variety of chronic illnesses. A group of sixty-two siblings of children with blood disorders were included in the study. The assessments were based on scores from a paper and pencil behavior checklist (Louisville Behavior Checklist), used by parents to describe their children. The authors concluded that siblings of chronically ill children are at-risk for adjustment and behavior problems. Among children ages seven to thirteen, male siblings of patients with blood disorders were more likely to show signs of emotional disturbances than female siblings.

While medical advances have improved the survival rate of children with life-threatening illness, the psychosocial problems faced by the children and their families appear to have multiplied (Kramer, 1981; Spinetta, 1982). As a consequence, parents and siblings must develop methods of dealing with the child's cancer and adjust to the limitations placed on their lives by the illness (Wold & Townes, 1969). In short, families are confronted by an unusual amount of chronic stress and this frequently affects the functioning of individual family members. Siblings often react with feelings of jealousy and resentment when the ill child
re-enters the family unit after hospitalization (Kagan-Goodheart, 1977). Binger (1973) found that sibling response to life-threatening illness in a sister or brother can cause psychological symptoms that may endure, causing distortion in the character structure of the sibling.

Spinetta et al. (1981) in an attempt to identify those children who were experiencing difficulty coping with their sibling's illness designed a study to measure family members' responses to the cancer experience. They revised the Kinetic Family Drawing test (KFD-R) and administered it as part of a battery of psychological tests using patients, their siblings, and their parents as subjects. The authors state that when asked to draw a picture of a person or a group of family members a child engages in a creative problem-solving task, whereby she or he selectively chooses particular situational contexts. As the number of possible components that could occur are so vast, a person is viewed as actively making decisions in constructing the drawing. The assumption in interpreting and scoring the drawings of a projective test is that the figure or figures arise from the person's internalized values, experience or preferences.

For the diagnosed cancer patients, mothers, and fathers the Spinetta et al. (1981) results showed the least adaptive scores for all KFD-R categories occurred at the time the patient was experiencing mild levels of pain. At severe levels of pain these
three groups had scores that indicated better communication, better self-image, and better emotional tone. In contrast, the authors state that the siblings are most-affected when the patient is suffering the most physical discomfort, and the authors recommend this as the appropriate time for intervention. Spinetta et al. (1981) encourage other researchers to utilize projective drawing tests:

In a controlled manner, and publish findings, so that the children who are suffering from catastrophic illnesses will have another means of communicating with those around them their fears, concerns, and needs related to the illness... The measure is nonobtrusive and can provide a means, especially for young children, to express at a nonverbal level what they might not be able to express verbally (p. 99).

Some thirty years earlier, Hulse (1952) had analyzed family drawings by emotionally disturbed children and concluded that the drawings reveal how the child feels about her/his place in the family. "Children and psychotics project their deeper feelings for the different members of the family into drawings which then attain the importance of 'frozen dreams'" (p. 79). Later, Burns and Kaufman (1970) modified the Family Drawing Test (FDT), by adding a kinetic factor. They concluded that the FDT produced a static family portrait with all members standing side-by-side facing the viewer and thus the figures were more involved with the viewer than with each other. Burns and Kaufman (1970) believe
that through the action of the KFD the child shows characteristic behavior of each family member in addition to how these members interact, or fail to interact, as a family. With the KFD, a cluster of actions, symbols, and styles are scored to interpret the interpersonal dynamics of the child and his world (McPhee & Wegner, 1976). Burns and Kaufman (1970) claim that the KFD test "often reflects primary disturbances more quickly and adequately than interview or other probing techniques" (p. 2). However, no reliability coefficients are provided in either the Burns and Kaufman (1970) KFD manual or in the literature.

Sims (1974) compared the results of KFD protocols with the findings of a standardized projective picture test called the Family Relations Indicator (FRI). Scores on the FRI and the KFD measuring the quality of the subjects' relationships were significant for both tests. Based upon these results, Sims concluded that the KFD was a valid test for measuring disturbed parental relationships.

Spinetta et al. (1981) state that by revising the Kinetic Family Drawing (KFD-R) they have developed a carefully structured scoring procedure that minimizes chance and/or "eyeballing" of a child's drawing. Their objective was to develop a scoring system that was operationally defined and replicable. The instructions for the drawing are clear and concise, the scoring procedures are carefully described, and the interpretations are limited to the
specific context of childhood cancer. The authors claim that their KFD-R is a useful instrument both in measuring patients', siblings', and parents' feelings and their attitudes toward the cancer experience.

Another test, the House-Tree-Person Technique, (HTP), has been frequently used in the psychological assessment of children (Bluestein, 1976). Blain et al. (1981) found that the HTP technique discriminated strongly between abused and nonabused, well adjusted children. Based upon the results of their study, the authors recommend the use of the HTP technique by child-care professionals in attempting to identify abused children.

Buck (1948) claims high validity for the HTP technique using hospital diagnosis, Rorschach studies and opinions of competent observers. Although there has been controversy over the reliability of the HTP technique (Bieliauskas, 1956) others have found a relatively high degree of reliability (Hammer & Piotrowski, 1953; Marzolf & Kirchner, 1970). Buck (1948) and Hammer (1953) have found upon retesting that the Tree is less susceptible to change than either the House or the Person. Nevertheless, Bluestein (1978) observed that children who have lost a loved one through death frequently label a portion of the Tree as dead.

The present study was designed to assess the emotional situation of the physically healthy siblings of children with diagnosed cancer, the cancer patients, and a matched control group
of physically healthy peers. Two projective drawing tests, the House-Tree-Person and the Kinetic Family Drawing - Revised were used as the testing instruments. The main purpose of this study was to establish an unobtrusive method that would identify those siblings of children with diagnosed cancer who are emotionally at-risk.

Hypotheses

Although much of the literature regarding sibling adjustment is anecdotal there is good reason to believe that the siblings of chronically ill children are under stress. A number of studies concluded that the siblings exhibit stronger reactions to the family crises than either their parents or the ill child. On the basis of these observations the following hypotheses were constructed:

**Hypothesis 1** The families of the diagnosed cancer patients will demonstrate a significantly less adaptive level of functioning than their matched control families when the HTP and KFD-R protocols of the two groups are compared.

**Hypothesis 2** The test protocols of the healthy siblings of the diagnosed cancer patients will show a significantly lower level of functioning than the protocols of their matched control sample.

**Hypothesis 3** The HTP and KFD-R protocols of the siblings of children with life-threatening diseases will show a significantly
lower level of functioning when compared to the protocols of their
diagnosed sister or brother.

**Hypothesis 4** A significantly lower level of adaptive
functioning will be demonstrated when the HTP and KFD-R protocols
of the diagnosed patients are compared to the protocols of their
matched controls.
CHAPTER II
METHOD

Subjects

The families with a diagnosed cancer patient will be referred to as the cancer group and the families that are matched to the cancer group will be labelled the control group.

The participants were 34 children and young adults. There were 17 subjects, 9 females and 8 males, in the cancer group. The control group consisted of 17 subjects, 8 females and 9 males.

The participants in the cancer group (11 healthy siblings and 6 diagnosed cancer patients) were recruited through the joint cooperation of a parents' support group and a Southwestern Ontario cancer clinic. In order to protect the families' rights to confidentiality, and conform with agency regulations, request-to-participate letters (see Appendix A), were sent by the agencies to families who had used the agencies' facilities. Of 80 families who were sent letters, 10 replied indicating an interest in the study. All ten were contacted and of these, six families were selected to participate in the study.

The control families were selected from the general population of the same Southwestern Ontario area. In addition to public advertising, various clubs and religious organizations assisted by supplying names of families who would be appropriate for the study. Those families that met selection criteria based on
matching variables were chosen.

**Matching of Subjects**

Control group subjects were matched to the cancer group subjects, by family on the following variables:

1. Whether single or two parent family
2. Approximate age of parent(s)
3. Parent(s) occupation
4. Family income
5. Religious affiliation
6. Sex of the sibling
7. Age of the sibling (within two years)

A summary of the family matching data is provided in Table 1. The matching variables are listed at the left of the table with the cancer families and their matched controls recorded together across the top. The legend on the lower part of the table identifies the various categories of each variable. As can be seen in the table, the families were almost perfectly matched.

Note that the siblings identified with asterisks were not tested for this study as they are young adults who no longer live with their families. However, these siblings were included for consistency in the matching procedure.

As the purpose of this study was to determine if the siblings of children with diagnosed cancer show more adjustment problems as measured by the HTQ and KFD-R, than their matched controls, only.
Table 1

Summary of Matching Variable Data for the Cancer (CA) and Control (C) Families

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<td>Sex/Age Siblings</td>
<td>F10</td>
<td>M11</td>
<td>F13</td>
<td>F12</td>
<td>F11</td>
<td>F11</td>
</tr>
</tbody>
</table>

Legend

1Parent's Age: 2Occupation Code: 3Income Code:
1=30-35 1=professional 1=20,000-30,000
2=36-40 2=skilled 2=31,000-40,000
3=41+ 3=sales 3=41,000-50,000
4=secretarial 5=homemaker
5=student
6=student

*siblings included for matching for family size but not tested as they did not reside with the family
those families who had not experienced a major crisis such as a major illness or a death in the family were chosen as control families.

At the time that the matching procedure was taking place, there was extensive unemployment in the area in which this study was conducted. As job loss of the head of the household represents a major crisis for most families this was taken into consideration when selecting control families. In one instance a cancer family had experienced extensive material loss due to the major breadwinner being unemployed for an extended period of time. A matched control family was selected that had experienced similar hardship and sustained comparable losses.

**Testing Instruments**

The testing instruments were two drawing tests, the Kinetic Family Drawing - Revised (Spinetta et al., 1981) and the House-Tree-Person (Buck, 1966). Jollies' Children's Revision of the HTP Post-Drawing Interrogation (Jolles, 1966) was used to elicit information regarding the HTP drawings.

**Kinetic Family Drawing Revised**

The KFD-R was administered using the standardized instructions of Spinetta et al. (1981). However, some changes were made to the KFD-R scoring key (see Appendix B). The Spinetta et al. (1981) scoring guide directs attention to the presentation of the patient and the patient's mother in the drawings but does not attend to the
presentation of the father. As one matched pair of families in this study had the father as a single parent it was necessary to include two items similar to those which scored the presentation of the mother, for the father. One item (the use of colour) was eliminated from the KFD-R scoring guide as it was irrelevant to the scoring of this study since the drawings obtained were achromatic.

Although two items were added and one item removed from the KFD-R scoring key, properties of the subscales were retained. Spinetta et al. (1981) divided their scoring key into three distinct categories: communication, self-image, and emotional tone. These three categories have been shown to be important variables in understanding the adaptation and adjustment of the patient and her/his family to the cancer experience (Spinetta & Maloney, 1978).

The three categories operationally defined by Spinetta et al. (1981) focus on crucial areas of family interaction. Communication looks at intrafamily communication patterns and the level of openness in the family. An atmosphere that allows each family member to express her/his feelings about the restrictions placed on her/his life as a result of the cancer experience has been shown to be very important in coping with the long-term uncertainty of the illness. Avoidance of communication about the reality of the illness puts distance between the family members and limits the support that they can provide for one another. The child's
choice of coping style is determined by whether the parent(s) have encouraged or discouraged the discussion of feelings in previous interactions. The child who is unable to express her/his feelings will experience tension and feelings of isolation. Spinetta (1977) argues that a closed communication style creates anxiety over fear of the unknown, while open communication deals with anxiety stemming from an awareness of the known. Open communication style is effective because it can strengthen family bonds and create support for the ill child and the other family members (Slavin, 1981; Spinetta, 1974).

Since open communication has been considered important to family adjustment, drawings were scored for compartmentalization and barriers. The pictorial separation of drawing certain family members on the opposite side of the paper, or excluding them completely from the drawing, was considered reflective of poor communication among family members.

The second category is that of self-image. Since chemotherapy, radiation treatment, and surgery often result in side effects such as hair loss, disfigurement, weight loss or gain, and amputation, the potential impact of the cancer experience on the individual's self-image can be profound. Siblings and parents as well as patients are affected by the visible results of the illness. Lavigne and Ryan (1979) used parental responses to the Louisville Behavior Checklist to compare siblings of hematology,
cardiology, and plastic surgery patients, to a control group of siblings of healthy children. The results showed that the siblings of all three groups of chronically ill children were significantly more withdrawn and irritable than the control siblings. However, the siblings of the plastic surgery patients were reported to be the most withdrawn and irritable. These results suggest that visible physical abnormalities in a patient can indeed affect the functioning of the healthy members of the family.

In the present study self-image was considered to be reflected in the physical representation of the drawer to her/his family. Completeness of body parts, figure size and the portrayal of the subjects were scored for this category.

Emotional tone of the drawings is the third category. Emotional tone is concerned with affective action, including depression, loneliness, withdrawal, and rejection. The scoring system for emotional tone focuses on those emotions which prior studies of children's psychosocial response to the cancer experience have determined to be important in this population. For example, the portrayal of external states of weather was considered to be a reflection of emotional tone. However, context is important in judging this category. As an example, snow can be depicted in a recreational and enjoyable theme or as a cold and severe condition.

The House-Tree-Person

The HTP was administered to the subjects using the standardized
presentation provided by Buck (1966). A postdrawing interrogation was used to give the subject an opportunity to define, describe and interpret the objects and environments she/he had drawn (Jolles, 1966).

As the formal scoring of the HTP test is very complicated and requires subjective clinical judgements on the part of a highly trained scorer, a scoring system based on the KFD-R scoring guide was devised. The HTP scoring key (see Appendix C) was created from the questions of the postdrawing interrogation. Three judges independently chose questions from the Jolles' Post-Drawing Interrogation (PDI) that appeared to be relevant to the particular population of this study. Only those questions that were considered appropriate by all three judges were used for the HTP scoring key.

Using the format of the KFD-R scoring key as a model, three judges independently arranged the previously chosen questions from the Jolles' PDI into the three KFD-R subscales: communication, self-image and emotional tone. The criterion for final assignment to a particular subscale was the agreement of two judges that the item belonged in one rather than another subscale.

A standard battery operated tape recorder was used with the subjects' permission, to record the responses to the HTP post-drawing interrogation. The audio recordings were used as a control for consistency in presentation and to ensure for accurate transcriptions.
Procedure

Information was collected from the cancer families and recorded on the Parental Interview Questionnaire, Group A (see Appendix D). Control families were solicited and demographic information for each family was noted on the Parental Interview Questionnaire, Group B (see Appendix E). The control families that provided the closest match to the cancer families on the established variables were selected for the study. In addition to receiving permission from the parent(s) for their family to participate in the study, the permission of each family member was also obtained. Arrangements were then made to test the child or young adult in her or his home.

The KFD-R and HTP were administered to each subject using the standardized presentations for each test (see Appendix F). The presentation of tests was counterbalanced to control for order effects (D'Amato, 1970). The order in which the various family members were tested was determined by the subject drawing a number. Upon completion of the testing session each subject was given an age-appropriate gift for her/his participation.

Scoring System

The experimenter who administered the tests did not score them. Scoring of the KFD-R was done by two clinical psychologists who had familiarized themselves with the KFD-R scoring procedure. The scorers practised on a number of test protocols until they
achieved consistency with their use of the scoring system, before applying it to the protocols of the present study. The scorers were "blind" as to whether the protocol was from the cancer group or control group.

The HTP protocols were scored by a professor of psychology and a psychology doctoral student who were also both "blind" as to the group assignments of each protocol. The scorers familiarized themselves with the HTP scoring system by scoring test protocols until they reached agreement as to the interpretation of the system, before independently scoring the study protocols. In contrast to the KFD-R protocols, which used a scoring guide applied to the actual drawings, the scoring of the HTP protocols was based upon the subjects' responses to Jolles' PDI and the HTP drawings were used only to clarify ambiguous responses.
CHAPTER III

RESULTS

A Pearson product-moment correlation coefficient of 
\[ r(33) = .97 \] for the HTP and \[ r(33) = .98 \] for the KFD-R indicated 
very highly significant and almost perfect interjudge reliability. 
The results of the data collected for the House-Tree-Person 
technique and the Kinetic Family Drawing - Revised test will be 
presented and discussed individually.

**House-Tree-Person Test**

Hypothesis one predicted the families of the child with 
diagnosed cancer would demonstrate a less adaptive level of 
functioning than the matched control families. As can be seen in 
Table 2, (which is a presentation of the means and standard 
deviations of the cancer families, cancer siblings, cancer patients, 
control families, control siblings, and control patients), the 
total scores and subscale scores for the cancer families are 
higher than the scores for all groups except the cancer siblings 
group. A significant difference was found between the cancer 
families and the control families on the HTP for the total score, 
\[ t(32) = .04, p < .05 \], and the communication subscale, \[ t(32) = 2.16, \] 
\[ p < .05 \]. These results support hypothesis one. However, as can 
be seen in Table 3, there was no significant difference between 
the two groups on either the self-image or the emotional tone 
subscales.
Table 2
Means and Standard Deviations for the Cancer and the Control Groups on the House-Tree-Person

<table>
<thead>
<tr>
<th>Scales</th>
<th>Cancer Group</th>
<th></th>
<th>Control Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Families</td>
<td>Siblings</td>
<td>Patients</td>
<td>Families</td>
</tr>
<tr>
<td></td>
<td>Mean SD</td>
<td>Mean SD</td>
<td>Mean SD</td>
<td>Mean SD</td>
</tr>
<tr>
<td>Communication</td>
<td>4.12 1.93</td>
<td>4.18 2.04</td>
<td>4.00 1.90</td>
<td>2.76 1.25</td>
</tr>
<tr>
<td>Self-Image</td>
<td>5.65 3.00</td>
<td>6.36 3.41</td>
<td>4.33 1.51</td>
<td>4.53 2.18</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>3.65 1.77</td>
<td>4.27 1.79</td>
<td>2.50 1.05</td>
<td>3.53 2.18</td>
</tr>
<tr>
<td>Totals</td>
<td>13.41 4.46</td>
<td>14.82 4.73</td>
<td>10.83 2.56</td>
<td>10.82 3.30</td>
</tr>
</tbody>
</table>


Table 3

Means and Standard Deviations for the Cancer and Control Families on the House-Tree-Person Test

<table>
<thead>
<tr>
<th></th>
<th>Cancer Families</th>
<th>Control Families</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Scales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication *</td>
<td>4.12</td>
<td>1.93</td>
</tr>
<tr>
<td>Self-Image</td>
<td>5.65</td>
<td>3.00</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>3.65</td>
<td>1.77</td>
</tr>
<tr>
<td>Total Scores†</td>
<td>13.41</td>
<td>4.46</td>
</tr>
</tbody>
</table>

\[ t(32) = 1.94, p < .05 \]

\[ t(32) = 2.16, p < .05 \]

\[ \text{Each group includes 11 siblings and 6 patients; n = 17} \]
Hypothesis two predicted that the test protocols of the healthy siblings of the diagnosed cancer patients would show a significantly lower level of functioning as measured by the HTP, than the protocols of their matched controls. The results support this prediction. The scores for the cancer siblings group are higher than those of any other group, for the total score and across all subscales. It is of interest to note that the cancer siblings group is different from each of the other groups including the cancer patient group (see Table 2). The results showed a significant difference between the cancer siblings and the control siblings on the total score, $t(20) = 1.82, p < .05$, and on the self-image subscale, $t(20) = 2.23, p < .05$. In contrast, the difference between the means of the cancer siblings group and the control siblings group was not significant for either the communication or the emotional tone subscale (see Table 4).

Contrary to the prediction of hypothesis three, the HTP protocols of the cancer siblings did not show a significantly lower level of functioning than the HTP protocols of the diagnosed cancer patients. The means and standard deviations for the cancer siblings and cancer patients are shown on Table 5.

A comparison between the cancer patients and their matched controls does not support hypothesis four which predicted a significant difference between the two groups (see Table 6). Significance was not shown on either the total score or any of the
Table 4
Means and Standard Deviations for the Cancer and Control Siblings on the House-Tree-Person Test

<table>
<thead>
<tr>
<th>Scales</th>
<th>Cancer Siblings</th>
<th>Control Siblings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Communication</td>
<td>4.18</td>
<td>2.04</td>
<td>3.00</td>
</tr>
<tr>
<td>Self-Image*</td>
<td>6.36</td>
<td>3.41</td>
<td>4.09</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>4.27</td>
<td>1.79</td>
<td>3.73</td>
</tr>
<tr>
<td>Total score†</td>
<td>14.81</td>
<td>4.73</td>
<td>10.82</td>
</tr>
</tbody>
</table>

*_{t(20)} = 1.82, p < .05
†_{t(20)} = 2.23, p < .05

Each sibling group comprised of 11 siblings; patients and designated control patients were not included for this comparison. n = 11
Table 5

Means and Standard Deviations for the Cancer Patients and Siblings on the House-Tree-Person Test

<table>
<thead>
<tr>
<th>Scales</th>
<th>Cancer Patients (n=6)</th>
<th>Cancer Siblings (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Communication</td>
<td>4.00</td>
<td>1.90</td>
</tr>
<tr>
<td>Self-Image</td>
<td>4.33</td>
<td>1.51</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>2.50</td>
<td>1.05</td>
</tr>
<tr>
<td>Total score</td>
<td>10.83</td>
<td>2.56</td>
</tr>
</tbody>
</table>
Means and Standard Deviations for the Cancer and Control Patients on the House-Tree-Person Test

<table>
<thead>
<tr>
<th>Scales</th>
<th>Cancer Patients (n=6)</th>
<th>Control Patients (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Communication</td>
<td>4.00</td>
<td>1.90</td>
</tr>
<tr>
<td>Self-Image</td>
<td>4.33</td>
<td>1.51</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>2.50</td>
<td>1.05</td>
</tr>
<tr>
<td>Total score</td>
<td>10.83</td>
<td>2.56</td>
</tr>
</tbody>
</table>
subscale.

Table 7 shows the similarity between the means and standard deviations of the control patients and their siblings on the HTP. Although no specific hypothesis was made regarding the control siblings and the control patients, a comparison was made between these two groups. This comparison was necessary to establish that there were no significant differences between the control siblings and the control patients. A significant difference between the control siblings and control patients would confound the results of the comparisons of the cancer families to the control families. There were no significant differences between the control siblings and the control patients on the HTP (see Table 7).

**Kinetic Family Drawing-Revised Test**

A t-test was performed on the KFD-R protocols of the cancer and control families. No significant differences were found for the total score or for the three subscales (see Table 8). These results do not confirm hypothesis one which predicted that the families of diagnosed cancer patients would show a significantly less adaptive level of functioning than the matched control families.

The KFD-R protocols of the cancer siblings and control siblings were also compared. The means and standard deviations used for these comparisons are presented in Table 9. The results did not support the predictions of hypothesis two, in which the
Table 7

Means and Standard Deviations for the Control Patients and Siblings on the House-Tree-Person Test

<table>
<thead>
<tr>
<th></th>
<th>Control Patients (n=6)</th>
<th>Control Siblings (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td><strong>SD</strong></td>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td><strong>Scales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>2.33</td>
<td>1.37</td>
</tr>
<tr>
<td>Self-Image</td>
<td>5.33</td>
<td>1.37</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>3.17</td>
<td>1.60</td>
</tr>
<tr>
<td>Total score</td>
<td>10.83</td>
<td>2.93</td>
</tr>
</tbody>
</table>
Table 8

Means and Standard Deviations for the Cancer and Control Families on the Kinetic Family Drawing - Revised Test

<table>
<thead>
<tr>
<th></th>
<th>Cancer Families ¹</th>
<th>Control Families ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Scales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>3.41</td>
<td>2.43</td>
</tr>
<tr>
<td>Self-Image</td>
<td>5.15</td>
<td>1.97</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>1.29</td>
<td>1.34</td>
</tr>
<tr>
<td>Total score</td>
<td>9.23</td>
<td>4.52</td>
</tr>
</tbody>
</table>

¹Each group includes 11 siblings and 6 patients; n=17.
Table 9
Means and Standard Deviations for the Cancer and Control Siblings on the Kinetic Family Drawing - Revised Test

<table>
<thead>
<tr>
<th></th>
<th>Cancer Siblings (n=11)</th>
<th>Control Siblings (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Scales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>3.27</td>
<td>2.45</td>
</tr>
<tr>
<td>Self-Image</td>
<td>5.27</td>
<td>1.79</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>1.36</td>
<td>1.42</td>
</tr>
<tr>
<td>Total score</td>
<td>10.41</td>
<td>4.22</td>
</tr>
</tbody>
</table>
KFD-R protocols of the cancer siblings were expected to show a significantly lower level of functioning than the KFD-R protocols of the matched control siblings.

Hypothesis three stated that the KFD-R protocols of the cancer siblings would differ significantly from the KFD-R protocols of the cancer patients. A comparison of these two groups did not support the hypothesis. The difference between the cancer siblings and the cancer patients was not significant (see Table 10).

A significantly lower level of functioning was not demonstrated by the KFD-R protocols of the cancer patients when compared to the matched control patients as had been predicted in hypothesis four. No significant differences were found on the total score or on any of the subscales (see Table 11).

There were no significant differences between the control siblings and control patients on the total score or any of the three subscales (see Table 12). As was explained with respect to the HTP, it was important to ensure that there were no significant differences between the control siblings and control patients. Such differences would confound the results of the comparisons of the cancer families with the control families.
Table 10

Means and Standard Deviations for the Cancer Patients and Siblings on the Kinetic Family Drawing - Revised Test

<table>
<thead>
<tr>
<th>Scales</th>
<th>Cancer Patients (n=5)</th>
<th>Cancer Siblings (n=11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Communication</td>
<td>2.75</td>
<td>2.44</td>
</tr>
<tr>
<td>Self-Image</td>
<td>4.95</td>
<td>2.42</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>1.17</td>
<td>1.33</td>
</tr>
<tr>
<td>Total score</td>
<td>8.83</td>
<td>5.34</td>
</tr>
</tbody>
</table>
**Table 11**

Means and Standard Deviations for the Cancer and Control Patients on the Kinetic Family Drawing - Revised Test

<table>
<thead>
<tr>
<th>Scales</th>
<th>Cancer Patients (n=6)</th>
<th>Control Patients (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Communication</td>
<td>2.75</td>
<td>2.44</td>
</tr>
<tr>
<td>Self-Image</td>
<td>4.95</td>
<td>2.42</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>1.17</td>
<td>1.33</td>
</tr>
<tr>
<td>Total score</td>
<td>8.83</td>
<td>5.34</td>
</tr>
<tr>
<td>Scales</td>
<td>Control Patients (n=6)</td>
<td>Control Siblings (n=11)</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Communication</td>
<td>2.50 (2.88)</td>
<td>3.27 (2.87)</td>
</tr>
<tr>
<td>Self-Image</td>
<td>6.17 (2.04)</td>
<td>5.05 (2.43)</td>
</tr>
<tr>
<td>Emotional Tone</td>
<td>2.17 (2.04)</td>
<td>1.91 (1.04)</td>
</tr>
<tr>
<td>Total Score</td>
<td>10.83 (4.49)</td>
<td>10.23 (4.47)</td>
</tr>
</tbody>
</table>
CHAPTER IV

DISCUSSION

Children's drawings have frequently been used by psychosocial professionals, first as tools for assessing the developmental maturity of growing children, and second as a vehicle for understanding those feelings, conflicts and attitudes which children find difficult to verbalize (Spinetta et al., 1981). However, there has been a tendency for children's drawings to be interpreted by clinicians from a psychoanalytical perspective, in a manner that makes controlled replication difficult or impossible (Freud, 1946; Burns & Kaufman, 1970).

In contrast to the psychoanalytical approach, the present study attempted to use children's drawings in a carefully structured and situation limited administration and scoring procedure which would enhance interjudge agreement and permit people without extensive training to use the test effectively. As indicated earlier, the structured administration and interpretation in this study is based on several decades of previous research that attempted to design objective scoring procedures for children's drawings (Buck, 1966; DiLeo, 1970; Goodenough, 1926; Hammer, 1958, 1960; Jolles, 1966; Kellogg, 1967; Koppitz, 1968; Myers, 1978; O'Brien & Patton, 1974; Spinetta et al., 1981).

Spinetta et al. (1981) revised the KFD and administered it to families that had a child who was a diagnosed cancer patient.
The KFD-R test was used as a measure of emotional adjustment to the cancer experience. The KFD-R protocols of the individual family members were compared to the protocols of the other members of the same family; patient with mother, siblings with father, siblings with patient, etc.; a matched control group was not used. As the authors reported finding the greatest difference between the siblings and the other family members, as measured by the KFD-R, during the period when the diagnosed cancer patient was experiencing the most physical distress, the question of whether the diagnosed patient was receiving treatment or was in remission (periods of good health following diagnosis and initial treatment of the cancer) at the time the drawing tests were administered is crucial to the outcome of the study. It is important to note that the diagnosed cancer patients were all receiving outpatient treatment for their illnesses at the time that Spinetta et al. (1981) administered KFD-R tests to the families.

The present study compared the HTP and KFD-R protocols of the physically healthy siblings of children with diagnosed cancer, the diagnosed cancer patients, and a matched control group of physically healthy peers. Unlike Spinetta et al. (1981), the present study assessed families where the diagnosed cancer patient was not involved in treatment at the time of testing. The diagnosed cancer patients in the present study had been in remission for an average of four years when the HTP and KFD-R tests were
administered. (For a summary of the patients' medical information, see Appendix G.)

The purpose of the present study was to develop and test a convenient, unobtrusive procedure to identify those siblings of diagnosed cancer patients who may be emotionally at-risk. In view of the results obtained for the HTP test, this objective has been realized. The HTP has a standardized presentation procedure and is an easy, unobtrusive test to administer. As most children enjoy both drawing and explaining the pictures they have drawn, the HTP is an especially appropriate test for children who may already be experiencing considerable stress.

On average the entire administration of the HTP techniques including the Jolles' PDI was completed in less than one hour. The objective scoring guide, developed for this study, can be applied to each protocol easily and quickly with little prior training. The substantial interjudge reliability demonstrated in this study suggests that the scoring guide can produce consistently reliable results from which conclusions can be formed about the emotional health of the subject.

The HTP results showed a significant difference between the cancer families and the control families on the total score, and on the communication subscale. A significant difference was also found between the cancer siblings and the control siblings on the total score and on the self-image subscale.
An ordering of the means of the total score of each group on the HTP, places the cancer siblings highest at 14.82 followed by the identical score of 10.83 for the cancer and control patients. The score of the control siblings is only slightly lower at 10.82. It is apparent from these results that the cancer group siblings are not only different from the control group but also show more distress, as reflected in their higher score, than the cancer patients. These results support the position of Spinetta et al. (1981) who found that siblings of diagnosed cancer patients expressed greater distress in their drawings than either their parents or the diagnosed cancer patient.

Because the families in this study were so closely matched and because the patients had been in remission for an extended period of time, these findings suggest that the HTP is a sensitive instrument for such populations. It has been proposed that the sensitivity of the HTP may result from the subjects' reactions to drawing the Tree. The objective familiarity of the Tree may allow the subject to express herself/himself more freely than she/he is able to do with the more emotion-laden Person or House. Buck (1966) hypothesized that distortions of the Tree, especially scars on the trunk, suggested traumatic past experiences of the subject. Bluestein (1978) stated, "I have found the Tree drawing to be clinically more revealing and useful than either the House or Person." It is beyond the scope of this investigation to
determine the influence that each drawing had on the overall results from the HTP; however, a future study which compared the results of the Tree drawings to those of the Person and House may provide support for this speculation.

It seems reasonable to assume that families with a diagnosed cancer patient who is involved with treatments for her/his illness may be experiencing considerably more stress than families whose diagnosed cancer patient has been in remission for up to six and one-half years. Therefore, the extended period of remission of the cancer patients in this study (see Appendix G) may have affected the results. The cancer patients in the Spinetta et al. (1981) study were not in remission and the KFD-R tests were administered to the family members when the cancer patient was receiving medical treatment at the clinic. As Spinetta et al. (1981) did find significant differences that were directly related to the state of the diagnosed patient's illness, the importance of this difference between the two studies cannot be ignored. These results could also suggest that the scoring guide for the KFD-R may not be a measure that can detect subtle differences such as may occur during an extended remission period, but may be more useful during the crisis situation.

The attitudes of the cancer families toward the cancer experience are also important. In a study reported by Slavin (L. Slavin, personal communication, August 27, 1984), some families
expressed the belief that the cancer experience had stretched the resources of their families to the limit. These families feared that another attack of any kind would destroy their families' ability to function effectively. Slavin also found a second group of families that believed the cancer experience had caused their family members to become more supportive of one another. These families felt that they could successfully resist any intrusion from outside the family.

Although information about this phenomenon was not gathered systematically, the strong impression formed about the cancer families in the present study was that they closely resembled the second group of families that Slavin described. At least one parent in each of the cancer families consistently expressed confidence in her/his family's ability to cope successfully with serious problems. Yet the data from the test protocols of even these highly self-selected families whose cancer patients were in extended remission confirmed the position of Spinetta et al. (1981) that the siblings of a child with cancer are emotionally at-risk.
APPENDIX A

Request to participate letters and response forms
Dear Parents:

This is to request your permission to allow the children and young adults in your family to participate in a study. The study is designed to determine if the drawings of brothers and sisters of children who have life-threatening illnesses are different from those of children who do not have an ill sibling.

The study is being conducted by Doris Swan, a graduate student in Child Clinical Psychology at the University of Windsor. If you grant permission for your family to participate in this study, Ms. Swan will ask each child to complete three pencil drawings. If the child agrees, he/she will be asked to draw first a house, then a tree, and finally a person. The drawings will not be judged for artistic ability, or intelligence, or school achievement. When the drawings are completed, the child will be asked a series of questions about his/her drawing. The entire process should take approximately 45 minutes for each participant. At the conclusion of the session each participant will be given a small gift as a token of appreciation.

The study is not a psychological assessment of each child, but rather a means of collecting group information. Participants' names will not appear on any pictures or questionnaires, or other collected information. The information from each participant will be coded upon collection. Be assured that the testing procedure will be administered with sensitivity to the needs of the participants and should in no way be disturbing to them, in fact children enjoy this drawing game.

To protect your right to confidentiality, the Parents' Support Group has agreed to mail these letters according to their mailing list. If you are interested in knowing more about the study and/or having your family participate, please complete the attached questionnaire and return it in the enclosed stamped self-addressed envelope. Only those families who return the questionnaire will be contacted.

Your participation in this study could contribute considerably to our understanding of children and young adults who are trying to cope with the stress of living with a sibling who has a life-threatening illness. Your time and consideration of this request is greatly appreciated.

******************************************************************************

Miriam E. Bunt, Ph.D.,
Professor of Psychology,
Dept. of Psychology,
University of Windsor,
Supervisor.

Miriam E. Bunt, Ph.D.

Doris J. Swan, Hon. B.A.,
Graduate Student,
Dept. of Psychology,
University of Windsor.

Doris J. Swan
<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
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<td></td>
<td></td>
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<tr>
<td>Phone Number:</td>
<td></td>
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<tr>
<td>Best time of day to try to contact the family for an appointment:</td>
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<table>
<thead>
<tr>
<th>CHILDREN</th>
<th>Name</th>
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<th>Sex</th>
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<tr>
<td></td>
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<td>Day</td>
<td>Month</td>
</tr>
<tr>
<td>1.</td>
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</tr>
<tr>
<td>2.</td>
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<td>3.</td>
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<td>6.</td>
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<td>7.</td>
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<tr>
<td>8.</td>
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</table>

* Please return this form in the enclosed self-addressed envelope as soon as possible. Please be sure to enclose a telephone number where you can be reached if you are interested in participating in this study. Thank you very much for your time and consideration.

* For additional information call Doris Swan - 253-3081
APPENDIX B

Kinetic Family Drawing-Revised Scoring Key
KFD-R Scoring Key
Revised for Swan Study

Twenty items: total score possible 40

Score=

Circle appropriate number.

A. Body position of patient
   0 Patient standing
   (C) 1 Patient sitting
        2 Patient lying

B. Used front-back paper
   0 All figures on one side
   (C) 1 Some on each side of page
        2 One person alone on back side of page

C. Facial completeness of subject (self)
   0 Complete face
   (E) 1 Partial face
        2 No face

D. Frequency of missing parts
   0 No parts missing
   (S) 1 Parts missing on one or two people
        2 Parts missing on more than two people

E. Facial position of patient
   0 Front of patient facing viewer
   (C) 1 Side of patient facing viewer
        2 Back of patient facing viewer
F. Facial position of father
   0 Front of father facing viewer
   (C) 1 Side of father facing viewer
        2 Back of father facing viewer

G. Incompleteness of body
   0 None (body completely present)
   (S) 1 Mild (absence of minor body parts)
        2 Severe (absence of major body parts)

H. Barriers
   0 No physical obstruction
   (C) 1 Some groups obstructed
        2 Everyone separated by barriers (physical objects or lines)

I. Developmental level
   0 At developmental level
   (E) 1 Above developmental level
        2 Below developmental level

J. Figure size
   0 All figures appropriate size relative to one another
   (S) 1 Partial figures; some members wrong size
        2 No differentiation, or parents smaller than children

K. Subject portrayal
   0 Self not portrayed pejoratively
   (S) 1 Self portrayed pejoratively (parts missing, no face, back turned)
2 Self not portrayed (missing)

L. Use of space on paper
   0 Total page
   (E) 1 Less than 1/2
        2 Less than 1/3

M. Exclusions
   0 All family members present
   (C) 1 Any other family members missing
        2 Patient missing

N. Compartmentalization
   0 Everyone together
   (C) 1 Some groups separated
        2 Everyone in compartments separated by lines

O. Facial position of mother
   0 Front of mother facing viewer
   (C) 1 Side of mother facing viewer
        2 Back of mother facing viewer

P. Use of stick figures
   0 No stick figures used
   (E) 1 Stick figures used
        2 All stick figures used

Q. Conditions of nature (weather)
   0 Sun shining, no clouds
   (E) 1 Combination of 0 and 2
2 Rain, snow, darkness

R. Body position of father
   0 Father standing
   (C) 1 Father sitting
        2 Father lying

S. Body position of mother
   0 Mother standing
   (C) 1 Mother sitting
        2 Mother lying

T. Cross-outs
   0 Figures not crossed over
   (S) 1 Figures partially crossed over
        2 Figures totally crossed over

Communication: A, B, E, F, H, M, N, O, R, S =
Self Image: D, G, J, K, T =
Emotional Tone: C, I, L, P, Q =
APPENDIX C

House-Tree-Person Scoring Key
H-T-P SCORING KEY

Person

1. How old is he/she?

0 same age as self (within two years either way)

(S) 1 older than self

2 younger than self

Tree

2. How old is that Tree?

0 older than self

(S) 1 same age as self (within two years either way)

2 younger than self

3. Is that Tree alive?

0 alive

(S) 1 alive but with some dead parts

2 dead

4. Is any part of that Tree dead?

0 no

(S) 1 seasonal damage (dead leaves)

2 major damage (dead branches, bark)

House

5. Would you like to own that House? Why?

0 positive response

(E) 1 negative response

2 disparaging response (rejection)
6. Whom would you like to have live in the House with you?
   0 present or future family
   (E) 1 present family with one or more members missing
        2 present family with patient missing

7. Does that House seem to be close by or far away?
   0 close by
   (E) 1 I don't know
        2 far away

Tree

8. If that Tree were a person, which way would that person be facing?
   0 toward self
   (C) 1 to the left or right
        2 away from self

9. Is that Tree by itself or in a group of trees?
   0 in a group of trees
   (C) 1 with one or two other trees
        2 by itself

Person

10. Is that Person well?
    0 yes
    (S) 1 occasionally ill
         2 no
Tree

11. What is the weather like in this picture?
   0 pleasant or type of weather subject prefers
   (E) 1 neutral or I don't know
   2 stormy or opposite to subject's preferred weather

House

12. What is the weather like in the House picture?
   0 pleasant or type of weather the subject prefers
   (E) 1 neutral or I don't know
   2 stormy or opposite to preferred weather

13. Has anyone or anything ever hurt that House?
   0 no
   (S) 1 minor damage (paint chipping, broken windows)
   2 major damage (structural problems—roof needs repair, door is broken)

Person

14. What does that Person need most?
   0 nothing
   (C) 1 affiliation
   2 emotional support

15. Has anyone or anything ever hurt that Person?
   0 no
   (S) 1 minor damage (peer rejection)
   2 major damage (disease or physical abuse)
Tree

16. Is it a healthy Tree?
   0 healthy
   (S) 1 some parts are dead

17. Is it a strong Tree?
   0 yes
   (S) 1 some parts are not strong
   2 no, it is not strong

18. Has anyone or anything ever hurt that Tree?
   0 no
   (S) 1 minor damage (wind or storms)
   2 yes (major damage, disease or cut)

19. What does that Tree need most?
   0 nothing
   (C) 1 affiliation
   2 emotional support

House

20. What does that House need most?
   0 general maintenance/on going upkeep
   (C) 1 inhabitants (new or more people)
   2 emotional support (love and affection)

Emotional Tone -.5, 6, 7, 11, 12 =
Communication - 8, 9, 14, 19, 20 =
Self Image - 1, 2, 3, 4, 10, 13, 15, 16, 17, 18 =
Total Score =
APPENDIX D

Parental Interview Questionnaire-Group A (Cancer Group)
Parental Interview Questionnaire

Group A

1. Father's age: 20-25 __, 26-30 __, 31-35 __, 36-40 __, 41+ __
   Mother's age: 20-25 __, 26-30 __, 31-35 __, 36-40 __, 41+ __

2. Parents' occupations: Father __________________________
   Mother __________________________

3. Family income: 10,000-20,000 ______
   21,000-30,000 ______
   31,000-40,000 ______
   41,000-50,000 ______
   51,000+ ______

4. Religious affiliation: Catholic ______
   Protestant ______
   Jewish ______ Practising____
   Other ______ Nonpractising____

5. Siblings names, ages and birth order (specify child with cancer).

6. When was the child correctly diagnosed?
   What was the diagnosis?
   Was the child told of the diagnosis?
   How long after the diagnosis was the child told?
   What was the child told?
   Who told him/her?
How did the child react to the information?

7. How long was the child in treatment?
   Was the treatment in-patient, out-patient, or both?
   Were there any visible side-effects from the treatment?

8. Were the siblings told of the diagnosis?
   What were the siblings told about the illness?
   How long after the diagnosis were the siblings told?
   Who told them of the diagnosis?
   How did the siblings react to the information?

9. Did anyone help care for the siblings during the initial diagnosis and hospitalization?
   Who?

10. Does the family have a network of relatives and/or friends who were able to provide assistance?

11. What is the state of the diagnosed child at the present time?
    How long has the child been in this condition?
    Is the diagnosed child currently under treatment?
APPENDIX E

Parental Interview Questionnaire-Group B (Control Group)
Parental Interview Questionnaire

Group B

1. Father's age: 20-25__, 26-30__, 31-35__, 36-40__, 41+__
   Mother's age: 20-25__, 26-30__, 31-35__, 36-40__, 41+__

2. Parents' occupations: Father - ____________________
                        Mother - ____________________

3. Family income: 10,000-20,000________
                   21,000-30,000________
                   31,000-40,000________
                   41,000-50,000________
                   50,000- + __________

4. Religious affiliation: Catholic ______
                        Protestant ______
                        Jewish ______ Practising____
                        Other ______ Nonpractising____

5. Siblings' names, ages and birth order.

6. Have any of the children experienced serious illness?
   Who was ill?
   What was the illness?
   When did the illness occur?

7. Has anyone in the family experienced a serious, lingering illness?
Who?

When did the illness occur and how long did it last?

What was the result of the illness? (complete recovery or complications)

8. Has the family experienced a death of a close friend or relative within the past year? If so, please explain the relationship and when.

9. Has the family had any unusual, stressful events during the past year? (parents losing their jobs, a major move, changing schools, etc.)
APPENDIX F

Standardized Presentations for the HTP and KFD-R
Instructions for House-Tree-Person Technique

The experimenter placed a sheet of white paper 27.9 cm x 21.6 cm in a horizontal position directly in front of each subject and said: "I want you to draw me as good a house as you can. You may draw any kind of house you like; you may take as long as you wish; you may erase as much as you like; it won't count against you. Just do the best you can."

If the subject asked for a ruler, or any drawing aid, she/he was told that her/his drawing must be a freehand production.

Each drawing session was timed with a stop watch from when the subject began to draw until the completion of the final drawing.

After the subject completed the House, the experimenter placed a sheet of white paper 27.9 cm x 21.6 cm in a vertical position, in front of her/him. The experimenter then said, "Now I want you to draw as good a tree as you can." If the subject asked what kind of tree she/he should draw, the experimenter responded, "Make any kind you choose."

After the subject indicated that she/he had completed the Tree drawing, the experimenter provided another sheet of white paper 27.9 cm x 21.6 cm placed in a vertical position. The experimenter said, "Draw me as good a man, woman, or child as you can, but be sure to make all of it—not just the head and shoulders."

At the completion of the drawing segments Jolles' Children's
Revision of the House-Tree-Person Post Drawing Interrogation was used to give the child an opportunity to define, describe, and interpret the objects and environments she/he had drawn. With the permission of the subject, her/his responses to the Jolles' Children's Revision of the House-Tree-Person Post Drawing Interrogation were recorded, and audio taped to ensure accurate data collection and consistency of presentation. Each HTP test was completed in approximately one hour.
Instructions for the Kinetic Family Drawing Test

The subject was seated at a table, and a sheet of plain white paper 27.9 cm x 21.6 cm was placed directly in front of him/her with a No. 2 pencil placed in the centre of the paper. The subject was asked to: "Draw a picture of everyone in your family, including you, DOING something. Try to draw whole people, not cartoons or stick people. Remember, make everyone doing something—some kind of action." No time limit was given and the experimenter recorded the order in which the figures were produced. At the completion of the drawing the experimenter asked, "Have you drawn everyone in your family?" This question was asked only once. The subject was then asked to identify by name, age, and activity each person in the drawing, and the information was recorded. Each KFD test was completed in approximately thirty minutes.
APPENDIX G

Cancer Patients' Medical Information
## Cancer Patients' Medical Information

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<tr>
<th>Type of cancer</th>
<th>Sex</th>
<th>Age</th>
<th>Time Since Diagnosis</th>
<th>Time in Remission</th>
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<td>M</td>
<td>8</td>
<td>5 yrs.</td>
<td>6 mos.</td>
</tr>
<tr>
<td>leukemia</td>
<td>F</td>
<td>9</td>
<td>3½ yrs.</td>
<td>3 yrs.</td>
</tr>
<tr>
<td>leukemia</td>
<td>F</td>
<td>8</td>
<td>5 yrs.</td>
<td>3 yrs.</td>
</tr>
<tr>
<td>Hodgkin's disease</td>
<td>M</td>
<td>19</td>
<td>7 yrs.</td>
<td>5½ yrs.</td>
</tr>
<tr>
<td>Hodgkin's disease</td>
<td>M</td>
<td>12</td>
<td>7 yrs.</td>
<td>6½ yrs.</td>
</tr>
<tr>
<td>brain tumor</td>
<td>M</td>
<td>13</td>
<td>7 yrs.</td>
<td>6 yrs. (cured)</td>
</tr>
</tbody>
</table>
References


VITA AUCTORIS

Doris Jane Swan was born to Jennie and Joseph Swan on April 20, 1942, in Phelpston, Ontario. She attended Elmvale District High School, Elmvale, Ontario and in June, 1958 graduated from Barrie Business College, Barrie, Ontario.

She received the degree of Honours Bachelor of Arts in psychology from the University of Windsor, June, 1979. Since September of 1979 she has been enrolled in the doctoral program in Child Clinical Psychology at the University of Windsor.

Doris has two daughters, Robin (23) and Ashley (16).