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Priscilla Mae Koop

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Department of Family Studies
Edmonton, Alberta
Fall 1994

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- Geography 0366
- Gerontology 0351
- History
  - General 0578
  - Ancient 0579
  - Medieval 0581
  - Modern 0582
  - Black 0328
  - African 0331
  - Asia, Australia and Oceania 0332
  - Canadian 0334
  - European 0335
  - Latin American 0336
  - Middle Eastern 0333
  - United States 0337
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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **Stress, Appraisal and Coping with Cancer** here submitted by **Priscilla Mae Koop** in partial fulfillment of the requirements for the degree of **Doctor of Philosophy**.

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Dedicated to

Mike and Misha

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ABSTRACT

The purposes of this study were to describe the relationships among stressors (concurrent life events and illness-related stressors), appraisal, coping and satisfaction with family functioning in recently diagnosed cancer patients and their spouses and to identify differences associated with gender and role.

The study employed a cross-sectional design. The sample included 75 patients and their spouses. Data were analyzed with univariate statistics, analysis of variance and multiple regression. The average respondent was 52 years of age, married for 25 years with 2 - 3 children, had 12 years of education and was employed.

There were significant differences in the appraisals and coping strategies reported by male and female patients and their respective spouses. Females appraised cancer to be more stressful than did males and patients appraised cancer to be more challenging, more controllable by the self and less stressful than did spouses. In terms of coping, females reported less distancing and escape-avoidant coping and more accepting of responsibility than did males. Patients reported using greater distancing, accepting of responsibility and seeking social support than did spouses. Clinicians need to be aware of gender and role differences when designing intervention programs.

The predicted relationships among the variables met with mixed results. The relationships found between stressors and appraisals and among the types of appraisals were, for the most part, as predicted. However, the predicted relationships between appraisals and coping strategies and between coping strategies and satisfaction with family functioning were not found. Scores on satisfaction with family functioning scores were high and lacked variability, reducing the possibility of identifying significant predictors. The results may also be a function of the timing of data collection. Since data were collected in the early post-diagnostic phase of cancer, the potential benefits of certain appraisals and coping strategies had yet to be realized. The development of a more

sensitive measure of satisfaction with family functiong and the longitudinal study of patient and spouse responses to cancer are recommended. Interview data have yet to be analyzed and may yield further insights regarding these findings.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

Background

Health care practitioners and researchers from a variety of disciplines are expressing growing interest in the impact of illness on families (Doherty & McCubbin, 1985; Gilliss, 1989; Leventhal, Leventhal & Nguyen, 1985; Litman, 1974; McCubbin & McCubbin, 1991; Pederson & Valanis, 1988). The study of families in which a member is experiencing an illness has theoretical and practical significance. Family stress theories have the potential to be refined as the process of family adjustment to an illness is further clarified. Moreover, greater understanding of the critical elements of successful family adaptation to illness can lead to the development of empirically and theoretically based support programs for families who require assistance to deal with an illness in a family member.

The process of how families deal with difficult life circumstances such as an illness is of great interest to family scholars. Since the work of Hill (1949), there has been recognition that family responses to similar stressful circumstances cover a broad range. Whereas some families are thrown into disarray, others appear to thrive. It is the factors that contribute to these very different outcomes that are of interest to family scholars.

Families in which a member has been diagnosed with cancer provide a particularly important focus for family scholars. The diagnosis of cancer is considered a stressful event for families (Baird, 1988; Gray-Price & Szczesny, 1985-86; Lewis, 1983; 1986). As Weisman (1979) asserts, "cancer is not just another chronic disease. It evokes many of the deepest fears of mankind. Despite assiduous, skillful, and intelligent treatment, it can spread throughout the body. It can also spread into social and emotional domains, drastically disrupting families and challenging the very values that make life worth living" (p. 1). Weisman's assertion is echoed by the respondents in a number of studies. Persons with cancer as well as their spouses report a range of personal, familial and social difficulties in addition to the physical problems associated with cancer (Freidensbergs et al., 1981-82).

Cancer brings with it advantages as well as problems. Reports of improved personal, familial and social situations are found in some of the same studies that identify the problems associated with cancer (See for example, Hough, Lewis & Woods, 1991) and there is growing interest in the phenomenon of high levels of quality of life and life satisfaction reported by cancer patients and their families (Achté, Salokari, Lindfors, Vauhkonen, & Lehvonen, 1988; Altmeier, Gingrich & Fyfe, 1991; Breetvelt & Van Dam, 1991; Orr, 1986).

There is increasing recognition that the process of adjusting to a stressful illness such as cancer is complex. The study of families in which a member has been diagnosed with cancer provides family scholars with an opportunity to study this process and to learn more about the distinguishing characteristics of families who thrive as compared with those who are diminished by this difficult life circumstance.

For practitioners, an increased focus on the family of the patient has resulted from changes in the administration of health care as well as empirical findings about the effects of illness on the family. Litman's landmark review of the literature in 1974 provided considerable evidence that the effects of illness touched not only the person with the disease but that person's family as well. His contention that families be recognized as a legitimate unit of care received much notice among health care practitioners.

In oncology, there is some evidence to suggest that nurses, physicians and other health care professionals have heeded Litman's recommendation and have focused their attention beyond the patient to include the family (Bozett, 1987; Giacquinta, 1977;

Nugent, 1988; Parkes, 1975; Weisman, 1979). Admission interviews now routinely include information about the patients' families and continuing education programs for nurses and other health professionals now focus on improving communications between health care professionals and the family members of patients. These are but two examples of how families are currently incorporated into the care of persons with cancer.

Attention to the family of the person with cancer is occurring for a second reason. Families are not only units of health care, they are increasingly seen as important agents of care (Biegel, Sales, & Schulz, 1991; Oberst, Hughes, Chang, & McCubbin, 1991). More and more, family members are expected to assume caregiving responsibilities that previously would have been managed by health care professionals in hospital settings (Northouse, 1984). These caregiving responsibilities are added to the role that families play in providing emotional support to the ill family member.

Although families may welcome the invitation to participate in care, the additional responsibilities may present particular challenges, especially when a family member is diagnosed with a life-threatening illness. The diagnosis of cancer results in considerable emotional strain for the patient and family members alike. Because of short hospital stays, family members must often learn complex care-giving tasks at the very time that they are experiencing the emotional impact of the diagnosis. High levels of stress are known to inhibit the processing of information (Scott, 1983; Scott, Oberst, & Bookbinder, 1984) and the development of caregiving skills (Guzzetta, 1979). The challenge for patients and families is to deal with the emotional impact of the diagnosis of a life-threatening illness, absorb sufficient information to participate in the decision-making process and learn the skills needed to participate in the care of the patient all simultaneously. Some patients and their family members manage the challenge well. Others fail at one or more of the aspects of the challenge.

Research is needed for practitioners to understand how patients and their family members respond to the experience with cancer. As Oberst and James (1985-86) put it, "Learning to live with cancer is clearly no easy task. Learning to live with someone else's cancer may be even more difficult, precisely because no one recognizes just how hard it really is. Cancer is a family affair, and family members, too, need better preparation for discharge so that they can anticipate what they will experience" (p. 56). Especially important to practitioners is the identification of characteristics that distinguish the families who are likely to do well from those who are likely to need help. As stated earlier, some families do well despite the challenges associated with the disease. Indeed, one is struck by the remarkable strength and dignity of families whose descriptions of their responses to the cancer experience are captured in qualitative studies of this phenomenon (Hough, Lewis & Woods, 1991; Thorne, 1985).

While research on families dealing with cancer and its associated challenges is clearly important for both theorists and practitioners alike, the measurement and data analysis issues for certain research designs have yet to be resolved. Much of what is learned about families may or may not come from families as whole units. Instead, this information comes from the perspective of selected family members. Although whole-family research is highly valued, the collection of data from more than one family member serves to provide much needed insights into family functioning (Fisher, Kokes, Ransom, Phillips & Rudd, 1985). Important data can be gleaned from the study of adult persons with cancer and their spouses. Thus while the focus of interest is on family (including the patient) responses to the diagnosis of cancer, the unit of analysis is individuals - the patients and their family members.

An important consideration in studying families in which a member has been diagnosed with cancer is the stage of the disease. It is well known that patients and their families deal with different issues at different stages of the disease. Recurrence brings with it different issues than first diagnosis. Furthermore, the diagnosis of cancer in its early stages is likely to be viewed differently than the diagnosis of well advanced or end-stage disease. Of particular interest is the early phase of first diagnosis. Avery Weisman (1984; Weisman & Worden, 1976-77) refers to this stage as existential plight, a distinct phase of cancer which is common to cancer patients, independent of the site of cancer and the prognosis of the illness. The diagnosis of cancer often comes as a shock (Frank-Stromborg, Wright, Segalla, & Diekmann, 1984; Krause, 1993) and the patient and family must come to terms with a potentially lethal disease and all of its ramifications. The existential concerns, focusing as they do on matters of life and death, are characteristic of the early post-diagnostic phase of cancer (Weisman & Worden, 1976-77).

The study of individuals and families in the early stages of the disease is important for a second reason. Such study may allow early detection of problems and may permit early intervention with individuals and families who require assistance. Therefore, the study of families in which a member has recently been diagnosed with cancer will assist in the identification of variables that are indicative of the potential success of coping efforts.

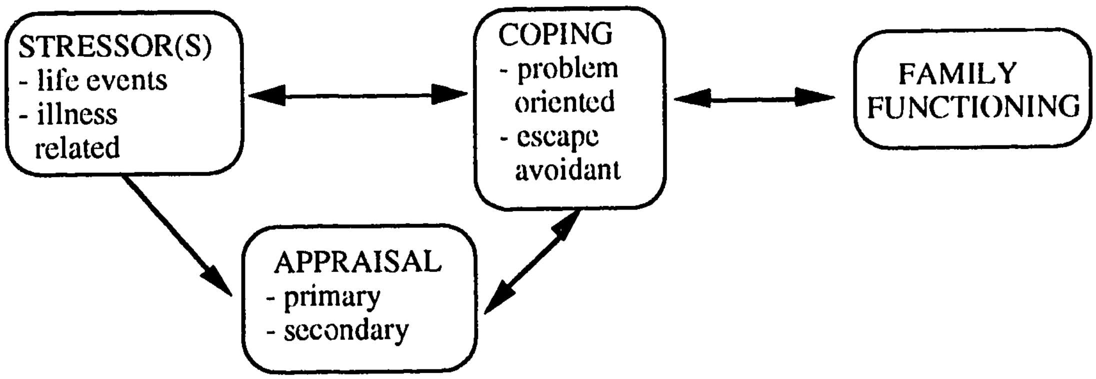
In summary, the study of recently diagnosed cancer patients and their family members is important for theoretical as well as practical reasons. The solicitation of the views of more than one family member enhances the understanding of the family as a whole. Furthermore, the simultaneous study of a number of potentially important variables assists in the identification of those which are likely to be the most important contributors to successful adaptation. Thus, the current research will focus on selected characteristics of persons with cancer and their spouses and will identify the relative contribution of these characteristics to successful family functioning.

Conceptual Framework

The conceptual framework for the current research (see Figure 1) is based on the Family Coping Model (Koop & Keating, 1990), a family stress theory model which incorporates elements of Family Stress Theory as developed by Hill (1958) and the McCubbin group (McCubbin & McCubbin, 1991; McCubbin & Patterson, 1983), Stress and Coping Theory (Lazarus & Folkman, 1984) and Antonovsky's Salutogenic Model (1987).

Figure 1

<u>Conceptual Model</u>



According to the Family Coping Model (Koop & Keating, 1990), when families are dealing with stressful life events, the level of family functioning is determined in part by the interactions among stressors, appraisal and coping. These concepts will be defined and discussed in the following section.

Stressors

For the purposes of the current research, the following conceptual definition of stressors will be used:

> Stressors are the combination of life events and strains which the family is dealing with at any given point in time and includes normative life events, non-normative stressors, and the hardships which accompany those stressors, including those hardships resulting from previous attempts to cope (Koop & Keating, 1990; McCubbin & McCubbin, 1991).

In the current research, stressors are divided into two major groups: those associated with the stressor of interest (the diagnosis of cancer) and concurrent life events that are quite independent of the disease. Stressors which are related to the disease will be further divided into three categories: discomforting symptoms, changes which the family has to make in its usual patterns to accommodate life with the disease, and stressors associated with the treatment process (Haberman, Woods, & Packard, 1990). Common treatments for cancer, chemotherapy and radiation therapy, have numerous side effects which patients must manage. Nausea and fatigue are common and affect the ability of the patient to maintain normal routines. For instance, if the person with cancer is the usual grocery shopper in the family, but food smells now accentuate treatment-induced nausea, adjustments in the timing of these tasks must be made. Alternatively, other family members may have to take over these responsibilities for the duration of the treatment. Fatigue may interfere with the ability to maintain the usual level of employment. Unless adequate benefits exist, the family may have to adjust the usual spending patterns. Alternatively, other family members may have to seek additional employment so that the family can survive financially.

Concurrent life events, which include both normative and non-normative events, continue to occur in the life of families dealing with stressful life events (McCubbin & McCubbin, 1991; McCubbin & Patterson, 1983). Concurrent life events might include births, deaths or marriages within the family or more minor events such as the youngest child's first day at school. They have in common the need for the family to make adjustments in the way they operate.

The presence of multiple concurrent stressors is assumed to be normative. Although they present difficulties for individuals and families to deal with, stressors are considered to be a normal part of life and having a wide range of possible outcomes (from very positive to very negative). The definition of stressors used in the current research is very similar to that attributed to 'pile-up' by McCubbin and McCubbin (1987). The models developed by the McCubbin group (McCubbin & McCubbin, 1987; 1991; McCubbin & Patterson, 1983) provide explicit recognition of the multiplicity of stressors only in the post-crisis phase. Koop and Keating (1990) argued that the multiplicity of stressors is normative even for families not in crisis.

Although the existence of multiple concurrent stressors is assumed to be normative, the constellation of stressors faced by families with cancer can present a particularly difficult challenge and must be acknowledged. This constellation of stresses and strains includes those associated with the family's developmental stage. Problems which happen normally in families with teenagers or toddlers, for instance, happen to families with cancer as well. In fact, there is some evidence that problems associated with developmental phases of children are somewhat accentuated in families with chronic illness (Wellisch, 1985). This may occur because parents are preoccupied with concerns about the illness and are therefore unable to give the children their usual allotment of attention. Furthermore, adolescents who have a parent with a chronic illness may be asked to take on greater family responsibilities at the time that their peers often have more time for leisure activities outside the home, and this may result in acting-out behavior.

Attempts to cope, too, can further increase the stressors faced by the family (McCubbin & McCubbin, 1991). The person with cancer who cuts back work hours or takes unpaid leave from work in order to have the necessary time and energy to deal with cancer treatment may cause financial hardships for the family.

Appraisal

For the purposes of the current research, the following conceptual definition of appraisal will be used:

> Appraisal refers to the meaning which individual family members attribute to the stressors (as benign, challenging or threatening, for example) and to their perceptions of their ability to manage the situation (Koop & Keating, 1990; Lazarus & Folkman, 1984).

Appraisal is seen by both family stress theorists and stress and coping theorists as a central variable which contributes significantly to the outcomes of attempts to deal with stressful situations. Lazarus and Folkman (1984) refer to these appraisals as primary appraisal (the perception of the stressor) and secondary appraisal (the perception of the ability to manage the stressor). Primary appraisal includes the evaluation of an event as irrelevant, benign-positive or stressful. Irrelevant events are those in which the individual has no investment. In other words, there is nothing to be lost or gained from whatever outcome might occur (Lazarus & Folkman, 1984). Benign-positive appraisals are made in response to events perceived to be happy; when the outcome is likely to be positive. Stress appraisals are made in response to events whose outcomes are or might be negative.

The stress appraisal can be further broken down into the categories of harm (where the negative outcome is perceived to have already occurred), threat (where the negative outcome is presumed to be likely to occur in future) and challenge (where the efforts of the individual may yet reduce the harm that might otherwise occur or where these efforts might produce positive outcomes) (Lazarus & Folkman, 1984).

Because of the general public attitude toward cancer, many people initially view cancer as a threat to survival, or at least, a threat to life plans (Frank-Stromborg, Wright, Segalla & Dieckmann, 1984; Krause, 1993; Weisman & Worden, 1976-77). Such an appraisal has elements of threat and hopelessness in it and seems to be a major contributor to the great distress that is associated with cancer. Recent research on 'fighting spirit' and cancer (Nelson, Friedman, Baer, Lane & Smith, 1989) addresses an appraisal of cancer as a challenge to be met. This research is of great interest because it may provide clues to how some families and individuals thrive and others are defeated by similar circumstances.

Secondary appraisal focuses on the ability to manage the stressor. Of interest here is an extension of the threat and challenge dimensions of primary appraisal to the individual's views of her (or his) ability to manage it. At issue is the controllability of the stressor and its associated strains and hardships. The stressor may be seen as controllable by one's self or by others to whom one has access or it may be seen as uncontrollable. The links between appraisals of threat and uncontrollability and between challenge and controllability are of great interest in the current research.

Coping

For the purposes of the current research, the following conceptual definition of coping will be used:

> Coping refers to the individual's efforts to gain access to resources, manage the situation, and/or change their appraisals (Koop & Keating, 1990).

Initially Lazarus and Folkman (1984) divided coping strategies into those that focused on the stressor itself (problem-focused coping) and those coping strategies that focused on reducing the emotional impact of the stressor (palliative-focused coping). Further theoretical and empirical work has resulted in the identification of eight distinct types of coping: confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem-solving and positive re-appraisals (Folkman & Lazarus, 1988). Confrontive coping focuses on efforts to alter the situation, and includes aspects of hostility and risk-taking. Distancing involves cognitive efforts to detach the self and to minimize the significance of the situation presumably to reduce the emotional pain. Self-controlling coping strategies include those that aim to regulate feelings and actions. Seeking social support includes efforts to seek emotional support, information as well as tangible support. Accepting responsibility involves acknowledging one's own part in the problem and includes efforts to put things to right. Escape-avoidance coping includes wishful thinking and behavioral efforts to escape or avoid the problem. In this regard it differs from distancing which focuses more on emotional detachment. Planful problem-solving focuses on an analytic approach to solving the problem and on deliberate efforts to alter the situation. Positive reappraisal has a spiritual dimension to it. It includes efforts to achieve a positive meaning to the situation and to use the situation as an opportunity for personal growth (Folkman & Lazarus, 1988).

Although some of the eight types of coping clearly fit into the problem-solving versus palliative focused coping categories first outlined by Lazarus and Folkman (1984), others are less clear. The two-category approach has largely been abandoned in the conceptual literature in favor of the more distinct categorization provided by the eight dimensions of coping as outlined.

Coping is an important factor in this research since it is the process whereby the situation is altered or managed in some way. Furthermore, coping strategies are thought to be learned (Roskies & Lazarus, 1980), so this variable is important because of its potential for change. Patients and family members may be able to learn new strategies thus improving their chances for successful adaptation to stressful circumstances.

Family Functioning

For the purposes of the current research, the following conceptual definition of family functioning will be used:

> Family functioning refers to the outcome of the coping efforts of family members and is defined as the extent to which the family operates in a balanced fashion to meet the needs of family members and to participate in community life (Koop & Keating, 1990).

This concept is similar in definition to 'level of family adjustment and/or the family's transition into a crisis situation' and 'family adaptation' in the Resiliency Model of Family Stress, Adjustment and Adaptation (McCubbin & McCubbin, 1991) and to Antonovsky's (1987) definition of family adaptation. Family functioning can range from extremely negative to extremely positive (termed 'maladaptation' and 'bonadaptation' respectively by McCubbin and McCubbin, 1987).

The focus on balance among family members and between the family and community is an important aspect of family functioning. In the case of the family in which a member has been diagnosed with cancer, much of the attention of family members may focus on the person with cancer initially at diagnosis and during recurrence. Over time, however, attention would be expected to shift so that it becomes more balanced among family members. Furthermore, in highly functional families, there would be an interchange between the family and the community. McCubbin and McCubbin (1987) refer to the importance of community involvement in their assumption that "families benefit from and contribute to the network of relationships and resources in the community" (p. 3). Reciprocity is an important component of social support (Tilden & Galyen, 1987). On that basis, optimal family functioning must include a sense of give-and-take among family members and between the family and the community. The value placed on helping others has been reported in qualitative studies of families with cancer (Hough, Lewis & Woods, 1991; Thorne, 1985)

A second important component of family functioning is satisfaction. Antonovsky and Sourani (1988) argue that high levels of satisfaction with family functioning are more likely to be present in well-functioning families than in poorly functioning families. These high levels of satisfaction would be expected at the member-to-family level as well as the family-to-community level. "Operationally, one can seek to avoid asking directly about satisfaction by asking about physical or psychological symptoms, financial or legal problems, sense of well-being (cheerful, happy, etc.), and so on. But in each case, the underlying question is always one of satisfaction, for it is reasonable to presume that no one is particularly pleased by having symptoms or problems, or by being tense, morose, or miserable. Or one can ask about satisfaction directly, avoiding the investigator's values by the reasonable assumption that a family that is highly satisfied in a variety of life areas is a family that is in dynamic homeostasis" (p. 88).

Assumptions

The Family Coping Model (Koop & Keating, 1990) is based on a number of important assumptions. One of these assumptions is that stress is ubiquitous; it is a normal part of life and not something to be avoided (McCubbin & McCubbin, 1991). A second major assumption is that stress has important potential benefits. Not only are people able to buffer the negative effects of stress through cognitive and behavioral means (Lazarus & Folkman, 1984), but the cognitive and behavioral responses to the experience of stress can have direct, beneficial effects (Antonovsky, 1987; Hill, 1958; McCubbin & McCubbin, 1991). A third assumption is that people have the potential to learn new strategies for coping with stressful life events, thus enabling them to prepare for subsequent stressful situations.

Summary and Statement of the Problem

The study of patients with cancer and their spouses is important for the advancement of family stress theory as well as for the development of empirically and theoretically sound intervention programs. Second, the study of patients in the early stages of cancer will facilitate early detection of those who need help to deal with the disease. The conceptual framework used in the current research has been described and the critical variables that are thought to contribute to successful family management of the disease have been defined. The purpose of the current research can now be stated:

The purpose of the current research is to determine the extent to which stressors, appraisal, and coping contribute to satisfaction with family functioning by newly diagnosed adults with cancer and their spouses and to determine the effects of gender and role on stressors, appraisal, coping and satisfaction with family functioning.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this chapter is to review the literature on families in which a member has been diagnosed with cancer. In particular, the literature that includes one or more of the variables of interest in the current research (stressors, appraisals, coping strategies and perceptions of family functioning) will provide the focus for this chapter.

The study of families in which a member has cancer has been going on for some time. In the 1950's, Dyk and Sutherland (1956) studied patients' and family members' reactions to colostomies, including the effects of family members' reactions on patient adjustment. For the most part, however, early studies of families with cancer focused almost entirely on children with cancer (Binger et al., 1969; Chodoff, Friedman & Hamburg, 1964; Friedman, 1967, for example). Families in which a child has cancer are dealing with somewhat different issues than families in which an adult has cancer. For the most part, therefore, the review will be limited to papers on adults with cancer.

A second limitation involves the unit of analysis. As stated in the previous chapter, research in which the whole family is the unit of analysis is much desired. Whole-family studies were specifically sought for review and several important papers were found. All were qualitative studies and provide new and important information about families with cancer. No quantitative papers in which the whole family served as the unit of analysis could be found, however. The reason is that measurement and design problems continue to plague researchers. An acceptable method for the derivation of family scores from data which have been provided by multiple family members has yet to be worked out although a number of measurement experts, theoreticians, and statisticians are working on the problem (Fisher, Kokes, Ransom, Philips, & Rudd, 1985; Jacobsen, Tulman & Lowery, 1991; Klein, 1984; Larzelere & Klein, 1987; Schumm, Barnes, Bollman, Jurich, & Milliken, 1985; Uphold & Strickland, 1989 among others). Meanwhile, researchers interested in quantitative research on families and cancer are conducting their studies on one or two family members and are using individual data about family functioning to provide information about the family unit. This is the case with the current research as well. The individual (patient or spouse) is the unit of analysis. Thus, the literature includes, where available, whole family research. However, research in which the individual is the unit of analysis is also included provided the focus includes family members.

Stressors

The studies of the stressors faced by families in which a member has been diagnosed with cancer have labeled the stressors variously as concerns (Wright & Dyck, 1984), needs (Tringali, 1986) or demands (Packard, Haberman, Woods & Yates, 1991; Zahlis & Shands, 1991). For the most part, these studies have focused on the classification of the stressors as opposed to outcomes associated with stressors. Furthermore, the studies used unstandardized questionnaires to collect data, although the data on which the Packard study is based (Packard et al., 1991) were used in the development of the Demands of Illness Inventory (Woods, Haberman & Packard, 1987), a measure that has undergone considerable psychometric development.

Illness-Related Stressors

Packard, Haberman, Woods and Yates (1991) conducted a qualitative study on the demands of illness in women with non-metastatic breast cancer, diabetes and fibrocystic breast disease. The responses to questions regarding changes in their daily lives and difficulties associated with their illness were content-analyzed and categorized into: 1. direct disease effects (physical changes, fatigue or decline in well-being, decline in social activity, emotional or cognitive changes); 2. personal disruptions (e.g. vulnerability, changes in self-image, social-emotional disturbances); and, 3. environmental transactions (social responses to the illness, treatment processes and patient-provider interactions). Of great interest is the finding that for all three groups of women, personal disruptions were the most commonly reported demands of their illness, followed by environmental transactions and then direct disease effects. The women with breast cancer had completed their chemotherapy treatments and had been diagnosed at least twelve months prior to data collection. It would be interesting to find out whether these categories would hold for patients in the early stages of cancer, many of whom are undergoing treatments that have discomforting side effects. It would also be useful to know the extent to which male and female patients report similar demands.

The male partners of women with breast cancer in another study (Zahlis & Shands, 1991) most commonly cited changes in family responsibilities and work schedules to accommodate their ill parmers as the most stressful changes in their daily lives since the diagnosis of cancer. The family members in Wright and Dyck's (1984) study, however, most commonly reported waiting and fear of the future as concerns, followed by symptoms of the disease and difficulty obtaining information about the condition of their loved one. Tringali (1986) too, found the need for information about their loved one's condition to be of paramount importance to family members of cancer patients in the diagnostic phase of cancer.

It is interesting to note that the respondents in the Zahlis and Shands (1991) study focused on changes in their own lives whereas the respondents in the Wright and Dyck (1984) and Tringali (1986) studies focused primarily on their concerns for the patient. The differences might be accounted for by the wording of the questions. Zahlis and Shands

(1991) specifically focused their questions on changes in the respondents' lives since their wives were diagnosed with cancer. Although Wright and Dyck (1984) did not provide examples of their questions, they stated that the questions were divided among "self-focused and patient-focused needs" (p. 372). Tringali (1986) provided examples of the questions which she had used and they focus both on the patient (e.g. "To know specific facts concerning the patient's progress") as well as on the respondent (e.g. "To have friends nearby for support") (p. 67). Since none of the three studies used similar questionnaires, it is difficult to compare findings. Nonetheless, it will be interesting to find out the extent to which male and female spouses report similar types of demands.

The studies mentioned so far dealt with the identification and description of demands of illness experienced by cancer patients and their family members. Only one study was found which went beyond a description of demands, linking them with family outcomes. Lewis, Woods, Hough, and Bensley (1989) reported that the number of illness demands reported by spouses of women with chronic illness was a significant predictor of spouses' levels of depression. Furthermore, in the presence of high levels of marital adjustment, illness demands resulted in more frequent family discussions and greater family introspection. Higher levels of family introspection in turn, predicted higher perceived levels of family functioning. This study, then, establishes an important link among stressors, coping and family functioning.

Research on demands of illness associated with cancer has focused primarily on female patients and their male spouses. These studies make it difficult to separate the gender factor from that of role (patient versus spouse). The demands of illness reported by male and female patients and their spouses need to be examined to separate the effects of these two factors.

Concurrent Life Events

Families in which a member has been diagnosed with cancer are not immune from the stresses and strains of everyday life. They too experience other stressors and must cope with them while trying to cope with cancer, its treatments and associated strains (Hough, Lewis, & Woods, 1991; Zahlis & Shands, 1991). Both of these studies were qualitative in nature and their findings are most interesting. Hough, Lewis and Woods (1991) presented the results of in-depth interviews of 11 families who were part of a larger study (N=125) of families in which the mother had a chronic illness. These 11 families' scores on marital satisfaction and depression represented the extreme ends of the distribution of these scores for the total sample. Marital satisfaction and depression were treated as measures of adjustment to chronic illness. One of their findings was that five of the six poorly adjusted families spontaneously reported highly stressful life events which they were currently facing. These life events were unrelated to the chronic illness and included stressors such as the death of extended family members. In contrast, none of the five well adjusted families reported stressors of the same magnitude. This finding supports the assertions of family stress theorists that families deal with multiple concurrent stressors (McCubbin & McCubbin, 1987) and points to the possibility that the experience of major stressors unrelated to the cancer can affect adjustment to the disease by the whole family. Hough, Lewis and Woods (1991) recommended including the study of concurrent stressors in future studies of the impact of chronic illness on families.

Zahlis and Shands (1991) interviewed the partners of 67 women diagnosed with breast cancer. The men were asked to identify changes in their daily lives since their wives had been diagnosed with cancer and to list those aspects they had found most difficult and for which they were unprepared. A number of the men, in discussing the changes in family responsibilities associated with their partners' cancer, talked of the difficulties associated with trying to cope with the cancer along with other unrelated stressors.

Neither of the studies identified (Hough, Lewis & Woods, 1991; Zahlis & Shands, 1991) set out to determine the significance of concurrent life events to the functioning of families with cancer. The information was provided spontaneously by the respondents in both studies. Clearly, further study of concurrent life events and the extent to which they contribute to the family's experience with cancer is warranted.

Appraisal

Recall that appraisal includes the evaluation of an event as stressful. If an event is deemed stressful, it can be seen as a threat or a challenge. The appraisal of a stressor as a challenge does not rule out its potentially negative effects. It allows, however, for positive outcomes as well. Furthermore, the appraisal of challenge allows for some perception of control over the outcome by the individual (Lazarus & Folkman, 1984).

The perceived stressfulness of cancer has been found to be higher among female (versus male) family members of cancer patients (Hart, 1986-87) and among older (versus younger) cancer patients (Ganz, Schag, & Heinrich, 1985; Northouse & Swain, 1987). The potential significance of these and other demographic variables needs to be verified in further study.

Several studies were found which linked challenge appraisals to positive outcomes. Hough, Lewis and Woods (1991) found that, without exception, well-adjusted families were able to construct positive meaning from the chronic illness experience whereas poorly-adjusted families reported no positive outcomes or were very explicit in their view of the negative impact of the disease. The families were interviewed over a period of 18 months, a time during which attitudes toward the illness and its impact on the family had time to develop. It would be interesting to study appraisals during the initial phase of illness and the impact of these appraisals on family adjustment. While this research seems to focus on the evaluation of the **outcomes** of cancer rather than on the appraisal of cancer itself, the findings nonetheless indicate the potential for positive appraisals (challenge, controllability) of cancer.

O'Connor, Wicker and Germino (1990) reported on the search for meaning in the cancer experience among 30 cancer patients, interviewed within six months of diagnosis. Like the subjects in the Hough, Lewis and Woods (1991) study, many of the respondents reported their experience with cancer to have been a learning experience and commented that it was "worth it" in many ways (p. 171). These findings were supported by Thorne (1985) as well. Again, the appraisals seem to have focused on the actual outcomes of the experience with cancer rather than on an appraisal of cancer itself as a threat or a challenge.

Frank-Stromborg, Wright, Segalla and Dickmann (1984) asked respondents (n=340) to recount their feelings on learning their diagnosis of cancer. Nearly a third of the responses (27%) were positive; that is, respondents reported relief, calm acceptance, a desire to get on with treatment, a desire to beat or conquer the cancer, and denied feeling worried or upset. "All those who had responses characterized as "positive", exhibited confidence in their personal resources and ability to cope with the disease." (p. 21). These findings were supported among Finns by Krause (1993). They are most interesting because they advance the notion that many people see themselves as having the capacity to cope even with life-threatening diseases such as cancer.

The phenomenon that cancer patients tend to rate themselves more highly on a number of variables (quality of life, self-assessed health, psychological adaptation) than expected by the researchers is gaining attention in the literature (Achté, Salokari, Lindfors, Vauhkonen & Lehvonen, 1988; Altmaier, Gingrich & Fyfe, 1991; Breetvelt, 1991; Orr, 1986). Orr (1986) included self-assessed health as one of her measures of open awareness of the diagnosis of cancer. She initially expected a high self-rating of health to be indicative of denial and thus predictive of poor adjustment to cancer. Contrary to expectations, a self-appraisal of health was not positively correlated with other measures of open awareness and it was correlated with successful adaptation. She found that the respondents who openly acknowledged their disease situation nonetheless saw themselves as healthy. These respondents were less distressed and scored higher on measures of adjustment. She interpreted the high self-appraisal of health as an indication of self-appraisal of competence for coping with the cancer. These studies were conducted primarily on individuals with cancer and did not include families or family members. Their findings are included here, however, because of their potential for establishing a link between appraisals and positive outcomes which include measures of (individual) adjustment, thus leading the way for the study of links between appraisal of cancer and perceptions of family functioning.

Achté et al. (1988) conducted one of the few studies found in which persons with cancer were compared with age-matched controls. They conducted a psychological follow-up study of 100 women who had undergone mastectomies and 92 age-matched controls selected randomly from the population registry of Helsinki. The researchers found a tendency for the women with cancer to answer all questions more positively than did controls. Women with cancer rated their health and physical condition more highly. They rated their pain as lower than controls. They also reported positive changes in family relationships and reported greater satisfaction with sexual life. The authors speculate about the meaning of these findings: do they indicate denial in women with cancer, or do they indicate a deeper appreciation of life in persons who have had to confront their mortality? Certainly, these findings are interesting and point to the importance of appraisals. Perhaps the positive appraisals of the various aspects of their lives allowed these women to carry on.

The findings discussed so far would imply that changing an individual's appraisal of the experience with cancer can have profound effects on adjustment. One wonders, however, whether positive appraisals might be the outcome of more hopeful prognoses and that the link between positive appraisals and adaptation may, in fact, be a reflection of the extent of disease. Certainly, severity of illness ought to be ruled out as the primary contributor of appraisal and thus of adaptation. This possibility is clarified by the results of the Jenkins and Pargament (1988) study which found appraisal of perceived life threat to be negatively related to adjustment. Somehow, these results seem quite predictable; if you think you're going to die, you might be expected to score lower on measures of adjustment (at least initially) than if you expect to survive. One wonders, however, whether an objective appraisal of severity of disease would be strongly associated with the appraisal of threat. Certainly this possibility ought to be tested.

Coping

There is some evidence that the usefulness of coping strategies is situation-specific (Mattlin, Wethington & Kessler, 1990). Cohen and Lazarus (1973), for instance, looked at the recovery rates for surgical patients. Patients who used avoidant coping strategies spent significantly fewer days in hospital and had fewer minor complications than patients who used vigilant coping strategies, although they did not differ significantly on the number of pain medications used or on negative psychological reactions. It would be interesting to find out whether coping strategies found useful in the pre-diagnostic phase of cancer would also serve best during subsequent stages. It certainly would make intuitive sense that denial or avoidant coping might reduce distress during the pre-diagnostic phase. Many patients report high levels of distress as they try to cope with uncertainty (Mishel, 1984).

A prospective five-year study found that recurrence-free survival was greater among women who initially reacted to the diagnosis of breast cancer with denial or a "fighting spirit" than women who reacted with helplessness, hopelessness or stoic acceptance (Greer, Morris & Pettingale, 1979). This finding was confirmed at ten years as well (Pettingale, Morris, Greer & Haybittle, 1985). Denial and fighting spirit have elements of both appraisal and coping. However, denial is often associated with avoidant coping and fighting spirit would seem to be linked with active coping strategies. How interesting that the two attitudes were found to predict survival.

Felton and Revenson (1984) studied 151 middle-aged and older adults with one of four different chronic illnesses and found that information-seeking was positively associated with better adjustment to the illness whereas wish-fulfilling fantasy was negatively associated with adjustment. Similarly, avoidant coping has been associated with poorer adjustment and active coping was associated with better adjustment to cancer (Friedman, Baer, Lewy, Lane & Smith, 1988).

Figley (1983) proposed that discrepant methods of coping within families would increase the amount of stress. The study of the compatibility of the coping strategies adopted by spouses has yet to be fully studied. Nonetheless, Hannum, Giese-Davis, Harding and Hatfield (1991) found the psychological distress of women with breast cancer (n=22) was predicted by their husbands' coping behaviors, their husbands' perceptions of marital adjustment and by their own (the women's) reports of marital cohesiveness. The husbands' distress levels were predicted by their own coping behaviors as well as those of their wives. This study was based on a very small sample size and suffers from low statistical power, and therefore results should be viewed with some caution. Nonetheless, the finding of the interdependence of mates' coping behaviors and the contributions of these coping behaviors to each others' distress levels is most interesting and bears a further look. Gotay (1984) also looked at the coping strategies of female cancer patients and their mates. While she reported the relative frequencies of the use of coping strategies by the women and their mates, she did not report whether the differences were statistically significant. For both groups of respondents, taking firm action and seeking more information (women) and talking to others (men) ranked as the most commonly reported coping strategies. The next most common categories for the women were talking to themselves and finding something favorable about the situation. For the men, seeking direction from an authority was the next most common category. The fact that all of the persons with cancer were women makes it difficult to sort out gender factors from role (patient versus spouse) factors.

Family Functioning

Family relationships are affected by the diagnosis of cancer. Many families with cancer report improved family relationships as a result of their experience with the disease (Achté et al., 1988; Hough et al., 1991). Other families report strained relationships both inside and outside the family (Hough et al., 1991; Packard et al., 1991). Thorne (1985) conducted a phenomenological study of families in which one member was diagnosed as having cancer. Despite major upheavals in family routines as a result of their experience with cancer, these families were adamant in their descriptions of themselves as functioning well and as having achieved normalcy in their lives, although they admitted that these accomplishments had not come easily. Certainly, the cancer diagnosis does not magically create idyllic family environments. Still, we know little about the effects of the diagnosis of cancer on family relationships and the factors that distinguish the families whose relationships appear to improve as a result of the disease from those whose relationships seem to deteriorate. Nor do we know very much about how the quality of family functioning changes over time and over the course of the disease. The family's pre-illness patterns of functioning are thought to influence subsequent interactions (Pederson & Valanis, 1988; Weisman, 1979). Other factors, too, would be expected to contribute to family functioning. Although research to date has resulted in the identification of some important variables which are thought to distinguish the 'survivors' from the 'victims', the relative importance of these variables and the knowledge of how they interact is far from known.

Summary and Recommendations for Further Research

That patients with cancer and their family members experience a range of stressors associated with the disease is well established. The literature has focused on women with the disease and their male partners, so little is known about the extent to which male and female patients experience similar demands or about the extent to which male and female partners' concerns are similar. Further research on both male and female patients and their respective spouses needs to be conducted in order to determine the stressors that are associated with cancer. The findings also need to be replicated with patients in the initial stage of cancer to determine the extent to which their disease-related stressors compare with those found once the treatments are complete.

Unrelated concurrent stressors were a surprise finding in some of the literature on families with cancer. The possibility that the presence of concurrent stressors might affect coping and the outcome of family adaptation has been advanced by family stress theorists. No studies could be found, however, which proposed to study the importance of concurrent stressors. This needs to be done. On the basis of qualitative research, concurrent stressors may well have profound effects on family functioning with cancer.

There is clear evidence that appraisal of cancer can have profound effects on positive outcomes, primarily by affecting the coping strategies used in the process of adaptation. Demographic variables such as gender and age have been found to be linked with appraisals of the overall stressfulness of cancer. These findings need to be verified with further study. The possibility that successful adaptation to cancer and positive appraisals are both outcomes of more positive objective prognoses of the disease has yet to be ruled out. The link between appraisals and family functioning needs to be made while holding severity of disease constant to test this possibility.

Although planful problem-solving coping strategies are generally considered more useful than avoidant strategies, the reverse has been found to be true under certain circumstances. The link between problem-solving versus avoidant coping and family functioning needs to be established in further research to determine whether or not one of these modes is more helpful than the other during the early phase of cancer. There is also some evidence that individuals are affected by the coping strategies used by those close to them. The extent to which spouses' coping strategies affect each others' perceptions of family functioning needs to be addressed in future research.

Finally, the extent to which all of the forgoing variables affect the perception of family functioning and their relative importance in promoting good family functioning has yet to be established, although each of the variables has been shown to have some effect. For intervention programs to be developed, we need to know the relative importance of variables, particularly those that are amenable to change.

Research Questions and Hypotheses

The forgoing discussion has served to identify the gaps in the research on families with cancer. The questions and hypotheses to be addressed in the current research will now be addressed. The first set of questions will allow the description of the experience of recently diagnosed cancer patients and their spouses along the dimensions of the variables of interest. The second set of questions, formulated as hypotheses will allow the understanding of the relationships among the variables. The proposed relationships among the variables are illustrated in Figure 2.

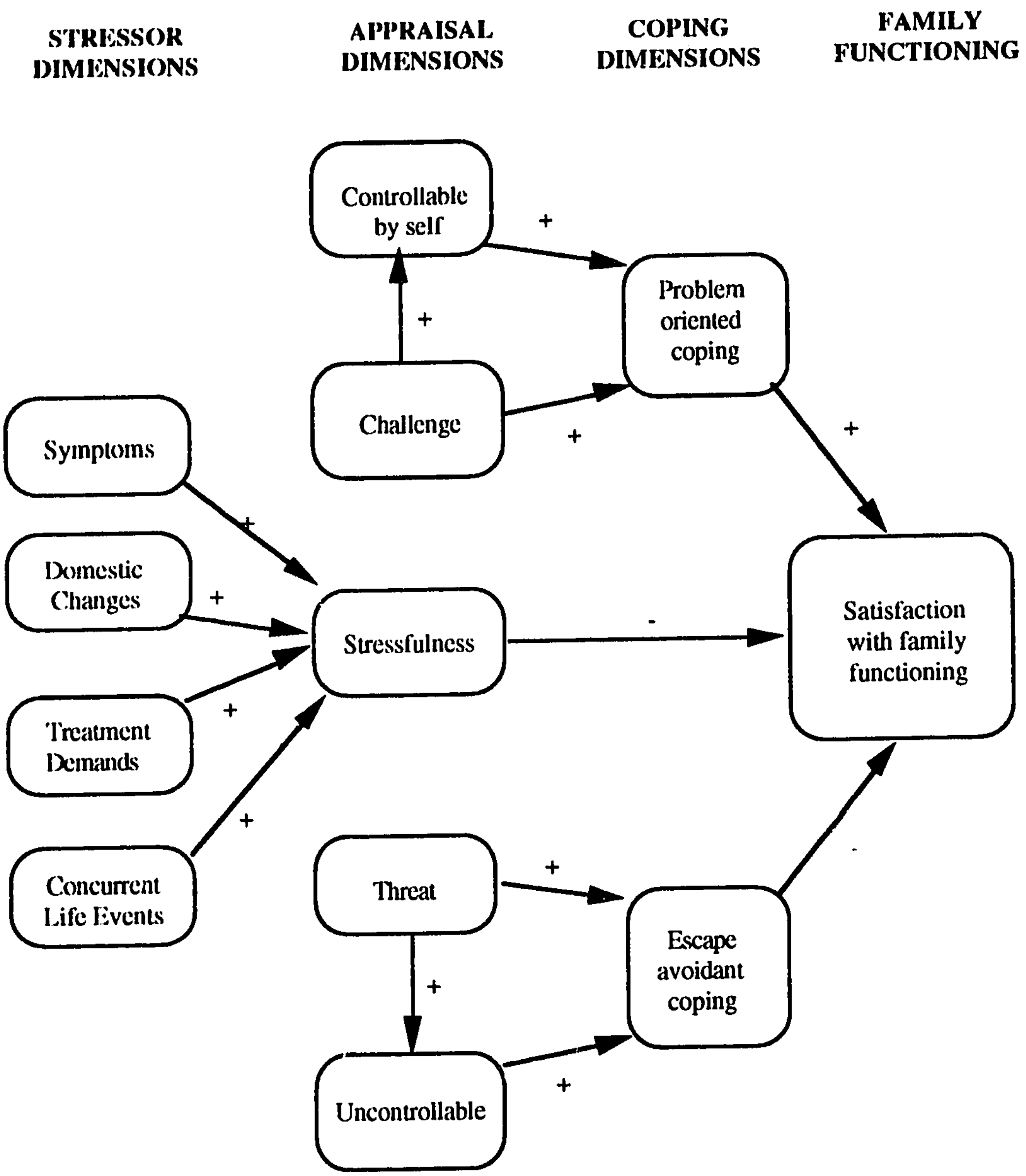
1. What are the illness-associated stressors experienced by recently diagnosed cancer patients and their spouses?
2. To what extent do levels of illness-associated stressors differ by role (patients, spouses) and gender?
3. What are the concurrent life events experienced by recently diagnosed cancer patients and their spouses?
4. To what extent do concurrent life event scores differ by role (patients, spouses) and gender?
5. What are the appraisals of cancer made by recently diagnosed cancer patients and their spouses?
6. To what extent do the appraisals of cancer differ by role (patients, spouses) and gender?
7. What are the coping strategies most commonly used by recently diagnosed cancer patients and their spouses?
8. To what extent do coping strategies differ by role (patients, spouses) and gender?
9. How satisfied are recently diagnosed cancer patients and their spouses with family functioning?
10. To what extent do levels of satisfaction with family functioning differ by role (patients, spouses) and gender?

The remaining research questions are stated in the form of hypotheses.

11. Patients and spouses with higher demands of illness scores and higher concurrent life event scores will appraise the cancer to be more stressful than patients and spouses with lower demands of illness scores and lower concurrent life event scores.
12. Patients and spouses who appraise cancer as highly threatening will be more likely to also appraise cancer as uncontrollable than patients and spouses who appraise cancer as less threatening.
13. Patients and spouses who appraise cancer as highly challenging will be more likely to also appraise cancer as controllable by the self than patients and spouses who appraise cancer as less challenging.
14. Patients and spouses who appraise cancer as more challenging and controllable by the self will be more likely to use problem-oriented coping strategies than patients and spouses who appraise cancer as less challenging and less controllable by the self.
15. Patients and spouses who appraise cancer as highly uncontrollable and as highly threatening will be more likely to use escape-avoidant coping strategies than patients and spouses who appraise cancer as less uncontrollable and as less threatening.
16. Patients and spouses who use more problem-oriented coping strategies, less escape-avoidant coping strategies and who appraise cancer to be less stressful will be more satisfied with family functioning than patients and spouses who use less problem-oriented coping strategies, more escape-avoidant coping strategies and who appraise cancer as more stressful.

Figure 2

<u>Regression Model of Stressors, Appraisal, Coping and Family Functioning</u>



CHAPTER 3

METHODS

Design

A cross sectional design was used to determine the relationships among stressors, appraisal and coping strategies and their relative contribution to satisfaction with family functioning in recently diagnosed patients with cancer and their spouses. This was accomplished through the use of standardized questionnaires. In addition, data from the interview of patient and spouse dyads were analyzed to further develop the understanding of the links among the variables.

Setting and Sample

The convenience sample of 75 patients (40 female and 35 male) newly diagnosed with cancer and their spouses was recruited from the Out-patients Department at the Cross Cancer Institute of Edmonton, resulting in a total sample size of 150.

Most respondents were interviewed within three months of first diagnosis. This is the psychosocial phase termed "existential plight" by Avery Weisman (1984; Weisman & Worden, 1976-77) and represents a time of great stress for patients and families as they contemplate the significance to their lives of the newly diagnosed illness. This phase, Weisman believes, may last up to 4 months, but generally takes place within the first 100 days after diagnosis. The average length of time between diagnosis and data collection was approximately 76 days and most interviews were conducted within the 100 days of diagnosis. Of the 75 interviews, seven were conducted after 100 days but within 115 days, well within the four month time limit suggested by Weisman (1984).

Patients diagnosed with recurrent cancer were excluded from the study. Studies of patients with recurrent cancer have found that recurrence is more distressing than first diagnosis and that patients with recurrence experience somewhat different emotional and cognitive responses than patients at first diagnosis (Cella, Mahon & Donovan, 1990; Chekryn, 1984).

A wide range of cancer sites was included to maximize the sample size and to allow the findings to be extended beyond a specific cancer site group. Weisman and Worden (1976-77) propose that the emotional responses to cancer during the initial post-diagnostic phase are common across cancer sites. Patients with non-melanoma skin cancers were excluded from the study. Although they represent the most common incidence of cancer by site in Alberta, non-melanoma skin cancers are not considered life-threatening (Berkel, Anderson, Hanson, MacMillan & Raphael, 1990) and therefore do not carry with them the emotional impact of some of the other cancer diagnoses.

Variables and their Measurement

Descriptions of variables which were included in the current research, the scales selected to measure them, and the method of scoring will be discussed in the next section. In addition, information about the psychometric properties of each of the measures will be provided. Copies of each of the questionnaires are included in the Appendix.

Demographic Variables

The standard demographic variables of age, gender, education, length of marriage and number of children were measured. Parallel forms of the demographics questionnaire were developed for patients, husbands and wives for the purposes of clarity. Copies of the demographic questionnaires can be found in the Appendix.

Stressors

Illness-Related Stressors

To measure stressors related to cancer, selected subscales of the Demands of Illness Inventory (DOII) (Woods, Haberman & Packard, 1987) were used. The three subscales selected for use in this research focused on: 1. symptoms associated with cancer; 2. domestic changes necessitated by the cancer and its treatments; and 3. treatment demands. Parallel forms were provided for patients and spouses. Copies of these questionnaires can be found in the Appendix.

The symptoms subscale, composed of twelve items, focuses on physical symptoms which have occurred as a result of the patient's cancer. The symptoms included are broad in their focus and apply both to potential side effects of cancer and its treatments or may be due to the stress of having a partner with the disease. Both the patient and the spouse answer the questions in terms of their own symptoms which have occurred as a result of the cancer.

The domestic changes subscale, composed of 35 items, focuses on the changes imposed on the household as a result of cancer and its treatments. Items in this subscale address changes in decision-making regarding the children, changes in family income, and leisure activities.

The treatment subscale, composed of 32 items, focuses on difficulties associated with cancer treatments, such as waiting for treatment or surgery, and having to change the diet. It also includes questions about the way health care providers have treated patients and spouses as individuals and included them in the decision-making process.

The three selected subscales include 79 items. Respondents were asked to rate each item, using a Likert scale ranging from 0 "not at all" to 4 "extremely". Patients and spouses completed separate but parallel forms.

Scoring. For each respondent, three subscale scores were calculated by summing the ratings of all items within each subscale and then averaging the summed scores. The averaging of the summed scores removes effects produced by the differences in the number of items composing each of the subscales. The possible range of subscale scores is 0 to 4.

Reliability. Satisfactory levels of internal consistency were found in a study of 95 women with breast cancer and 30 women with diabetes for the patient version and the 125 partners of these women for the spouse's version (Haberman, Woods, & Packard, 1990). Total instrument alphas for the patient version were .96 for frequency scores and .97 for intensity scores (.97 and .97 for the spouse version). For the subscales intended for use in this study, alphas ranged from .86 to .92 for the patient version and .86 to .94 for the spouse version (Haberman, Woods, & Packard, 1990).

Within this study, the alphas for the total scale (consisting of 79 items) were .95 for the total sample, .94 for patients and .96 for spouses. For the three subscales used in the study, alphas ranged from .88 to .90 for the patient version and .88 to .93 for the spouse version. These alphas are slightly higher than those found by Haberman, Woods and Packard (1990). This may be accounted for by the fact that all patients in this study have cancer whereas the patients in the Haberman study had breast cancer, fibrocystic disease or diabetes. On the other hand, patients in the Haberman study were females and spouses were male. In this study, both male and female patients were included.

Validity. Correlations among subscales were found to be positive and consistently lower than item-subscale correlations, providing evidence of the discriminate validity of the subscale scores for women with chronic diseases and their male spouses (Haberman, Woods, & Packard, 1990). The current research is expected to further the establishment of validity with newly diagnosed cancer patients of both sexes and their spouses.

Construct validity of DOII scores was examined by correlating DOII scores with those of other, related but separate concepts (depression, marital adjustment, family functioning). The correlations were .46, .28 and -.38 respectively, indicating that the DOII measures a discrete concept (Haberman, Woods, & Packard, 1990; Lewis, Woods, Hough, & Bensley, 1989). The DOII subscale scores also discriminated the different patterns of illness demands that occurred among the three groups of women (breast cancer, fibrocystic disease and diabetes) in the expected manner (Haberman, Woods, & Packard, 1990).

Concurrent Life Events

The Schedule of Recent Experience (SRE) (Holmes, 1981) was used to measure concurrent life events which are not necessarily related to cancer. The SRE consists of 42 life events. Respondents were asked to identify how many times each of the events had occurred to him or her within the past twelve months. Each of the life events has a magnitude score which was established through empirical testing (Holmes & Rahe, 1967; Masuda & Holmes, 1967). These scores range from 11 for minor violations of the law (e.g. traffic tickets, jaywalking, disturbing the peace, etc.) to 100 for death of a spouse. A copy of the SRE can be found in the Appendix.

Scoring. Concurrent life events scores were calculated by summing the assigned rating scores of each of the life events ticked off by respondents. As per instructions by Holmes (1981), items which were reported to have occurred more than four times within the past twelve months were recoded to a score of four.

Reliability. The SRE was administered to sixteen groups who differed on a number of demographic variables (age, gender, social class, religion, race, etc.). The correlation coefficients (Pearson's r) of the mean item scorings for these groups ranged from .820 to .98, the average r being .95, indicating a high degree of generalizability of item rating scores (Masuda & Holmes, 1967)

Alpha reliabilities are not reported. Indeed, they would not be expected to be high since the events which comprise the SRE are fairly distinct and would not necessarily be expected to occur simultaneously.

Reported estimates of stability of the SRE are moderate. Casey, Masuda, and Holmes (1967) reported a drop of weighted means by 35% to 50% within a four to seven year test period. The stability seems fairly respectable given the long test-retest interval. Another estimate reported by Raphael, Cloitre and Dohrenwend (1991) was a 70% agreement between event categories reported at intervals of one to two weeks, which indicates a moderate level of stability.

Validity. Life events checklists were developed primarily to predict illness onset (Holmes & Rahe, 1967), so estimates of the validity of scores for that purpose would not apply to the purpose of the current study. The potential validity of life events scores for predicting family adjustment comes from the qualitative study by Hough, Lewis and Woods (1991) who found that poorly adjusted families spontaneously reported concurrent life events such as the death of loved ones and well adjusted families did not report the existence of these events. The validity of life events scores for predicting family adjustment is therefore suggested by empirical work, but the proposed study will serve to test whether or not the link between these two variables can be verified under more rigorous conditions.

Appraisal

The Stress Appraisal Measure (SAM) (Peacock & Wong, 1990) was used to measure appraisal of cancer. Based on Lazarus and Folkman's (1984) conceptualization of appraisal, the SAM consists of 28 items which measure seven dimensions of stress: overall stressfulness, threat, challenge, centrality (perceived importance), controllability by the self, controllability by others, uncontrollability. Threat, challenge and centrality are components of primary appraisal. Controllability by self and others and uncontrollability dimensions are considered to be components of secondary appraisal. Overall stressfulness is considered by Peacock and Wong (1990) to be a separate component of appraisal. Each dimension is measured with four items. The items are not grouped in the questionnaire by dimension, but are distributed throughout the SAM. A copy of the SAM can be found in the Appendix.

For each of the items in the SAM, respondents are asked to think about their experience with the cancer (their own or their spouse's) and to indicate how they view the situation , using a five-point Likert scale ranging from 1 = not at all to 5 = extremely.

Scoring. Scores were re-calculated so that they ranged from 0 to 4. Subscale scores were calculated by summing and then averaging the ratings for all of the items within the subscale. Possible subscale scores thus range from 0 to 4.

Reliability. Three studies have been conducted to measure the reliability and validity of the SAM. All three studies focused on college students enrolled in undergraduate psychology courses. In the first study, the students (N=100) were asked to report their perceptions of the forthcoming final examination. In the second study (N=151), students were randomly divided into two groups. One of the groups was asked to rate the prospect of not finding summer employment. The other group was asked to rate the prospect of being exposed to the virus responsible for AIDS. In the third study (N=144), students were instructed to rate the upcoming Christmas examination.

The internal consistency of the subscales were found to be moderately high, given their brevity, ranging from .51 (uncontrollability) to .90 (centrality). The lowest alphas were .51 and .57, both found on the uncontrollability subscale. These two alphas were found in studies one and three, both of which asked students to rate the upcoming exam. Given the stressor which students were asked to rate, the scores for this subscale would be expected to be low. This turned out to be the case and the authors (Peacock & Wong, 1990) speculate that the restricted range of scores accounted for the low alphas. In the second study which asked respondents to rate the prospect of not getting a summer job or the prospect of acquiring the virus responsible for AIDS, the alpha for the uncontrollability subscale was considerably higher at .82. The alphas for the other subscales ranged from .65 to .90 which is considered quite acceptable.

During pilot testing of the questionnaires for the current research, pilot subjects consistently commented on the lack of clarity in three of the uncontrollability subscale questions. The three questions were reworded to make them easier to understand and the revised questions were then administered to the pilot study subjects who stated that the reworded questions were a vast improvement.

Results on the Stress Appraisal Measure were subjected to Cronbach's alpha to check for internal consistency. For the total sample, alphas ranged from .64 for the challenge subscale to .82 for the controllable-by-self subscale.

Validity. Intercorrelations among the subscales were relatively low (mean intercorrelation was ± 0.22) suggesting that the subscales tap relatively distinct dimensions of stress appraisal, providing some evidence of discriminant validity. Peacock and Wong

(1990) conducted factor analysis on the scale, with the exception of the stressfulness component, and confirmed the remaining six dimensions.

Evidence of the construct-related validity of subscale scores is provided in the second study in which students were asked to rate the prospect of summer unemployment (_N_=73) or the prospect of acquiring the virus responsible for AIDS (_N_ = 78). As expected, the prospect of acquiring the human immunodeficiency virus was considered more threatening than the prospect of unemployment during the summer vacation (mean scores: AIDS: mean = 3.2 ± 1.0 (_SD_); unemployment: mean = 2.6 ± 0.8 (_SD_)).

Finally, criterion-related validity of subscale scores was tested in a third study (Peacock & Wong, 1990) by correlating subscale scores with the Rotter locus of control, psychological symptoms and dysphoric mood. Recall that the assigned stressor for the third study was the upcoming Christmas examination. Given the assigned stressor, the authors were not surprised to find relatively low correlations with locus of control. The only statistically significant correlations were with the challenge ($r = -.17$; $p < .05$) and controllable-by-others ($r = -.17$; $p < .05$) subscales. Not surprisingly, respondents with high levels of psychological symptoms scored high on the threat ($r = .36$; $p < .001$), centrality ($r = .33$; $p < .001$) and overall stressfulness ($r = .38$; $p < .001$) subscales. These findings support the criterion-related validity of appraisal subscale scores and lend support to the construct validity as well.

Dysphoric mood was significantly correlated with all subscales in studies conducted by Peacock and Wong (1990). Threat, centrality, uncontrollability and overall stressfulness were positively correlated with dysphoric mood ($r = .37$ to $.58$; $p < .001$). Negative correlations with challenge, controllable-by-self and controllable-by-others were found ($r = -.19$ to $-.29$; $p < .05$). Since mood is commonly used as a measure of stress, these correlations provide evidence of convergent validity of appraisal subscale scores.

Coping

Coping was measured with the Ways-of-Coping Questionnaire - Research Edition (WCQ) (Folkman & Lazarus, 1988), a widely used checklist which consists of 66 items which use a four-point rating scale (0 = does not apply or not used; 3 = used a great deal) to indicate the degree to which the thought or behavior is used to cope with the specified stressor. A copy of the WCQ can be found in the Appendix.

The items on the WCQ are divided among eight subscales (confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving and positive reappraisal). These subscales are composed of four to eight items each.

Distancing. Distancing strategies were those that focus on detachment of the self from the situation and efforts to minimize the significance of it (Folkman & Lazarus, 1988). This subscale consists of six items.

Escape-avoidant coping. These strategies are characterized by wishful thinking and efforts to escape or avoid the stressful situation (Folkman & Lazarus, 1988). This is one of the two scores which are of particular significance in this study because of the proposed links between appraisal and family functioning. This subscale consists of eight items.

Confrontive coping. Confrontive strategies are those associated with aggressive efforts (Folkman & Lazarus, 1988). They include an element of risk and, in contrast to problem-oriented strategies, tend not to be focused on solving the problem. This subscale consists of six items.

Problem-oriented coping. These strategies represent thoughtful, deliberate attempts to solve the problem at hand (Folkman & Lazarus, 1988). Problem-oriented coping is one of the two coping scores of particular interest in this study because it is thought to be an intervening variable between appraisal and family functioning. This subscale consists of six items.

Accepting responsibility. These strategies reflected efforts to accept one's role in causing the stressful situation and efforts to make things right (Folkman & Lazarus, 1988). This subscale consists of four items.

Self-controlling coping. These coping strategies address efforts at regulating feelings and behaviors (Folkman & Lazarus, 1988). This subscale consists of seven items.

Seeking social support. The items which comprise this scale focus on the seeking of advice from friends and other methods of reaching out to members of the social network. This subscale consists of six items.

Scoring. Respondents were asked to rate the extent to which they use each of the 66 strategies to cope with the cancer. Relative coping scores were calculated since they have been found to have greater criterion validity than raw scores (Vitaliano, Maiuro, Russo & Becker, 1987). Relative coping scores represent the ratio between the subscale and total scale scores. These calculations are made to eliminate the bias resulting from differences in the number of items for each of the subscales (Vitaliano, Maiuro, Russo & Becker, 1987). Each subscale score represents the proportional use of that type of strategy relative to all strategies included in the subscales of which the WCQ is composed.

Reliability. Reports of psychometric testing of the WCQ provided mean alphas obtained over five occasions. Coefficient alphas for the planful problem-solving subscale was .68, and for the escape-avoidance subscale was .72. These alphas are moderate, given the number of items composing the two subscales (6 and 8 respectively), and given the fact that they represent the means of alphas obtained over five occasions. Within the current study, the alphas for the two subscales were disappointing; .64 for escape-avoidant scale and .66 for the problem-solving subscale. Measures of stability for the WCQ are not considered appropriate because coping strategies are thought to change over time (Folkman & Lazarus, 1988).

Validity. Intercorrelations among the subscales were averaged over five occasions in the same psychometric studies reported earlier. The mean intercorrelations ranged from -.04 (distancing and seeking social support) to .39 (planful problem-solving and positive reappraisal). For the most part, the intercorrelations were low indicating that the subscales measure discrete dimensions of coping. The mean correlation between escape-avoidance and planful problem-solving was .10, a clear indication that these two subscales measure distinctly different coping strategies.

Consistent with theoretical predictions, people have been found to use more problem-focused coping when the situation is appraised by them as changeable, and they use more emotion-focused coping when the situation is appraised as something that must simply be accepted (Folkman & Lazarus, 1988). Coping strategies have also been found to change as a situation unfolds. Folkman and Lazarus (1985) found that students used problem-focused coping two days prior to an examination. After the exam and prior to obtaining their grades, the students used distancing. Coping strategies used after getting their grades were primarily wishful thinking, seeking social support and self-blame. The poorer the grades, the more these types of coping were used. These studies provide construct validity for coping scores obtained from the WCQ.

Family Functioning

Antonovsky and Sourani's (1988) Family Adaptation Scale was used as a measure of family functioning. It measures satisfaction with the fit between family members and the family unit, and between the family unit and the community. Thus it fits better with definition of family functioning used in this study than other available tools. "With the exception of the measure of family adaptation developed by Sourani and Antonovsky, most scholars have operationalized adaptation as well-being rather than system-environment fit" (Buehler, 1990). Antonovsky and Sourani's (1988) definition of family adaptation closely resembles that of McCubbin and McCubbin (1987), focusing as it does on the "balance and fit at both the individual-to-family level and the family-to-community levels of functioning" (McCubbin & McCubbin, 1987, p. 15). The FAS goes one step further to focus on satisfaction with the balance and fit at these two levels on the assumption that the well functioning family tends to be highly satisfied with the ways in which it operates (Antonovsky & Sourani, 1988, p. 88).

The Family Adaptation Scale (FAS) consists of eleven questions (a copy of the FAS can be found in the Appendix) which are answered by respondents, using a seven-point scale ranging from 1 "I'm not satisfied" to 5 "I'm completely satisfied". Five of the items address individual-to-family fit, two refer to family-to-community fit and three are more general, addressing both levels. The final question is a global item which addresses satisfaction with family adaptation in general.

Scoring. FAS rating scores were converted so that they range from 0 to 4. The FAS score was calculated by summing the ratings for all eleven items and then calculating the mean FAS score. The possible range for FAS scores is 0 to 4.

Reliability. Cronbach's alpha for the ten-item scale (the last, very general question is excluded in this calculation) was .87 for the total sample (n=120), .85 for husbands (n=60) and .90 for the wives (n=60) (Antonovsky & Sourani, 1988). Internal consistency is therefore considered quite adequate. Data regarding the stability of the FAS are not available. In the current study, Cronbach's alpha was found to be .90 for the total sample as well as for patients and spouses.

Validity. Research focusing specifically on establishing the psychometric properties of the Family Adaptation Scale (FAS) has yet to be conducted (Antonovsky & Sourani, 1988). However, construct validity of FAS scores can be construed from available data. First, the reasonably high Cronbach's alphas indicate that the FAS measures primarily a single construct (*Standards for educational and psychological testing*, 1985). Secondly, social workers familiar with the families in the study were asked to provide a global rating of family adaptation. The correlations between their ratings were .51 for the men and .55 for the women (*p* <.001). Given the differences in methods of evaluation, these correlations are fairly high, providing further evidence for construct validity of the FAS.

Family sense of coherence (FSOC) was measured in the same study (Antonovsky & Sourani, 1988). The correlations between scores on the FAS and FSOC were .89 for the men in the study and .85 for the women (*p* <.001). These correlations are of the same magnitude as the Cronbach's alphas, thus failing to support the hypothesis that the two tools measure different constructs. The FSOC purports to measure the family's global appraisal of the meaningfulness of the important spheres of life - in this case, the family. Antonovsky and Sourani (1988) acknowledged the problem of the strong relationship between FAS and FSOC found in their study and made some changes in the FSOC to try to remove some of the contamination. For the purposes of this study, the evidence of the validity of FAS scores comes from the high level of internal consistency and the correlation between an objective measure of family adaptation and the self-report measure of family adaptation: FAS. It is expected that the current research will assist in the further refinement of this measure.

Interview

The purpose of the interview was to collect information which was thought to add breadth and depth to our understanding of the experience of cancer during the early post-diagnostic phase. At the beginning of the interview, respondents were given the opportunity to express any thoughts, ideas or concerns raised during the completion of the questionnaires. The purpose of this question was to allow respondents to have their say and to bring up any burning issues they had around their experience with cancer. The second question asked respondents to identify the relationships which they included in their thinking when answering questions about their families. The family had not been defined by the researcher for respondents. This question, therefore, elicited their definitions of the families (Kristjanson, 1992). The third question addressed previous experience with cancer and to determine the respondents' views of the effects of these experiences on their perceptions of their (or their spouse's) cancer. The remaining questions focused on the major areas of the study - stressors, appraisal, coping and family functioning. A copy of the interview guide is in the appendix.

Research Procedures

Access to setting

Several orientation sessions were held to inform physicians, nurses and radiation therapists about the study. As well, because access to patients depended on permission to do so by attending physicians (a requirement of the agency from which respondents were sought), a written summary of the study was sent to all physicians who might be approached for permission. The summary included an overview of the study, a list of criteria for the selection of respondents and an invitation to contact the researcher for additional information and to discuss concerns. The researcher's telephone number was provided to facilitate the process.

Selection of respondents

The appointments office at the Cross Cancer Institute gets daily printouts including one which lists all newly diagnosed patients to be seen in the Out-Patients Department on that day. The researcher was given copies of these computer printouts. The computer record [illegible] nts on that printout were then perused to determine eligibility for inclusi [illegible] ucy. If patients were found to be married, less than 70 years of age, English [illegible] ing and living within 100 kilometers of Edmonton, they were considered eligible. The attending physicians of the eligible patients were then asked for permission to approach their patients for participation in the research. Once permission was granted, the computer records were consulted to determine subsequent appointments which would fall within the proposed three month time frame.

Approach and follow-up procedures

Patients were approached during regular appointments. The study was described to them and they were given a copy of the consent form and invited to participate in the study. (A copy of the consent form can be found in the Appendix). Patients were invited to take the consent form home and to share it with their spouses. A follow-up telephone call was made several days later to offer further information to the couple, to find out their decision regarding participation and, if the decision was positive, to set up a mutually convenient time for the completion of questionnaires and the interview. Respondents were offered the option of having the data collected in their homes or at the Cross Cancer Institute. For respondents who chose the Cross Cancer Institute, payment of parking expenses incurred as a result of the time spent answering the questionnaires and being interviewed was offered to them.

Protection of human rights

At the time of the interview, the research was again described to the respondents and their rights were outlined. These rights are clearly stated on the consent form (see appendix) and they were reviewed verbally as well. The description of their rights included the right to refuse the interview, to withdraw from the interview at any time and for any reason and the fact that non-participation would not affect their care in any way. Assurance of anonymity in any reports of the data were made. The written consent of respondents was obtained and copies of the consent form were left with respondents. Questions about the nature of the research were solicited and addressed. If respondents became teary or showed other signs of distress during the process of data collection, they were reminded again of their rights to withdraw or omit any questions.

All personnel who had access to the raw data were required to swear an oath of confidentiality at the Cross Cancer Institute. Consent forms which have respondent names on them are stored in a locked filing cabinet and are stored separately from other data. Consent forms do not have respondent identification numbers on them. Questionnaires are identified by number only. They are also kept in a locked filing cabinet and are separate from the consent forms.

Interviews were audio taped. The interviewers assured the respondents that any names of persons or places which they might mention during the interview process and which might threaten their anonymity would be removed from transcripts and this has been done. Audio tapes are identified by identification number only. They are stored in a locked filing cabinet as well. Following completion of content analysis, they will be erased.

Data collection procedures

Following written consent, the respondents were given copies of the interview form which they were asked to complete independently of their spouses. The interviewer was present during data collection to answer any questions that might arise. Completion of the questionnaires generally took between 40 and 60 minutes. Following the completion of the forms, the respondents were interviewed together. The interview generally took between 30 and 45 minutes, although the occasional interview took 90 minutes.

Data cleaning

Data cleaning was conducted through the running of descriptive analyses and checking ranges for impossible values As well, box-plots were examined for the presence of univariate outliers. The impossible values and outliers were then checked against the original data for the presence of data entry errors. These were corrected.

CHAPTER 4

RESULTS

The research findings will be presented in this chapter. The sample will be described first, followed by the findings of the major variables of interest and then by the findings of the regression analyses. The questions and hypotheses to be addressed will be used as the framework for the presentation of the findings.

Description of the Sample

Analysis Procedures

SPSS was used for data analysis. Data on each of the demographic variables were analyzed with univariate statistics: frequencies, measures of dispersion (range and standard deviation) and measures of central tendency (mean, mode or median, as appropriate).

Demographic Results

The sample consisted of 75 patients (40 females and 35 males) and their spouses for a total sample size of 150 respondents. The sample included a mix of cancer sites (Table 1). The most common cancer sites for females were breast cancer followed by gynecological cancers. For males, the most common cancer sites were genitourinary and hematopoietic cancers followed by lung cancer. These cancer sites roughly follow the annual age standardized incidence rates of cancer for Albertans (Berkel, Anderson, Hanson, MacMillan & Raphael, 1990).

Table 1

Incidence of Cancer Sites

Cancer site	Females n = 40	Males n = 35	All patients n = 75
Breast	21 (52.5%)	0	21 (28.0%)
Gynecological	12 (30.0%)	0	12 (16.0%)
Lung	2 (5.0%)	6 (17.1%)	8 (10.7%)
Hematopoietic	0	8 (22.9%)	8 (10.7%)
Genitourinary	0	7 (20.0%)	7 (9.3%)
Gastrointestinal	4 (10.0%)	3 (8.6%)	7 (9.3%)
Head and neck	0	4 (11.4%)	4 (5.3%)
Unknown primary site	1 (2.5%)	2 (5.7%)	3 (4.0%)
Central nervous system	0	2 (5.7%)	2 (2.7%)
Other (thymoma, sarcoma)	0	4 (11.4%)	4 (5.3%)

Respondents ranged in age from 27 to 70 years with a mean of 52 years (Table 2). Respondents had been married an average of 25 years and reported up to 9 children (M = 2.6). Two couples reported a pregnancy. The children ranged in age from 1 to 46 years. Up to three children were still living at home as reported by respondents, although the modal number of children still at home was zero.

Respondents reported a range of 4 to 30 years of education with a mean of approximately 12 years (Table 2). Eighteen respondents (12.0%) reported bachelor's degrees, five (3.3%) reported master's degrees and 2 (1.3%) reported doctoral degrees.

Table 2

Demographic Data: Means and Standard Deviations

	Female Patients n = 40	Male Spouses n = 40	Male Patients n = 35	Female Spouses n = 35
Age	49.9 (9.8)	51.7 (9.6)	55.0 (10.8)	51.9 (11.4)
Years of education	13.0 (2.7)	12.8 (3.1)	12.4 (4.9)	12.1 (2.5)
Years married	25.2 (11.1)	-	24.8 (15.2)	-

Most respondents were employed (Table 3). Female patients and male spouses tended to be employed full-time. Male patients and female spouses tended not to be employed. A number of patients (n = 10, 25% of females; n = 13, 37.1% of males) reported a change in employment status as a result of the cancer. The majority of female patients (n = 8) who reported a change in employment status reported being on sick leave. The male patients who reported a change in employment status reported either being on sick leave (n = 5) or having retired from work (n = 6). Less than one quarter of respondents (n = 33) reported a change in financial status as a result of the illness. Of them, about half (n = 18) considered the change in financial status problematic.

Table 3

Employment and Financial Information: Frequencies and Percentages

	Female Patients $\underline{n}$ = 40	Male Spouses $\underline{n}$ = 40	Male Patients $\underline{n}$ = 35	Female Spouses $\underline{n}$ = 35
Employed	23 (57.5%)	29 (72.5%)	17 (48.6%)	20 (57.1%)
full time	19 (47.5%)	27 (67.5%)	14 (40.0%)	10 (28.6%)
part time	3 (7.5%)	2 (5.0%)	2 (5.7%)	9 (25.7%)
Not employed	17 (42.5%)	11 (27.5%)	18 (51.4%)	15 (42.9%)
Changes due to illness:				
employment status	10 (25.0%)	1 (2.5%)	13 (37.1%)	6 (17.1%)
financial status	4 (10.0%)	6 (15.0%)	10 (28.6%)	13 (37.1%)
Change in financial status a problem	2 (5.0%)	3 (7.5%)	6 (17.1%)	7 (20.0%)

Analysis of Major Variables

Analysis Procedures

Prior to the statistical analysis of the data, the presence of univariate outliers were sought through the use of box-plots. These outliers were recoded to one unit away from the next most extreme score as recommended by Tabachnick and Fidell (1989). In this way, the rank ordering of values were retained while reducing the inordinate influence of outliers on the outcomes of statistical analyses.

Data on each of the major variables were analyzed through the use of univariate statistics: frequencies, measures of dispersion and measures of central tendency. To determine the main and interaction effects of gender and role on the variables of interest, a mixed model factorial analysis of variance was conducted on each of the major variables of interest. The between group factor was gender and the within-subject factor was role (patient, spouse). Correlated groups analyses were necessary because of the lack of independence of spousal scores (Kirk, 1982). Where interaction effects were found, a Scheffe's post hoc analysis was conducted to determine the specific pairs of means which accounted for the significant differences found by the 2 X 2 analyses of variance. An alpha level of less than .05 was considered acceptable to establish statistical significance.

Stressors

Illness-Related Stressors

The questions regarding illness-related stressors addressed by this research are:

1. What are the illness-associated stressors experienced by recently diagnosed cancer patients and their spouses?
2. To what extent do levels of illness-associated stressors differ by role (patients, spouses) and gender?

In order to address illness-related stressors, respondents (both patients and spouses) were asked questions of whether they had experienced 79 demands of illness relating to the cancer. These demands were divided into three groups: symptoms, domestic changes and treatment demands. The most commonly reported demands within each of the three categories will be presented. The mean and standard deviation scores for all three groups of illness-related stressors and for each of the four groups (female patients, male spouses, male patients and female spouses) are presented in Table 4.

Symptoms. For female patients, the most common symptoms were feeling rundown (n = 31; 77.5%), experiencing nausea or upset stomach (n = 29; 72.5%) and hot and cold spells (n = 24; 60.0%). For male patients, the most common symptoms were feeling rundown (n = 28; 80.0%), and an inability to stay at the usual weight (n = 22; 62.9%). For spouses, the most common symptom was feeling rundown (n = 22; 55.0% of males and n = 22; 62.9% of females).

Table 4

Illness-related Stressors: Means and Standard Deviations

	Female Patients n = 40	Male Spouses n = 40	Male Patients n = 35	Female Spouses n = 35
Symptoms	1.03 (0.81)	0.39 (0.44)	0.88 (0.72)	0.52 (0.51)
Domestic changes	0.99 (0.50)	0.93 (0.57)	0.79 (0.50)	0.80 (0.55)
Treatment demands	0.72 (0.45)	0.54 (0.39)	0.54 (0.41)	0.53 (0.42)

Note: Possible ranges for all illness-related stressors: (0 - 4)

Domestic changes. The three most common domestic changes resulting from the cancer as reported by female patients were worrying about their children's reactions to their cancer (n = 36; 90.0%), their husbands' reactions to their cancer (n = 33; 82.5%) and their husbands having to take responsibility for household tasks (n = 33; 82.5%). Male spouses, too, worried about their spouses' responses to cancer (n = 35; 87.5%). In addition, male spouses reported the need to protect their wives from stress (n = 35; 87.5%) and their wives needing help with treatment (n = 34; 85.0%).

The domestic changes most commonly reported by male patients were changes in the frequency of sexual activity (n = 22; 62.9%), the need to protect their wives from stress (n = 21; 60.0%), and a decrease in family recreational activities (n = 20; 57.1%). Female spouses most commonly reported worrying about their husbands' response to cancer (n = 27; 77.1%), the family having had to decide what is really important (n = 27; 77.1%) and the need to protect their husbands from stress (n = 26; 74.3%).

For the group of respondents as a whole, the most commonly reported domestic changes were worrying about their partners' response to cancer (n = 112; 74.7%), the need to protect their partners from stress (n = 110; 73.3%) and the family having had to decide what is really important to them (n = 107; 71.3%).

Treatment demands. For female patients, the most commonly reported treatment demands included worrying about the physical side effects of treatment (n = 36; 90.0%), wanting more facts about the treatment (n = 29; 72.6%) and developing new physical symptoms (n = 27; 67.5%). For male spouses, the most commonly reported treatment demands were worrying about the physical side effects of treatment (n = 36; 90.0%), finding it difficult to wait for the results of medical tests (n = 32; 80.0%) and wanting more facts about the treatment (n = 32; 80.0%).

For male patients, the most commonly reported treatment demands were equally divided among having to make their whole lives more regimented, having to adjust the way of exercising and wanting more facts about the treatment (n = 20; 57.1% each). For the female spouses, the most commonly reported treatment demands were finding it difficult to wait for the results of medical tests ($n = 27$; 77.1%), wanting more facts about the treatment ($n = 24$; 68.6%) and worrying about the physical side effects of treatment ($n = 24$; 68.6%). Overall, the recurring theme was worrying about physical side effects of treatment, wanting more facts about treatment and finding it difficult to wait for the results of medical tests.

To determine the effects of gender and role on illness-related stressors (including symptoms, domestic changes and treatment demands), 2 X 2 factorial analyses of variance were conducted. The analyses revealed a main effect for role ($F(1, 73) = 25.6$, $p < .001$) on symptoms but no main effect for gender ($F < 1$) and no interaction effects of gender and role on symptoms ($F(1, 73) = 2.0$, *ns*). Patients reported more symptoms ($M = 1.9$) than spouses (M = 0.5), as would be expected.

There were no significant main effects for role ($F < 1$) or gender ($F(1, 72) = 2.5$, *ns*) and no interaction effects ($F < 1$) for gender or role on domestic changes found in the analyses of variance. As well, no significant main effects for role ($F(1, 72) = 2.3$, *ns*) or gender ($F(1, 72) = 1.5$, *ns*) and no interaction effects ($F(1, 72) = 2.6$, *ns*) on treatment demands were found.

Concurrent Life Events

The following questions regarding concurrent life events were addressed in this research:

1. What are the concurrent life events experienced by recently diagnosed cancer patients and their spouses?
2. To what extent do concurrent life event scores differ by role (patients, spouses) and gender?

On average, respondents reported 6 or 7 life events which had occurred within the past twelve months. The most commonly reported life events were going on a vacation (n = 87; 58.0%), changes in the health or behavior of a family member (n = 75; 50.0%), and changes in sleeping habits (n = 74; 49.3%).

For female patients, the most common concurrent life events were changes in sleeping habits (n = 32; 80.0%), personal injury or illness (n = 28; 70.0%), vacation (n = 23; 57.5%) and changes in eating habits (n = 20; 50.0%). For male spouses, the most common concurrent life events were changes in health/behavior of a family member (n = 26; 65.0%), vacation (n = 23; 57.5%), changes in social activities (n = 15; 37.5%), and spouse starting or ending work (n = 13; 32.5%).

For male patients, the most common concurrent life events were vacation (n = 23; 65.7%), personal injury or illness (n = 22; 62.9%), changes in sleeping habits (n = 17; 48.6%). For female spouses, the most common concurrent life events were changes in the health/behavior of family member (n = 28; 80.0%), vacation (n = 18; 51.4%) and changes in sleeping and eating habits (n = 13 each; 37.1%).

Table 5

Concurrent Life Events: Means and Standard Deviations

	Female Patients n = 40	Male Spouses n = 40	Male Patients n = 35	Female Spouses n = 35
Concurrent life event scores	219.4 (104.3)	208.1 (108.8)	235.1 (117.5)	216.0 (107.9)

Concurrent life event scores ranged from 0 to 1107 for the total group and the mean ranged from 208 for male spouses to 235 for male patients (Table 5).

To determine the effects of gender and role on concurrent life events, 2 X 2 factorial analyses of variance were conducted. The analyses revealed no significant main effects for role (_F_ (1, 73) = 1.09, _ns_) or gender (_F_ < 1) or interaction effects (_F_ < 1) on concurrent life events.

Appraisal

The questions regarding appraisal as addressed by this research are:

1. What are the appraisals of cancer made by recently diagnosed cancer patients and their spouses?
2. To what extent do the appraisals of cancer differ by role (patients, spouses) and gender?

Respondents were asked to indicate the extent to which they agreed with each of 28 statements of appraisal regarding cancer. The means and standard deviations of the subscales are shown in Table 6.

Overall, the respondents appraised cancer as highly important (as measured by the centrality subscale), controllable by the self and a challenge (Table 6). The lowest appraisal scores were those associated with the uncontrollability of cancer and the degree to which it was perceived to be a threat.

Table 6

Appraisals of Cancer: Means and Standard Deviations

Appraisal	Female Patients n = 40	Male Spouses n = 40	Male Patients n = 35	Female Spouses n = 35
Threat	1.6 (0.9)	1.7 (1.0)	1.4 (0.8)	1.8 (1.0)
Challenge	3.0 (0.7)	2.7 (0.8)	2.7 (0.7)	2.4 (0.9)
Centrality	3.3 (0.6)	3.3 (0.7)	2.8 (0.9)	3.2 (0.6)
Controllability by self	3.1 (0.8)	2.6 (0.9)	3.0 (0.7)	2.4 (0.9)
Controllability by others	2.6 (0.9)	2.3 (0.9)	2.7 (1.0)	2.3 (0.9)
Uncontrollability	1.0 (0.8)	0.9 (0.8)	0.8 (0.7)	1.2 (0.8)
Appraised stressfulness	2.2 (0.8)	2.2 (0.8)	1.6 (0.6)	2.2 (0.7)

Note: possible range for all subscales: 0-4

To determine main and interaction effects of gender and role on each of the seven appraisals of cancer, 2 X 2 factorial analyses of variance were conducted. As can be seen in Table 7, there were no significant main or interaction effects of gender and role on appraised threat, controllability by others or uncontrollability of cancer. No main effects of gender were found for appraised challenge, centrality or controllability by the self. As well, no main effects of role were found for appraised centrality and no interaction effects of gender and role were found for challenge or controllability of cancer by the self.

Table 7

Main and Interaction Effects of Gender and Role on Appraisals of Cancer

Appraisal	Gender	Role	Gender by Role
Threat	*ns*	*ns*	*ns*
Challenge	*ns*	patients > spouses	*ns*
Centrality	*ns*	*ns*	male patients < female patients no significant differences among female patients, male spouses and female spouses
Controllability			
by self	*ns*	patients > spouses	*ns*
by others	*ns*	*ns*	*ns*
Uncontrollability	*ns*	*ns*	*ns*
Stressfulness	females > males	patients < spouses	male patients < others

There were a number of significant main effects of gender and role on appraisals. One of these was the main effect of gender (*F* (1, 71) = 5.1, *p* < .05) on appraised stressfulness. Females appraised cancer as more stressful (*M* = 2.2) than males (*M* = 1.9). There was a main effect of role on challenge (*F* (1, 69) = 6.4, *p* < .05), controllability by the self (*F* (1, 67) = 12.4, *p* < .001) and stressfulness (*F* (1, 71) = 6.1, *p*

< .05). Patients scored higher on appraised challenge (M = 2.8 vs. 2.6) and appraised controllability by the self (M = 3.1 vs. 2.5), and lower on appraised stressfulness (M = 1.9 vs. 2.2) than spouses.

Interaction effects of gender and role were found on two of the appraisal dimensions: appraised centrality (F (1, 69) = 4.4, p < .05) and appraised stressfulness (F (1, 71) = 6.5, p < .05). Interactions indicate that the effects of one of the factors differs depending on the score on the other factor. To determine the specific pairs of groups which had significant differences on appraised centrality and stressfulness, a Scheffe's post hoc analysis was conducted. Figures 3 and 4 demonstrate the interaction effects for both centrality and stressfulness. Male patients scored significantly lower on appraised centrality (M = 2.8) than female patients (M = 3.3). Male patients also scored significantly lower on appraised stressfulness (M = 1.6) than female patients, male spouses and female spouses (all M's = 2.2).

Figure 3

Mean Appraised Centrality by Gender and Role

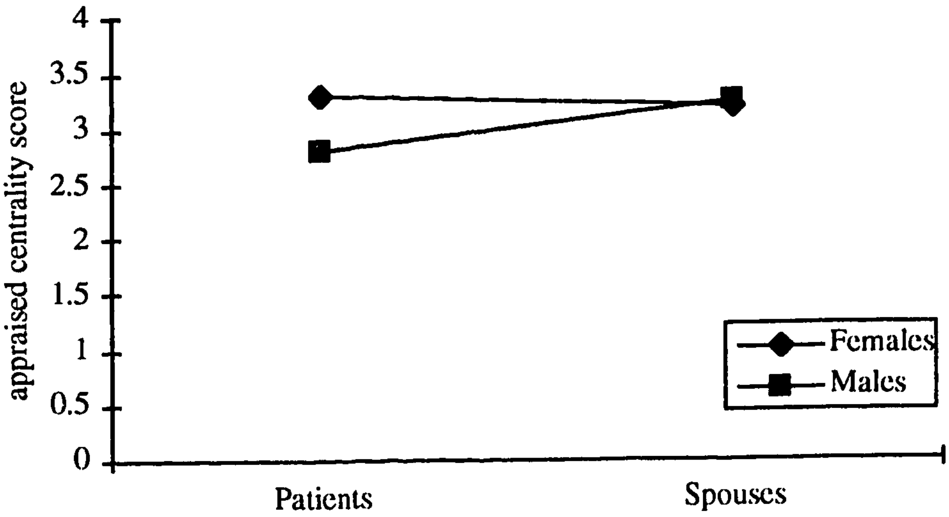
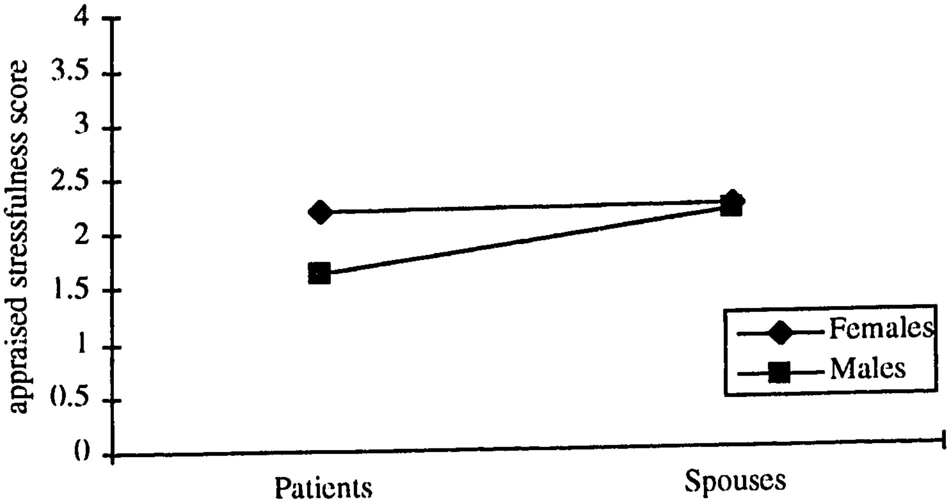


Figure 4

Mean Appraised Stressfulness by Gender and Role



Coping

The questions regarding coping addressed by this research are:

1. What are the coping strategies most commonly used by recently diagnosed cancer patients and their spouses?
2. To what extent do coping strategies differ by role (patients, spouses) and gender?

Respondents were asked to indicate the extent to which they used each of 66 coping strategies. These strategies are divided into eight groups of coping strategies. The coping scores seen in Table 8 represent the proportions of each group of coping strategies relative to all other coping strategies.

Table 8

Relative Coping Scores: Means and Standard Deviations

Coping Strategies	Female Patients *n* = 40	Male Spouses *n* = 40	Male Patients *n* = 35	Female Spouses *n* = 35
Positive reappraisal	17.2 (6.1)	19.0 (7.4)	14.7 (8.7)	17.8 (6.4)
Distancing	14.2 (6.1)	11.8 (5.8)	16.6 (7.1)	12.1 (6.8)
Escape-avoidant coping	9.8 (3.9)	11.2 (7.1)	8.6 (4.7)	8.8 (5.6)
Confrontive coping	6.6 (3.0)	6.4 (3.9)	7.0 (4.1)	8.4 (5.3)
Problem-oriented coping	13.6 (4.7)	13.7 (5.3)	13.7 (7.7)	14.1 (6.0)
Accepting responsibility	5.1 (5.2)	3.1 (4.0)	3.2 (3.7)	2.7 (4.2)
Self-controlling coping	13.0 (3.9)	15.5 (6.0)	13.8 (4.4)	13.6 (6.1)
Seeking social support	20.6 (7.7)	18.2 (8.4)	20.6 (9.2)	19.8 (8.2)

Note: Scores represent mean proportions of all coping strategies used.

There were remarkable similarities among the most and least commonly reported strategies among the groups of respondents. For all four groups (female patients, male spouses, male patients and female spouses), seeking social support and positive reappraisal were among the three most commonly reported coping strategies. Distancing was also among the three most commonly reported coping strategies for patients and self-controlling coping was also among the three most commonly reported coping strategies for spouses. For each of the four groups, accepting responsibility was the least commonly reported strategy followed by confrontive coping and then by escape-avoidant coping.

In order to determine main and interaction effects of role and gender on coping strategies reported by respondents, 2 X 2 factorial analyses of variance were conducted on each of the eight strategies. The results of these analyses are presented in Table 9 and will be discussed in greater detail.

Table 9

Main and Interaction Effects of Gender and Role on Relative Coping Scores

Coping Strategy	Gender	Role	Gender by Role
Positive reappraisal	*ns*	*ns*	*ns*
Distancing	females < males	patients > spouses	*ns*
Escape-avoidant coping	females < males	*ns*	*ns*
Confrontive coping	*ns*	*ns*	r
Problem-oriented coping	*ns*	*ns*	*ns*
Accepting responsibility	females > males	patients > spouses	*ns*
Self-controlling coping	*ns*	*ns*	*ns*
Seeking social support	*ns*	patients > spouses	*ns*

There were no main effects of gender on positive reappraisal (*F* < 1), confrontive coping (*F* (1, 73) = 1.4, *ns*), problem-oriented coping (*F* (1, 73) = 1.5, *ns*), self-controlling coping (*F* < 1) or seeking social support (*F* (1, 73) = 1.5, *ns*). There were no main effects of role on escape-avoidant coping (*F* (1, 73) = 1.9, *ns*), positive reappraisal, confrontive coping, problem-oriented coping or self-controlling coping (*F*'s < 1). There were no significant interaction effects of gender and role on any of the coping strategies (positive reappraisal: *F* (1, 73) = 2.0, *ns*; distancing: *F* (1, 73) = 2.0, *ns*; escape-avoidant coping: *F* (1, 73) = 3.0, *ns*; confrontive coping: *F* (1, 73) = 2.1, *ns*; problem-oriented coping: *F* (1, 73) = 1.5, *ns*; accepting responsibility: *F* (1, 73) = 2.6, *ns*; self-controlling coping: *F* (1, 73) = 1.1, *ns*; and seeking social support: *F* < 1).

There were main effects of gender on distancing (*F* (1, 73) = 10.3, *p* < .01), escape-avoidant coping (*F* (1, 73) = 5.8, *p* < .05) and accepting responsibility (*F* (1, 73) = 6.2, *p* < .05). Females reported using less distancing (*M* = 13.2) and escape-avoidant coping (*M* = 9.3) than males (*M*'s = 14.2 and 9.9 respectively). Females reported greater use of accepting responsibility (*M* = 3.9) than did males (*M* = 3.2).

The 2 X 2 analyses of variance revealed main effects of role on distancing (*F* (1, 73) = 10.3, *p* <.01), accepting responsibility (*F* (1, 73) = 6.3, *p* < .05) and seeking social support (*F* (1, 73) = 5.7, *p* < .05). Compared to spouses, patients used more distancing (*M* = 15.4 vs. 11.9), accepting responsibility (*M* = 4.2 vs. 2.9) and seeking social support (*M* = 20.6 vs. 19.0).

Family Functioning

The following three questions regarding family functioning as addressed by this research are:

1. How satisfied are recently diagnosed cancer patients and their spouses with family functioning?
2. To what extent do levels of satisfaction with family functioning differ by role (patients, spouses) and gender?

Respondents were asked to indicate their level of satisfaction with their family's functioning on ten items. The possible ranges for this measure are 0 to 4. Given this range, the mean satisfaction scores of over 3 and the small standard deviations for all four groups (female patients, male spouses, male patients and female spouses) indicate high levels of satisfaction with family functioning and a low variability of satisfaction scores (Table 10).

Table 10

Satisfaction with Family Functioning: Means and Standard Deviations

	Female Patients n = 40	Male Spouses n = 40	Male Patients n = 35	Female Spouses n = 35
Satisfaction with Family Functioning	3.2 (0.6)	3.3 (0.6)	3.2 (0.8)	3.2 (0.6)

In order to determine the main and interaction effects of gender and role on satisfaction with family functioning, 2 X 2 factorial analyses of variance were conducted. The analyses revealed no main or interaction effects (all F's < 1).

Relationships among Variables

Multiple regression analyses were conducted to test the applicability of Family Stress Theory during the early post-diagnostic phase for patients with cancer and their spouses. More specifically, multiple regression analyses were conducted on:

1. the relative contributions of illness-related stressors and concurrent life events to appraisals of the stressfulness of cancer;
2. the contributions of primary appraisals (threat and challenge) to secondary appraisals (uncontrollability and controllability by self respectively);
3. the contributions of appraisals to coping strategies used; and
4. the relative contributions of the stressfulness appraisal and coping strategies to satisfaction with family functioning.

Analysis Procedures

Because multivariate outliers can have a strong effect on the results of multiple regression, diagnostic tests for their presence is important. The presence of multivariate outliers was determined through the use of the test for Mahalanobis distances. SPSS reports the ten highest Mahalanobis scores and their respective case numbers for each of the regression statements. A table of critical Chi square scores was consulted and Mahalanobis scores greater than the critical Chi square score were considered multivariate outliers (Tabachnick & Fidell, 1989).

Cases with multivariate outliers were analyzed to determine whether they were part of the population of interest. Tabachnick and Fidell (1989) recommend the deletion of cases if they are not considered part of the population of interest. If the respondents which present with outliers are considered part of the population of interest, the scores should be checked to determine whether certain variables are responsible for most of the outliers. If so, and if the variables can be deleted from the analysis, this should be done. Another potential solution is to alter scores as with univariate outliers in order to diminish the influence of the extreme scores. This was done by rescoring the extreme scores so that they were one unit away from the next most extreme scores. In this way, their rank ordering remains the same, but their relatively strong impact on the results of multivariate analysis is reduced.

Prior to the use of multiple regression, spousal scores were tested for independence. As recommended by Larsen and Olson (1990), correlations and paired t-tests were conducted on spousal scores to determine the likelihood of dependence of scores. Because correlations were high ($r > .30$) and mean differences as measured by paired t-tests were fairly low for several of the variables, spousal scores were not considered independent of each other. Regression analyses were therefore conducted separately for patients and spouses.

Hierarchical multiple regression was used. Variables were entered according to their theoretical importance with the most important variables entered first. In this way, variance in the dependent variable which the critical variables might share with [illegible] important variables (i.e. demographics) were attributed to the more [illegible] variables. Variables of lesser theoretical importance were then added to the variables already in the regression equation.

Regression on Appraised Stressfulness

The following hypothesis was made regarding appraised stressfulness and the variables that were thought to contribute to it.

> Patients and spouses with higher demands of illness scores and higher concurrent life event scores will appraise the cancer to be more stressful than patients and spouses with lower demands of illness scores and lower concurrent life event scores.

Appraised stressfulness was therefore regressed on illness-related stressors (symptoms, domestic changes and treatment demands) and concurrent life event scores. Age and gender were included as additional predictors. It was thought that the older the respondent, the lower the appraised stressfulness might be. It was also thought that gender differences might emerge from the analysis.

Illness-related stressors (symptoms, domestic changes and treatment demands) were entered into the equation first, followed by concurrent life events and then by age and gender (Table 11). The hypothesis was partially supported.

Illness-related stressors accounted for a large amount of the variance on appraised stressfulness for both patients and spouses. Illness-related stressors accounted for 27% of the variance on appraised stressfulness in the case of patients and 37% in the case of spouses. Concurrent life events accounted for an additional 4% for spouses. For patients, age and gender accounted for an additional 7% of the variance on the appraised stressfulness of cancer.

For patients, all three categories of illness-related stressors were significantly associated with appraised stressfulness (Table 11). In contrast, of the three illness-related stressors, only symptoms were significantly associated with appraised stressfulness for spouses. Concurrent life events were significantly associated with appraised stressfulness for spouses but not for patients. Of the two demographic variables included in the regression analysis, gender (but not age) was significantly associated with appraised stressfulness for patients, and neither was significant for spouses.

Table 11

Multiple Regression on Appraised Stressfulness of Cancer for Patients and Spouses

	Patients (n = 72)			Spouses (n = 73)		
Independent Variables	β	t	Cumulative R^2 [a]	β	t	Cumulative R^2 [a]
Symptoms	-.31	-2.05 *		.44	3.10 **	
Domestic changes	.33	2.17 *		.20	1.46	
Treatment demands	.40	2.86 **	.27 ***	.20	1.50	.37 ***
Concurrent life events	.03	.26	.27	-.23	-2.01 *	.41 *
Age	.16	1.49		.06	.55	
Gender [b]	-.27	-2.46 *	.34 *	.00	.02	.41
F (*df*)	F (6, 65) = 5.66 ***			F (6, 66) = 7.77 ***		
Total R^2	.34			.41		
Adjusted R^2	.28			.36		

[a] Significance levels refer to change in R^2

[b] Coded as 1 = female and 2 = male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

In summary, these findings indicate that in the case of patients, the lower the symptoms and the higher the domestic changes and treatment demands, the higher the appraised stressfulness of cancer was deemed to be. Furthermore, female patients scored higher on appraised stressfulness than male patients. In the case of spouses, the higher the symptoms and the lower the concurrent life events, the higher the appraised stressfulness of cancer was deemed to be.

Regression on Appraised Uncontrollability of Cancer

The following hypothesis was made regarding the appraised uncontrollability of cancer and the variables that were thought to contribute to it.

> Patients and spouses who appraise cancer as highly threatening will be more likely to also appraise cancer as uncontrollable than patients and spouses who appraise cancer as less threatening.

Appraised uncontrollability of cancer was therefore regressed on appraised threat. Age and gender were included as predictors. It was thought that age and gender differences might emerge from the analysis. As can be seen in Table 12, appraised threat was entered into the equation first, followed by age and gender.

The hypothesis was fully supported. As predicted, appraised threat accounted for a significant amount of the variance in appraised uncontrollability for both patients (33%) and spouses (24%). Neither age nor gender accounted for any significant amount of variance for either patients or spouses. Beta weights and T scores (Table 15) are significantly associated ($p < .001$) with appraised uncontrollability for both patients and spouses. In summary, for both patients and spouses, the higher the appraisal of threat, the higher the appraisal of cancer as being uncontrollable.

Table 12

Multiple Regression on Appraised Uncontrollability of Cancer for Patients and Spouses

	Patients (n = 73)			Spouses (n = 70)		
Independent Variables	β	t	Cumulative R^2 [a]	β	t	Cumulative R^2 [a]
Appraised Threat	.56	5.67 ***	.33 ***	.47	4.49 ***	.24
Age	.11	1.05		.10	.96	
Gender [b]	-.05	-.50	.34	-.18	1.75	.28
F (*df*)	F (3, 69) = 11.87 ***			F (3, 66) = 8.56 ***		
Total R^2	.34			.28		
Adjusted R^2	.31			.25		

[a] Significance levels refer to change in R^2

[b] Coded as 1 = female and 2 = male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Regression on Appraised Controllability of Cancer by the Self

The following hypothesis was made regarding appraised controllability of cancer by the self and the variables that were thought to contribute to it:

> Patients and spouses who appraise cancer as highly challenging will be more likely to also appraise cancer as controllable by the self compared to patients and spouses who appraise cancer as less challenging.

Appraised controllability of cancer by the self was regressed on appraised challenge. Age and gender were included as predictors. It was thought that age and gender differences might emerge from the analysis. As can be seen in Table 13, appraised challenge was entered into the equation first, followed by age and gender.

This hypothesis was fully supported. As predicted, appraised challenge accounted for a significant amount of variance on appraised controllability by the self; 19% for patients and 17% for spouses. As for the demographic variables, age accounted for a significant amount of variance on appraised controllability by the self for patients but not for spouses. In summary, the higher the appraisal of challenge and the younger the respondent, the higher the appraisal of cancer as being controllable by the self for patients. For spouses, the higher the appraisal of challenge, the higher the appraisal of controllability of cancer by the self.

Table 13

Multiple Regression on Appraised Controllability (by self) of Cancer for Patients and Spouses

	Patients (*n* = 70)			Spouses (*n* = 71)		
Independent Variables	β	t	Cumulative R^2 [a]	β	t	Cumulative R^2 [a]
Appraised challenge	.38	3.51 ***	.19 ***	.39	3.54 ***	.17 ***
Age	-.29	-2.60 *		-.15	-1.41	
Gender [b]	.09	.82	.27 *	.09	.80	.20
F (*df*)	*F* (3, 66) = 8.05 ***			*F* (3, 67) = 5.75 **		
Total R^2	.27			.20		
Adjusted R^2	.23			.17		

[a] Significance levels refer to change in R^2

[b] Coded as 1 = female and 2 = male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Regression on Problem-Oriented Coping

The following hypothesis was made regarding problem-oriented coping and the variables that were thought to contribute to it.

> Patients and spouses who appraise cancer as more challenging and controllable by the self will be more likely to use problem-oriented coping strategies than patients and spouses who appraise cancer as less challenging and less controllable by the self.

Problem-oriented coping was regressed on the appraisals of cancer as a challenge and as controllable by the self. Age and gender were included as predictors. As in the case of the other regressions, it was thought that age and gender differences might emerge as significant predictors. The appraisals were entered at step one followed by the demographic variables.

None of the variables entered at step one or two accounted for any significant amount of variance on problem-oriented coping for either patients or spouses (Table 14). Thus this hypothesis was not supported. Appraisals of challenge or controllability of cancer by the self did not affect the use of problem-oriented coping by these recently diagnosed cancer patients or their spouses.

Table 14

Multiple Regression on Problem-Oriented Coping for Patients and Spouses

	Patients (n = 68)			Spouses (n = 70)		
Independent Variables	β	t	Cumulative R^2 a	β	t	Cumulative R^2 a
Challenge	.07	.48		-.16	-1.19	
Controllability by the self	-.05	-.36	.01	.23	1.70	.04
Age	.07	.51		.16	1.27	
Gender b	.03	.25	.01	-.07	-.58	.06
F (*df*)	F < 1			F (4, 65) = 1.13		
Total R^2	.01			.06		
Adjusted R^2	-.05			.01		

[a] Significance levels refer to change in R^2

[b] Coded as 1 = female and 2 = male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Regression on Escape-Avoidant Coping

The following hypothesis was made regarding escape-avoidant coping and the variables that were thought to contribute to it.

> Patients and spouses who appraise cancer as highly uncontrollable and as highly threatening will be more likely to use escape-avoidant coping strategies than patients and spouses who appraise cancer as less uncontrollable and as less threatening.

Accordingly, escape-avoidant coping scores were regressed on the appraisals of cancer as uncontrollable and threat. In addition, age and gender were included as predictors to determine their potential in explaining escape-avoidant coping. The two appraisals (uncontrollability and threat) were entered into the equation at step one, followed by the demographic variables.

This hypothesis was unsupported for patients and partially supported for spouses. Together, the two appraisals failed to account for any significant amount of variance on escape-avoidant coping although the T scores for appraised threat indicate a significant association between appraised threat and escape-avoidant coping for spouses (Table 15). Age accounted for a significant amount of variance on escape-avoidant coping for patients and both age and sex accounted for a significant amount of variance on escape-avoidant coping for spouses (Table 15). Age is negatively associated with escape-avoidant coping for both patients and spouses. Gender is not associated with escape-avoidant coping for patients but is for spouses. That is, male spouses scored higher on escape-avoidant coping than did female spouses.

Table 15

Multiple Regression on Escape-Avoidant Coping with Cancer for Patients and Spouses

	Patients (n = 69)			Spouses (n = 68)		
Independent Variables	β	t	Cumulative R^2 a	β	t	Cumulative R^2 a
Uncontrollability	.08	.56		.14	1.08	
Threat	.24	1.72	.07	.28	2.2 *	.08
Age	-.33	-2.76 **		-.30	-2.69 **	
Gender ^{b}	-.03	-.25	.18 *	.25	2.22 *	.23 **
F (*df*)	F (4, 64) = 3.60 *			F (4, 63) = 4.58 **		
Total R^2	.18			.23		
Adjusted R^2	.13			.18		

^{a} Significance levels refer to change in R^2

^{b} Coded as 1 = female and 2 = male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

In summary, although there is a link between appraised threat and escape-avoidant coping for spouses, appraised threat and uncontrollability together do not account for any significant amount of variance on escape-avoidant coping in the case of patients or spouses. However the older the respondent, the lower the use of escape-avoidant coping tended to be for both patients and spouses. Finally, male spouses tended to use rather more escape-avoidant coping than female spouses.

Regression on Satisfaction with Family Functioning

The following hypothesis was made regarding satisfaction with family functioning and the variables that were thought to contribute to it.

> Patients and spouses who use more problem-oriented coping strategies, less escape-avoidant coping strategies and who appraise cancer to be less stressful will be more satisfied with family functioning than patients and spouses who use less problem-oriented coping strategies, more escape-avoidant coping strategies and who appraise cancer as more stressful.

Satisfaction with family functioning was regressed on problem-oriented and escape-avoidant coping and appraised stressfulness. Problem-oriented coping and escape-avoidant coping were entered at the first step followed by appraised stressfulness. Age and gender, entered at the end, were included as predictors to determine age and gender differences that might emerge as useful predictors of satisfaction with family functioning.

As can be seen in Table 16, the hypothesis was unsupported. None of the variables accounted for any significant amount of variance on satisfaction with family functioning and there were no significant differences between any of the variables and satisfaction with family functioning.

Table 16

Multiple Regression on Satisfaction with Family Functioning for Patients and Spouses

	Patients ($\underline{n}$ = 70)			Spouses ($\underline{n}$ = 71)		
Independent Variables	β	t	Cumulative $R^{2\,a}$	β	t	Cumulative $R^{2\,a}$
Problem oriented coping	-.01	-.08		.13	1.01	
Escape avoidant coping	.15	1.02	.01	-.16	-1.20	.06
Appraised stressfulness	-.04	-.32	.01	-.02	-.18	.06
Age	.14	1.08		.16	1.37	
Gender [b]	-.14	-1.02	.04	.12	.98	.10
$\underline{F}$ (*df*)	$\underline{F} < 1$			$\underline{F}$ (5, 65) = 1.51		
Total R^2	.04			.10		
Adjusted R^2	-.04			.03		

[a] Significance levels refer to change in R^2

[b] Coded as 1 = female and 2 = male.

* $\underline{p} < .05$. ** $\underline{p} < .01$. *** $\underline{p} < .001$.

CHAPTER 5

DISCUSSION

The purpose of the current research was to determine the extent to which stressors, appraisal, and coping contribute to satisfaction with family functioning by newly diagnosed adults with cancer and their spouses and to determine the effects of gender and role on stressors, appraisal, coping and satisfaction with family functioning.

This chapter will be divided into two major sections. The findings are discussed in the first section. The second section focuses on the implications of these findings for the development of theory, further research and for professional practice.

Major Findings and Discussion

Effects of Gender and Role on Major Variables

Stressors

Patients reported more symptoms than did spouses. However, there were no significant main or interaction effects of gender and role on the other illness-related stressors (domestic changes, treatment demands) or concurrent life events. The finding of similar levels of treatment effects supports the views of Family Stress theorists (Koop & Keating, 1990; McCubbin & McCubbin, 1987; 1991; McCubbin & Patterson, 1983) that the effects of stressful events go beyond the individual who is directly affected to the family members as well. The study of patients and their family members is justified by findings such as these. Clinicians would do well to recognize the effects of the illness and associated treatments on the family members of their patients.

Appraisals

There were some interesting similarities in the patterns of appraisals of cancer by respondents, independent of gender and role. For all four groups of respondents (female patients, male spouses, male patients and female spouses), the highest mean appraisal scores tended to be for centrality, challenge and controllability by the self (although male patients and their spouses also scored fairly highly on appraised controllability by others (M = 2.7, 2.3, respectively)). For all four groups, the lowest mean appraisal scores were for (starting from the lowest scores) the uncontrollability of cancer, threat and appraised stressfulness. These patterns suggest that more optimistic appraisals predominate over the more pessimistic appraisals.

Were the optimistic appraisals due to denial, the appraised centrality scores would be expected to be lower. It is unlikely that cancer would be seen as having importance, were the optimistic appraisals be the result of denial. Other interpretations must be sought. In their interactions with caregivers at cancer centres, particularly when treatment options are discussed, patients and spouses may be convinced that cancer can be managed. Moreover, since respondents had been dealing with cancer for approximately two months (on average), their experiences may have led them to believe cancer to be somewhat more manageable than previously thought. These findings support those found by Hough, Lewis and Woods (1991) and O'Connor, Wicker and Germino (1990) which found that patients and their spouses are able to see cancer as having some potentially positive outcomes.

There were also interesting differences by gender and role in the appraisals of cancer. Patients tended to have higher mean challenge and controllable-by-the-self appraisal scores than did spouses. These findings suggest more positive views of cancer by patients than by their spouses. Perhaps, on having survived the diagnostic phase and a month or two since diagnosis, patients have come to the conclusion that having cancer is not as bad as they might have thought. Analysis of the interview data, particularly those which focus on appraisals, may shed further light on these findings.

Male patients had lower mean appraised stressfulness scores than any of the other three groups (female patients, male spouses, female spouses). Indeed, the mean appraised stressfulness score for male patients was below the mid-point on this subscale (M = 1.6; possible range = 0 - 4). Male patients also had lower mean appraised centrality of cancer scores than did female patients. These findings that male patients found cancer to be less important and less stressful than the other groups of respondents is most interesting and bears further study. Certainly, their wives did not share their views, particularly on appraised stressfulness. Nor did the male spouses share their views. Indeed, the mean appraised stressfulness scores for female patients, male spouses and female spouses were approximately equal (all M 's = 2.2). Analysis of the interview data may be helpful in determining the nature of male patients' appraisals compared to those of other respondents.

Coping

There are some interesting patterns that can be seen in the mean scores on the coping subscales. Seeking social support ranked as having the highest mean scores for female patients, male patients and female spouses. Indeed, patients scored significantly higher on seeking social support on average than did spouses. Positive reappraisal ranked first for male spouses, second for female patients and female spouses and third for male patients. There were no significant differences by gender or role on positive reappraisal. Overall, mean scores on seeking social support and positive reappraisal ranked first and second among all coping scores.

Males and patients had higher mean distancing scores than did females and spouses, although there were no interaction effects of gender and role on distancing scores. The ranking of mean distancing scores relative to other mean coping scores is interesting, however. Mean distancing scores ranked second (out of 8) for male patients, third for female patients and fifth for male and female spouses. Given the findings of lower appraised stressfulness and appraised centrality scores of male patients (relative to the other three groups), the relatively higher distancing scores are presenting a picture of male patients as being somewhat less emotionally involved in the experience with cancer than their wives, female patients or their (male) spouses. The relative merits and drawbacks of such a stance bear further study. The analysis of the interview data may shed some important light on these findings and may allow a more comprehensive interpretation of these findings.

Gender differences were found in two additional groups of coping strategies, escape-avoidant coping and accepting responsibilities. However, in both cases, the interpretation of these gender differences must be tempered by the fact that the mean coping scores were very low for all groups, indicating relatively low use. Although males had higher mean escape-avoidant coping scores than did females, mean escape-avoidant coping scores were lower than the mean scores for most of the other coping strategies, ranking sixth (out of 8 coping scores) for each of the four groups, male patients and male spouses included. Along the same lines, females and patients had higher mean scores on the accepting responsibility subscale than their male and spouse counterparts. However, the mean scores for this subscale were the lowest of all of the coping subscales and standard deviations on these mean scores exceeded the means, indicating a highly skewed distribution.

Satisfaction with Family Functioning

Satisfaction with family functioning was remarkably high overall. Indeed, mean scores were greater than 3 (possible scale scores = 0 - 4) for all four groups of respondents. There were no significant main or interaction effects of gender or role on satisfaction with family functioning scores. The high means and low standard deviations on satisfaction with family functioning indicate a skewed and leptokurtic distribution, decreasing the possibility of finding predictors of satisfaction with family functioning.

Discouraging for the researcher seeking predictors of high level family functioning, these findings nonetheless indicate that patients and their spouses were generally happy with the overall functioning of their families. The high degree of satisfaction despite the emotionally trying circumstances in which these respondents found themselves is encouraging and demonstrates that despite its reputation as a devastating disease, families are able to carry on in a satisfactory manner.

Relationships Among Variables

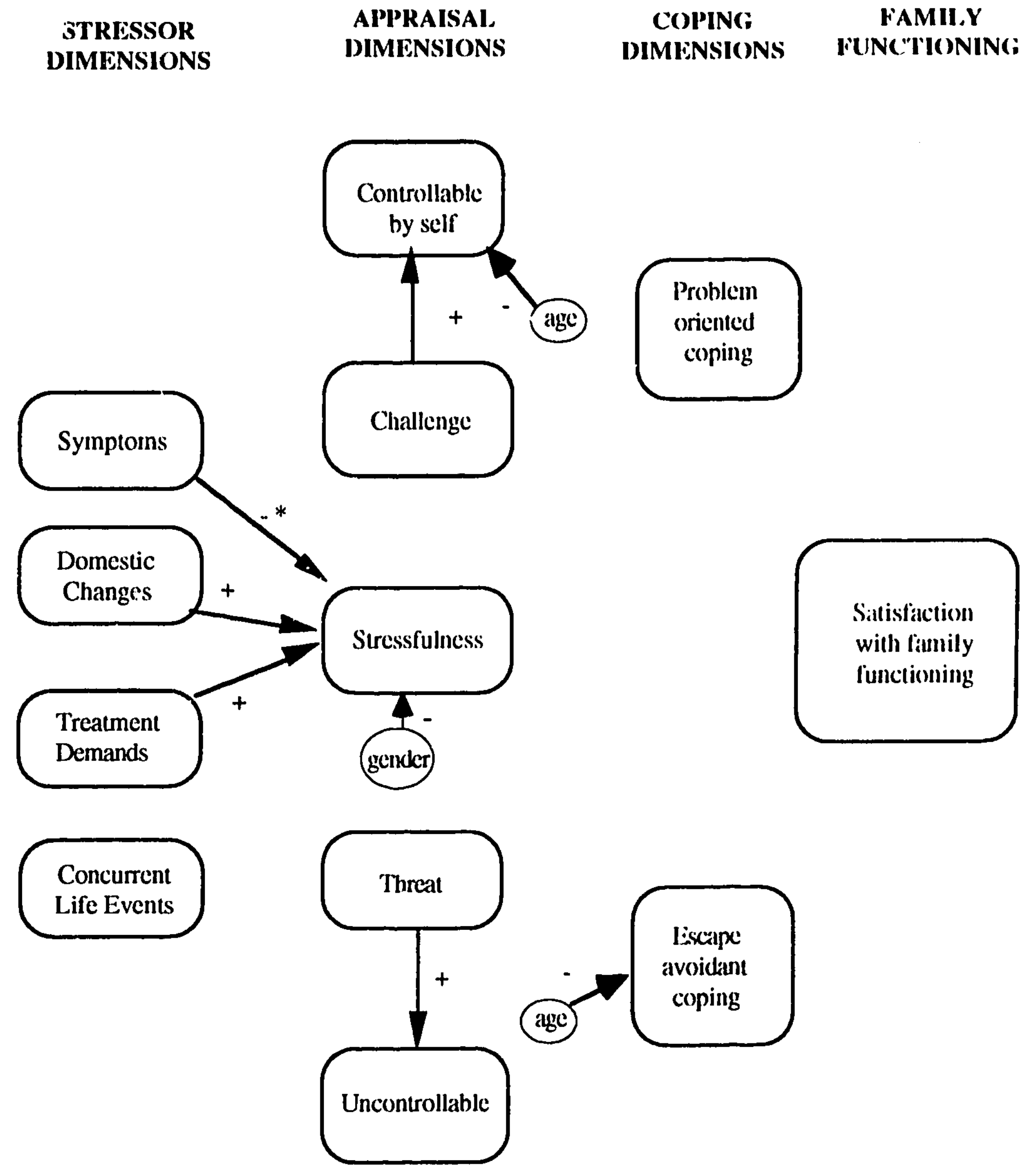
For patients, lower symptoms and higher domestic changes and treatment demands and being female predicted higher stressfulness appraisals. Higher threat appraisal scores predicted appraisals of cancer as uncontrollable. Higher challenge appraisal scores and younger age predicted higher appraisals of cancer as controllable by the self. Finally, age was negatively associated with problem-oriented coping.

For spouses, higher symptoms and lower concurrent life events predicted higher stressfulness appraisals. Higher threat appraisal scores predicted appraisals of cancer as uncontrollable. Higher challenge appraisal scores predicted higher appraisals of cancer as controllable by the self. Finally, higher appraisals of threat, younger age and being male predicted higher escape-avoidant coping.

As can be seen in Figures 5 and 6, some of the relationships predicted by Family Stress Theory were supported by the results of this study. In particular, the proposed relationships between stressors and appraisals and the proposed relationships among appraisals of cancer were supported by the findings of this study. Other proposed

Figure 5

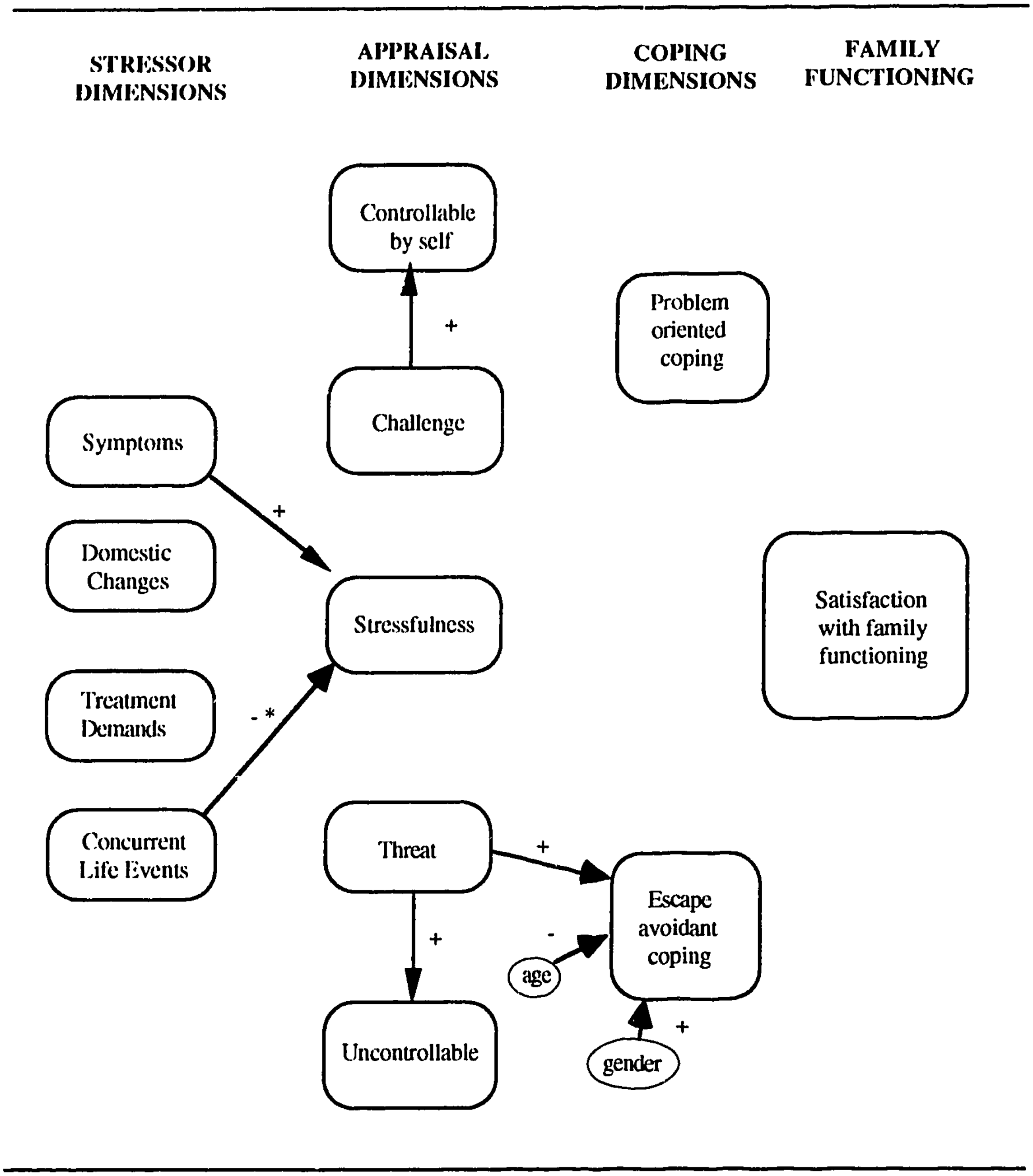
Relationships among Variables: Patients



Note: * direction of relationship opposite to that predicted

Figure 6

Relationships among Variables: Spouses



Note: * direction of relationship opposite to that predicted relationships do not seem to be very useful in explaining the responses of patients and spouses. These findings will be discussed in the following section.

Contributors to the Appraised Stressfulness of Cancer

It was proposed that patients and spouses with higher demands of illness scores and higher concurrent life event scores would have higher stressfulness appraisal scores than patients and spouses with lower demands of illness scores and lower concurrent life event scores.

The findings differed somewhat for patients and spouses. For patients, the lower the symptoms and the higher the domestic changes and treatment demands and for females, the higher were the appraisals of cancer of stressful. Neither concurrent life events nor age contributed to appraised stressfulness for patients. For spouses, the higher the symptoms and the lower the concurrent life events, the higher were the appraisals of cancer as stressful. Other illness-related stressors (domestic changes and treatment demands), age and gender did not contribute to appraised stressfulness for spouses.

Relationship between Symptoms and Appraised Stressfulness. The relationship between symptoms and appraised stressfulness was significant for both patients and spouses. As predicted, the relationship between symptoms and appraised stressfulness was positive for spouses. However, the relationship was negative for patients; an unexpected finding. The positive relationship between symptoms and appraised stressfulness for spouses is the easier of the two findings to understand. The Demands of Illness Questionnaire (Woods, Haberman & Packard, 1987) specifically addresses spouses' symptoms "as a result of your partner's illness", it seems that the symptoms represent physiological responses to the stress of a partner's cancer. Thus, the more stressful one appraised the partner's cancer to be, the more stress-related symptoms would be expected to occur.

The negative relationship between patients' symptoms and their appraised stressfulness scores is a little more difficult to understand. Several ideas come to mind, however. One of these is the possibility that this finding is an artifact of the relationship between time since diagnosis and appraised stressfulness. In his theoretical work, Hill (1958) proposed that families go through a period of disorganization during the period of time immediately following experience of a major stressor. This disorganization, he stated, diminished over time if the family functioned well. Similarly, Weisman's (1984) discussions of patients with cancer predicted a period of disorganization and distress following the diagnosis of cancer. The possibility that appraised stressfulness decreased as a function of the passage of time since diagnosis is supported by the conceptual work by Hill (1958) and by the conceptual and empirical work by Weisman (1984). For patients who are undergoing radiation therapy or chemotherapy, symptoms which are due to side effects of these treatments (fatigue or nausea, for instance) tend to increase over the course of the treatments. It is quite possible, therefore, that the patients who completed the questionnaires later in the 100 day period selected for this study were nearing the end of their treatment protocols and their symptoms were peaking. At the same time, they were less emotionally distressed due to the passing of time. Type of treatment and timing of the questionnaire completion within the framework of the treatment protocol were not noted in this study. The validity of this explanation would have to be checked in subsequent research by noting the type of treatment provided to patients and the expected side effects at the time of data collection.

The other possible explanation for the negative relationship between symptoms and appraised stressfulness for patients is linked to Mishel's uncertainty theory (Mishel, 1984). One of the factors that has been identified as most distressing to cancer patients is the uncertainty associated with the disease (Hilton, 1993). Cancer is an insidious disease and asymptomatic progression of the disease is characteristic. The presence of symptoms, once the disease has been diagnosed may allow the patient to monitor the progress (or regress) of the disease, thus decreasing the uncertainty being experienced. In contrast, a lack of symptoms may increase the uncertainty of the progress or regress of the disease. A variation on this theme comes from clinical observations that symptoms such hair loss, fatigue and nausea are regarded by patients as indications that the therapy (radiation therapy or chemotherapy) is working. The presence of the symptoms are seen by patients as positive and may reduce the distress associated with uncertainty, thereby reducing the appraised stressfulness of cancer. The finding of a negative relationship between symptoms and appraised stressfulness of cancer for patients bears further scrutiny. Longitudinal research would allow for the monitoring of symptoms over time and the appraisals that accompany the changes in symptoms.

Relationship between Domestic Changes and Treatment Demands and Appraised Stressfulness. Domestic changes and treatment demands predicted appraised stressfulness for patients but not for spouses. These findings illustrate the differential effects of the diagnosis of cancer for patients and spouses. Although there were no main or interaction effects of role or gender on domestic changes or treatment demands, the effects of these two illness-related stressors on the appraised stressfulness was significant for patients but not for spouses. Although patients and spouses scored similarly on domestic changes and treatment demands, their views of the meaning of those illness-related stressors may have differentially affected their appraisals of cancer as stressful. Patients may have felt responsible for the domestic changes and treatment demands imposed by their cancer or its treatments. As a result, they may have felt badly about the changes imposed on their families, thus increasing their appraisals of the cancer as stressful. Since domestic changes and treatment demands did not predict appraised stressfulness for spouses, it may be that their views of the meaning of these illness-related stressors were somewhat different from those ascribed by the patients. Some spouses may have found the domestic changes and treatment demands an imposition. They may have felt coerced into accommodating to their ill partners' needs. Other spouses may have been glad of the opportunity to be helpful to their ill partners. For them, the domestic changes and treatment demands may have been accommodations voluntarily made for the benefit of their ill partners.

Relationship between Concurrent Life Events and Appraised Stressfulness. It was predicted that the relationship between concurrent life events and appraised stressfulness would be positive. A significant, but negative relationship was found for spouses, and no relationship between the two variables was found for patients. Having been diagnosed with cancer, and going through treatments during this time may preoccupy patients so completely that concurrent life events have no effect on appraisals of cancer at this time.

It was predicted that the more concurrent life events experienced by the respondents, the more stressful would be the appraisal of cancer. In fact, concurrent life event scores were negatively associated with appraised stressfulness for spouses. Although the work on pile-up (McCubbin & McCubbin, 1991) would predict that the more stressors a family is dealing with, the more stressful they would find those stressors to be, there may be another element at work here. Having experienced major stressful events over the course of the previous year, spouses may feel more competent at dealing with a partner's cancer. It is also possible that among all the stressors currently being experienced by spouses with higher concurrent life event scores, having a partner with cancer may be among the less stressful.

Relationship between Gender and Appraised Stressfulness. Female patients appraised cancer as more stressful than did male patients. For spouses, gender made no significant difference in appraised stressfulness. Of interest here are the effects of gender and role on appraised stressfulness. Male patients scored lower on appraised stressfulness than did female patients, male and female spouses. Similarly, male patients scored lower on appraised centrality of cancer than female patients. (The appraised centrality scores of female patients, male spouses and female spouses were roughly equivalent.) The lower appraised stressfulness and centrality scores for male patients are most interesting. Had the study focused on patients only, the results may have been interpreted as a gender issue: males consider cancer to be less stressful than females. The stereotype of the male as less emotional might have been raised. However, the results of this study show male spouses to be as concerned about the centrality and stressfulness if cancer as female patients and female spouses. Gender stereotypes, therefore, do not provide sufficient explanation for these findings. Family Stress Theory, which implies similar responses for the individual experiencing the stressor and family members, would not have predicted these results either. Female spouses consider cancer to be more stressful than their husbands, the patients. Clearly, male patients view cancer differently than do their female counterparts, their spouses, and male spouses. The possible reasons why men with cancer might find it less stressful and less important (central) than men whose wives have cancer are hard to fathom. Perhaps the potential responsibility of being a caregiver to a wife is foreign to spouses' internalized gender roles, whereas the role of the patient means that the men will continue to be nurtured by their wives albeit in a more intense fashion.

Relationship between Age and Appraised Stressfulness. Age did not predict the appraised stressfulness of cancer for either patients or spouses. The view of the older patient as less distressed by a diagnosis of cancer certainly is not supported by this study. This finding should be viewed with some caution, keeping in mind that patients older than 70 years of age were specifically excluded from the study. It may also be found in further study that the appraisal of cancer as stressful changes with the passage of time differentially for older and younger patients and their spouses. Such possibilities bear further study.

Contributors to the Appraisal of Cancer as Uncontrollable

It was proposed that patients and spouses who appraise cancer as highly threatening would be more likely to also appraise cancer as uncontrollable than patients and spouses who appraise cancer as less threatening.

For both patients and spouses, the higher the appraised threat scores, the higher was the appraisal of cancer as uncontrollable. Neither age nor gender contributed to appraised uncontrollability for patients or spouses. The threats imposed by cancer would seem to be highly connected to a perception of cancer as hopeless and uncontrollable.

Relationship between Appraised Threat and Appraised Uncontrollability of Cancer. According to Lazarus and Folkman (1984), primary appraisals (such as threat and challenge), which focus on the nature of the stressor contribute to secondary appraisals (such as uncontrollability) which focus on the individual's perceived ability to manage the stressor. This relationship was confirmed in this group of recently diagnosed cancer patients and their spouses.

Relationship between Age and Gender and Appraised Uncontrollability of Cancer. Neither age nor gender predicted the appraisal of cancer as uncontrollable for either patients or spouses. The analyses of both of the appraisals of interest here found neither main nor interaction effects of gender or role on appraised threat or appraised uncontrollability of cancer. Clearly, the view of cancer as uncontrollable is not affected by the age or gender of the respondent.

Contributors to the Appraisal of Cancer as Controllable by the Self

It was proposed that patients and spouses who appraise cancer as highly challenging would be more likely to also appraise cancer as controllable by the self than patients and spouses who appraise cancer as less challenging.

Patients who scored higher on the appraisal of cancer as a challenge and who were younger scored higher on the appraisal of cancer as controllable by the self. For spouses, the higher the appraisal of cancer as a challenge, the higher was the appraisal of cancer as controllable by the self. Neither age nor gender contributed to spouses' appraisals of cancer as controllable by the self.

Relationship between Appraised Challenge and Appraised Controllability of Cancer by the Self. As hypothesized, the primary appraisal of challenge predicted the appraisal of cancer as controllable by the self. This finding is consistent with Stress and Coping Theory (Lazarus & Folkman, 1984) which posits that primary appraisals of the stressor predict the secondary appraisals of the ability to manage the stressor. Of interest here are the findings that patients tended to regard cancer as more of a challenge and as more controllable by the self than spouses. There were no main effects of gender or interaction effects of gender and role on either of these appraisals. Patients' views of cancer as a challenge and as controllable by the self may have important consequences for morale. During the first three months following diagnosis, many patients go through surgery, radiation therapy and/or chemotherapy. All of these therapies are associated with side effects such as nausea and fatigue. Furthermore, the treatments tend to be regular and frequent, interrupting a normal lifestyle. Radiation therapy is frequently prescribed in the form of a daily (sometimes twice daily) regimen. Chemotherapy is generally a weekly treatment. Besides the treatments, patients must get regular evaluations of their progress. They must therefore present themselves to laboratories for blood testing, x-ray departments for radiological examinations and physicians for evaluations of all of this information. Appointments for medical evaluations can take up the greater part of a day. Because of the time consuming nature of evaluations and treatments during the post-diagnostic phase, positive appraisals (challenge, controllability by the self) may have important benefits through their effects on morale. Taylor, Lichtman and Woods (1984) found positive relationships between perceived controllability of breast cancer and indices of adjustment.

Contributors to the use of Problem-Oriented Coping

It was proposed that patients and spouses who appraise cancer as more challenging and controllable by the self would be more likely to use problem-oriented coping strategies than patients and spouses who appraise cancer as less challenging and less controllable by the self.

For patients and spouses, none of the predicted variables (appraised challenge, appraised controllability by the self, age and gender) contributed to the use of problem-oriented coping. The predicted relationships were not found. Longitudinal research is needed to determine whether these predicted relationships might be found over time.

Relationship between Appraised Challenge and Controllability and Problem-Oriented Coping. The theory behind the predicted relationship between appraisal and coping holds that if a stressor is considered a challenge or as controllable by the self, the individual is more likely to make efforts to solve the problem; thus using problem oriented coping strategies (Lazarus & Folkman, 1984). Two explanations for the lack of predicted relationships between appraisals and coping in recently diagnosed cancer patients and their spouses come to mind.

First, cancer is not really controllable by the self. There is some evidence that the perception of cancer as controllable by the self is beneficial for patients (Taylor, Lichtman

& Wood, 1984). However, apart from attending the clinics to take part in therapy (which sometimes are supplemented by drugs taken by the patient at home), there is really not much the patient or spouse can do to "solve" the problem of cancer. Problem-oriented coping strategies may therefore not be appropriate, given the situation (the diagnosis of cancer) (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986). The benefits of positive appraisals may contribute to adjustment through mechanisms other than problem-oriented coping.

Second, it may be that problem-oriented coping strategies may have more utility at a later point in time. It is worth noting that emotion-focused strategies such as seeking social support and positive reappraisal were used by patients and spouses much more commonly that problem-oriented coping. Out of eight groups of coping strategies, problem-oriented coping ranked third for female spouses but fourth or fifth for the other three groups (female patients, male spouses and male patients). Problem-oriented coping may simply be inappropriate for patients and spouses during the early post-diagnostic phase of cancer. Its potential benefits at other phases of cancer would need to be evaluated in further research.

Contributors to the use of Escape-Avoidant Coping

It was proposed that patients and spouses who appraise cancer as highly uncontrollable and as highly threatening would be more likely to use escape-avoidant coping strategies than patients and spouses who appraise cancer as less uncontrollable and as less threatening.

The younger the patient, the more escape-avoidant coping was likely to be used. None of the other variables (appraisals of cancer as uncontrollable or a threat and gender) contributed to the use of escape-avoidant coping by patients. For spouses, the higher the appraisal of cancer as a threat and the younger their ages, and for males, the more likely escape-avoidant coping was used. The appraisal of cancer as uncontrollable did not contribute to the use of escape-avoidant coping by spouses.

Relationship between Appraised Threat and Appraised Uncontrollability of Cancer and Escape-Avoidant Coping. Lazarus and Folkman (1984) proposed a positive relationship between the appraisal of a stressor as threatening and uncontrollable and the use of escape-avoidant coping. The relationship between appraised threat and escape-avoidant coping held for spouses, particularly male spouses, but did not hold for patients.

The results from the univariate analysis of coping strategies may be useful in the search for explanations for these findings. First, escape-avoidant coping was among the least commonly used group of coping strategies. For all four groups of respondents (female patients, male spouses, male patients and female spouses), escape-avoidant coping scores ranked third last. Indeed, more than 72% of the respondents had escape-avoidant coping scores of less than 10% (Coping scores are expressed in percentages of all coping strategies used). The issue of self-selection may well apply. Potential respondents who tend to use escape-avoidant coping might well have declined to participate in this study because participation would have, by definition, required addressing the cancer and its issues.

The second finding that may apply here is the main effect of gender on escape-avoidant coping scores. Males reported significantly greater use of escape-avoidant coping than did females. It may be that the coping strategies used during this period do not vary in response to the appraisals of cancer but in response to some other factor, such as gender. It may also be that the appraisals of threat and uncontrollability of cancer promote the use of coping strategies other than escape-avoidance. Other emotion-focused strategies such as positive reappraisal and distancing were used more frequently than escape-avoidant coping and may be linked with the more negative appraisals of threat and uncontrollability. The question remains: What coping strategies are used by recently diagnosed cancer patients and their spouses who appraise cancer as a threat and as uncontrollable?

Relationship between Age and Escape-Avoidant Coping. For both patients and spouses, age was negatively associated with the use of escape-avoidant coping. Older respondents tended to score lower on the use of escape-avoidant coping strategies. This relationship may reflect the link between the diagnosis of cancer and age. The risk of cancer increases with age. Older persons with cancer may therefore be more able to come to terms with the reality of the diagnosis and may therefore use avoidant coping strategies less than their younger counterparts.

Relationship between Gender and Escape-Avoidant Coping. Gender did not predict escape-avoidant coping for patients but did for spouses. Male spouses were more likely to use escape-avoidant coping strategies than female spouses. Escape-avoidant coping is consistent with the stereotype of the male as stoic and unemotional (Sabo, 1990) and may be especially useful for spouses who are unsure of how to be helpful to their wives at this time. Sabo (1990) found male spouses of breast cancer patients to be uncertain regarding how to help their wives. One of the male spouses in his study described his feelings thus: "Should I cry with her or be strong? Should I talk or should I shut up? Should I take her in my arms or would this make her feel worse than she already did?" (p. 76). Escape-avoidant coping might allow male spouses some relief from these uncertainties. Experience with caregiving may result in greater confidence for women, thus reducing the need for escape-avoidance.

Contributors to Satisfaction with Family Functioning

It was proposed that patients and spouses who use more problem-oriented coping strategies, less escape-avoidant coping strategies and who appraise cancer to be less stressful would be more satisfied with family functioning than patients and spouses who use less problem-oriented coping strategies, more escape-avoidant coping strategies and who appraise cancer as more stressful.

For patients and spouses, none of the predictor variables (problem-oriented coping, escape-avoidant coping, appraised stressfulness, age and gender) were useful in explaining satisfaction with family functioning.

Relationship between Coping and Satisfaction with Family Functioning. Neither problem-oriented coping nor escape-avoidant coping predicted satisfaction with family functioning. Studies of outcomes associated with avoidant coping have had mixed results (Lazarus & Folkman, 1984), although the consensus seems to be that the benefits of escape-avoidant coping are short-term. Thus, it was predicted that escape-avoidant coping would be negatively associated with satisfaction with family functioning. This prediction was not supported in this study. Escape-avoidant coping scores were relatively low. This may be a result of self-selection of the sample. Potential respondents who made extensive use of escape-avoidant coping would be unlikely to volunteer to participate in a study that would require them to address the experience of cancer.

A positive relationship between problem-oriented coping and satisfaction with family functioning was predicted. The findings did not support this prediction. The lack of significant relationships between the two coping strategies and satisfaction with family functioning may be related to several issues. First, there was little variability in the FAS scores. FAS scores had a possible range of 0 to 4. Mean FAS scores for all four groups (female patients, male spouses, male patients and female spouses) were greater than 3 and standard deviations were small (ranging from 0.57 for male spouses to 0.76 for male patients). The combination of the high FAS scores (resulting in a ceiling effect) and the low variability may have prevented the finding of true relationships between coping and satisfaction with family functioning.

The high FAS scores also present the potential problem of self-selection of respondents. On more than one occasion, potential respondents when approached regarding participation in the study offered the information that they were in the process of being separated from their spouses. Their separation made them ineligible for participation. Had they been included, their satisfaction with family functioning scores may well have been lower than those of the other respondents, providing some variation. Furthermore, patients who were unhappily married although not in the process of separation may have declined to participate in a study about cancer and its effects on how families manage. Such participation might have raised painful issues which these potential respondents may have preferred to avoid. Subsequent research, allowing patients to choose a 'significant other' to complete the parallel questionnaires might offer new insights into the relationship between coping and family functioning.

Relationship between Appraised Stressfulness and Satisfaction with Family Functioning. The predicted negative relationship between appraised stressfulness and satisfaction with family functioning was not found. It was thought that, consistent with the views of Hill (1958) and Weisman (1984), patients and spouses would be experiencing both disorganization and distress and that this experience would contribute to a negative relationship between appraised stressfulness and satisfaction with family functioning.

Contrary to expectations, satisfaction with family functioning was high. During the interviews, many of the respondents commented that given what their families were dealing with, they were doing very well indeed! These comments indicate that the possibility that the high evaluations of family functioning took the situation into account, thus obscuring differences in satisfaction with family functioning.

There is also the possibility that the dimensions of family functioning addressed by the FAS are not relevant to the early post-diagnostic phase. The FAS measures satisfaction with the family's functioning in terms of the extent to which the respondent feels his or her needs are being met within the context of the family and the extent to which the family interacts with the community satisfactorily. This focus on the fit between individual family members and the family unit and the fit between the family unit and the community is consistent with the theoretical framework used in this study (McCubbin & McCubbin, 1991) and is unique among scales of family functioning (Buehler, 1990). The definition of the well functioning family in this way is suspect for families in the early stages of dealing with a major stressor such as the diagnosis of cancer. Families during this phase are expected to focus on the member most in need (presumably the patient in this case) and other family members are expected to 'wait their turn'. In addition, the needs of the community may have to be disregarded for some time. The FAS was not meant to address the specifics of the post stressor phase and may not be an appropriate measure for recently diagnosed cancer patients and their spouses.

Implications of the Findings

One focus of this study was on the effects of gender and role on stressors (concurrent life events and illness-related stressors), appraisal, coping and satisfaction with family functioning. The differences and similarities in these variables offer some very interesting insights into the responses of patients and spouses to the diagnosis of cancer. A major contribution of this research is the focus on cancer patients of both sexes and their respective spouses, allowing the effects of gender and role (main and interaction effects) to be identified. Previous research has tended to focus on either patients or family members. Where both patients and family members were involved, the research has tended to be limited to patients of one sex. The differential effects of gender and role on the variables of interest could not be determined in either kind of research. Because the (main and interaction) effects of gender and role can be identified in this study, the findings serve to expand our understanding of the experience with cancer.

The second focus of this study was on the relationships among stressors, appraisal, coping and satisfaction with family functioning as predicted by Family Stress Theory (Koop & Keating, 1990). The results indicate that Family Stress Theory serves to explain the relationships among some of the variables for recently diagnosed cancer patients and their spouses. The relationships among other variables remain obscure. Family Stress Theory explains the links between stressors and appraisals and the links among the appraisals. The links among appraisals, coping and satisfaction with family functioning are less clear and bear further scrutiny.

The results of this study offer important insights into the experiences of recently diagnosed cancer patients and their spouses. These findings result in implications for the development of theory, for the design and conduct of further research and for clinical practice. These implications will now be discussed.

Implications for Theory Development

It is important to note that Family Stress Theory is a dynamic theory which is meant to explain the responses of families over time (Koop & Keating, 1990). This study was cross-sectional in nature and could not account for changes in the variables and in the relationships among them that would occur over the course of dealing with cancer. Longitudinal research is needed to determine which variables are important over the course of dealing with a major stressor such as the diagnosis of cancer and to account for the interrelationships among these variables as they change over time. The potential for reciprocal effects is high. Not only is there a possibility that stressors affect the coping strategies used via the appraisals made of them, coping strategies can affect the nature of subsequent stressors. Good, effective problem-solving can eliminate certain stressors and diminish others. Longitudinal research would facilitate the examination of reciprocal relationships among these concepts. Research at subsequent phases of cancer might also uncover relationships among variables not found in the current research. For instance, although the predicted relationships between coping (problem-oriented coping and escape-avoidant coping) and satisfaction with family functioning were not supported in this study, longitudinal research might well uncover important relationships between these two concepts in the long-term.

The findings of different responses for patients and spouses indicate a need to develop models for Family Stress Theory which take into account the effects of stressors on the person most closely affected as well as the effects on the family members who are affected somewhat less directly. Family Stress Theory holds that stressors that occur for one family member affect all others. This proposition was supported by the current research. However, the propositions of the Family Stress Theory fail to account for different effects for different family members (McCubbin & McCubbin, 1991; McCubbin, 1994). The findings of this study would support efforts at developing models of Family Stress Theory that would account for the differential effects of stressors on various family members. These models would be composed of variables common to both patients and spouses as well as variables unique to one group or the other. The relationships among the variables common to both models might differ, depending on whether the stressor of interest has a direct or indirect effect on respondents. An example of the differential relationships is that between symptoms and appraised stressfulness of cancer. This relationship was negative for patients and positive for spouses.

The conceptual definition of family functioning needs further work as well. The current definition that focuses on balancing the needs of all family members (defined as good family functioning) is perhaps useful in the long run. In the short term, however, this definition is not useful. During early post-stressor periods, some family members may have to cope with less attention to their needs temporarily while the family pays extra attention to the family member in need (e.g., the cancer patient). Likewise, families are allowed to cut back on community involvement when dealing with major life events such as the diagnosis of cancer in a family member. The notion of balance, therefore, would have to allow for an increase in focus on the needy family member at the expense of other family members and the community.

Further conceptual and methodological work is needed to identify the parameters of a well functioning family in the situation of dealing with cancer. What dimensions might a family functioning scale include so as to apply to patients and family members during the post-stressor phase? Elements of responsiveness to novel and stressful situations, ability to work cooperatively as a team, ability of family members to put their own needs on hold temporarily in order to meet the needs of others, and good communication skills are some aspects that might become part of such a scale.

The search for the components of a scale to measure family functioning during the post-stressor phase should incorporate the related theoretical literature. The more recent work by McCubbin group (McCubbin & McCubbin, 1991; McCubbin, 1993) on resilience in families appears to be moving Family Stress Theory in the right direction. This focus moves away from the definition of family functioning as balance (between individual family members and the family unit and between the family and the community) toward the definition of family functioning as responsiveness to the current situation in which the family finds itself.

Other promising work comes from the field of Family Problem-Solving Theory which focuses on the process by which families respond to problematic situations (Klein & Hill, 1979). This work may provide important insights into the dimensions on which families who are dealing with major stressors might be evaluated. Klein and Hill (1979) identify two dimensions of problem-solving effectiveness which might be useful for defining family functioning with a major stressor: solution quality and solution acceptance. Work with these two dimensions might allow the development of a measure that would focus on the ability of families to deal with the situation which includes the stressor of interest.

Implications for Further Research

There is a need for further analysis of some of the data collected in this research. This study focused on the relationships among selected dimensions, based on Family Stress Theory. The findings point to the importance of exploring other links. For example, this study focused on the links between two types of coping (problem-oriented and escape-avoidant) and other variables such as appraisal and satisfaction with family functioning. The links between other coping strategies and appraisal or satisfaction with family functioning were not explored, however. Given the results of this study, explorations of these other links are warranted.

Analysis of the qualitative data collected in this study needs to be done as well. Insights into the constellation of appraisals and coping strategies that were unique to male patients in this study may result from the analysis of the interview data. Other puzzling findings may be explained as well. The negative relationships between symptoms and appraised stressfulness for patients and between concurrent life events and appraised stressfulness for spouses may be better interpreted when the interview data have been analyzed.

Further measurement research is needed for the development of a reliable and valid index of family functioning during a stressful event. As alluded to in the discussion of theory implications, such a measure must allow for distinctions among levels of family functioning in populations such as patients with cancer and their family members.

Longitudinal research is needed to identify how the variables in this study change over time and over the course of the disease. How do cancer patients and their family members appraise cancer during the diagnostic phase? While undergoing the many tests involved in the diagnosis of cancer and while experiencing the uncertainty that is characteristic of this phase, what is the prospect of having cancer for patients and the people they love? How does the diagnosis affect these appraisals? How do these appraisals change over time? How do they change during recurrence or during the terminal phase? How do families appraise cancer during bereavement? How do these appraisals affect the coping strategies used by patients and family members? How is family functioning affected over time, over the course of the disease and in response to changes in appraisals and coping strategies? There are so many questions which can only be answered through longitudinal research.

Implications for Practice

Clinicians may be interested in the findings of this research. The findings justify a family focus for practitioners interested in the process of adjusting to a life-threatening illness such as cancer. The levels of treatment demands reported by patients and spouses were not significantly different. Given the length of treatment regimens, the accommodations that must be made by both patients and spouses can be significant. Until biomedical research results in treatment regimens that are less extensive or less intensive, patients and their families will have to continue to accommodate the effects in their lives. Nonetheless, caregivers can provide emotional support to patients and spouses and can acknowledge the hardships they are experiencing. Furthermore, caregivers might forewarn patients and spouses at the beginning of treatment regimens. Patients and spouses may be able to revise their schedules ahead of time if they are made aware of the demands associated with treatment.

Caregivers may also wish to take into account the implications associated with the unique patterns of appraisal and coping by male patients. Male patients' relatively low scores on appraised centrality and stressfulness of cancer and their relatively high distancing (coping) scores indicate somewhat lower emotional involvement in the illness as compared to their wives, the female patients and their spouses. Female spouses' scores on these variables were closer to those of the female patients and male spouses. Caregivers aware of these findings might wish to reach out to the wives of male cancer patients, knowing that they may not share their husbands' views on the cancer experience. While cancer affects both patients and their family members, these effects are not necessarily the same.

Despite the hardships associated with the cancer experience, the patterns of appraisals by patients and spouses and the levels of satisfaction with family functioning indicate that patients and spouses are generally optimistic about cancer and see their families as operating at a satisfactory level. Patients and their spouses, particularly those who have just been diagnosed, may want to know that such appraisals are possible. Those practitioners who are accustomed to a view of families as victims when a member is diagnosed with cancer may want to question the assumptions behind this view. As predicted by Antonovsky (1987), most families were managing very well, given their circumstances.

Practitioners should also keep in mind the dynamic nature of the experience of cancer when incorporating these findings into their practice. Stressors, appraisals, coping strategies used and evaluations of family functioning are subject to change over time and over the course of the disease.

Conclusions

This research focused on the effects of gender and role on stressors, appraisal, coping and satisfaction with family functioning in recently diagnosed cancer patients and their spouses. Important similarities and differences based on gender and role were found. These findings contribute to our understanding of the experience with cancer in recently diagnosed cancer patients and their spouses.

The relationships among stressors, appraisal, coping and satisfaction with family functioning as predicted by Family Stress Theory were investigated. Some of the proposed relationships were found, particularly the proposed relationships between stressors and appraisals and among appraisals. The proposed relationships among appraisals, coping strategies and satisfaction with family functioning were generally not found. The possible reasons for this were the cross-sectional design, the timing of the data collection, and weaknesses of measures used in the study.

The implications of these findings for the development of theory, further research and clinical practice were explored. It was recommended that the data collected for this study be analyzed further. Clarifying the definition of family functioning, particularly under acutely stressful circumstances, is warranted by the current research. Measurement research on the development of a more valid and reliable scale of family functioning is also recommended. Finally, longitudinal research to test the relationships among the variables proposed by Family Stress Theory is recommended. Clinicians do well to focus on the family members of patients with cancer. Although family members are not affected in exactly the same way as patients, they experience profound effects. Support for them may allow family members to play their roles in the support and care of the patient with cancer.

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September 23, 1992

Ms. Priscila M. Koop
Doctoral Candidate
Department of Family Studies
Faculty of Home Economics
University of Alberta
3-38 Assiniboia Hall

Dear Ms. Koop:

Re: Stress, Appraisal and Coping with Cancer (Dissertation Proposal)

The Research Ethics Committee received your responses to the Committee's concerns regarding the above-noted study.

I am pleased to inform you that final scientific and ethical approval has been granted for this protocol up to and including 30 September 1993.

If there are any changes to the protocol or consent form during the year, or if any adverse reactions to the treatment/patient approach are found, the Committee requests that you forward a letter describing the changes/reactions together with an updated information sheet to the Research Administration Office.

Yours sincerely,

Alan Lees pp. (acting chairman)

Peter Venner, M.D.
Chairman
Research Ethics Committee

/mbm

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October 08, 1993

Ms. Priscilla M. Koop, RN, MSc
Doctoral Candidate
Faculty of Nursing
University of Alberta
3rd Flr, Clinical Sciences Building

Dear Ms. Koop:

Re: K-1, Stress, appraisal and coping with cancer

The Research Ethics Committee considered the annual progress submitted by you on the above-noted study.

I am pleased to inform you that annual scientific and ethical approval has been granted for the above-noted study up to and including 30 September 1994.

If there are any changes to the protocol or consent form during the year, or if any adverse reactions to the treatment are found, the Committee requests that you forward a letter describing the changes/reactions together with an updated consent form to the Research Administration Office.

You are required to submit an annual progress/final report for this study. For all clinical trials protocols, the Clinical Trials Committee and the Research Ethics Committee will be reviewing these progress/final reports and will be specifically noting the accrual rates for the clinical trials.

Sincerely,

Peter Venner, M.D.
Chairman
Research Ethics Committee

/mbm
XC: Dr. K. Olson, Nursing Administration, CCI

SERVING ALBERTANS THROUGH THE FOLLOWING FACILITIES:

Cross Cancer Institute, Edmonton,
and its associate clinics
Central Alberta Cancer Centre
Grande Prairie Cancer Centre

Tom Baker Cancer Centre, Calgary,
and its associate clinics:
Medicine Hat Cancer Clinic
Lethbridge Cancer Clinic

Screen Test:
The Alberta Program
for the Early Detection
of Breast Cancer
• 1-800-667-0604

University of Alberta
Edmonton
Canada T6G 2M8

Faculty of Home Economics
115 Home Economics Building, Telephone (403) 492-3824
FAX (403) 492-7219

APPROVAL

FOR

PROPOSAL ON HUMAN RESEARCH

This is to certify that Priscilla M. Koop submitted a proposal for a research project entitled:

Stress, Appraisal and Coping with Cancer

to the Faculty of Home Economics Ethical Review Committee. The ethical criteria for human research have been met.

Date: November 2/92

Dr. T.K. Basu, Chair

ALBERTA
CANCER
BOARD

CROSS CANCER INSTITUTE
NORTHERN ALBERTA CANCER PROGRAM

REQUEST FOR DIRECTOR'S PRIVILEGES

CLINICAL STUDY TITLE	Stress, Appraisal, and Coping with Cancer
INVESTIGATOR(S)	Priscilla Koop
DRUG COMPANY, and/or REGULATORY AGENCY, and/or INDUSTRY	Ph.D. Candidate Family studies
NAME(S) OF REPRESENTATIVES	Karin Olson
DATE OF VISIT	Oct 19, 1992 - June 30, 1994
PURPOSE OF VISIT	collect data for doctoral dissertation
APPROVED 16 Oct 92 Date	SIGNED Director, Cross Cancer Institute

June 1992

University of Washington Press

Mailing address PO Box 50096 Seattle, Washington 98145-5096 *Street address* 4045 Brooklyn Avenue NE Seattle, Washington 98105
Phone 206 543-4050 *Business Office* 206 543-8870 *Telex* 4740096 UW UI *Fax* 206 543-3932

May 5, 1992

Priscilla M. Koop
Doctoral Student
Department of Family Studies
3-38 Assiniboia Hall
University of Alberta
Edmonton, AB
Canada T6G 2E7

Dear Ms. Koop:

Thank you for your letter of April 15 requesting permission to use the Holmes' Schedule of Recent Experience in your doctoral research.

We would be pleased to grant this request free of charge.

Sincerely,

Jessica Lind
Rights and Permissions

ECONOMICS
RECEIVED
MAY 11 1992
DEPT. OF FAMILY STUDIES

FACULTY OF HOME ECONOMICS
RECEIVED
MAY 11 1992
DEPT. OF FAMILY STUDIES

FRED
HUTCHINSON
CANCER
RESEARCH
CENTER

Clinical Research Division
1124 Columbia Street
Seattle, WA 98104

February 10, 1992 206-667-5226

Priscilla M. Koop, RN, MSc
University of Alberta, Edmonton
Department of Family Studies
3-38 Assiniboia Hall
Edmonton, Canada T6G 2E7

Dear Ms Koop.

Thank you for your interest in the Demands of Illness Inventory (DOII). I've enclosed some materials which should help you to evaluate the applicability of the questionnaire for your study.

You have our permission to use the DOII. There is no fee involved with the use of the tool. We ask that you provide the appropriate citations in your work. You may use separate subscales or modify the DOII to meet your needs. If you modify the tool, we would like to receive a copy of the adapted version and the results of the psychometric testing of the adapted version. As noted in our phone conversation, enclosed is a parallel version of the questionnaire written for partners of the ill person. Although in our family studies the ill person has always been the mother, neither version of the tool is gender specific.

Please do not hesitate to contact me if you desire further information.

Sincerely,

Mel Haberman

Mel R. Haberman, RN, PhD
Director, Nursing Research and
Assistant Staff Scientist

Encl: 1987 Version DOII, Mother and Partner
Internal Consistency Coefficients
Dimensions and Item Numbers
Scoring Instructions
DOII publication (Haberman, Woods & Packard, 1990)

JUL-19-1994 11:17 FROM SCIENCE COMPLEX-TRENT UNI TO 62560850314034922551 P.01/01

Department of Psychology
Trent University
Peterborough, Ontario
Canada K9J 7B8

(705) 748-1535

FAX: (705) 748-1580

FAX COVER SHEET

Date: July 19, 1994

TO: P. Koop, Faculty of Nursing

COMPANY: 3rd Floor, CSB, University of Alberta, Edmonton, Alberta, T6G 2G3

FAX: (403) 492-2551

FROM: Professor Paul T. P. Wong

Number of pages including this page: 1

COMMENTS:

This is to confirm that permission is granted to P. Koop to use my Stress Appraisal Measure in her dissertation research on Stress, Appraisal and Coping with cancer.

Yours sincerely,

Paul T. P. Wong

TOTAL P.01

Consulting
Psychologists
Press, Inc.

PRISCILLA M. KOOP
University of Alberta
Department of Family Studies
3-38 Assiniboia Hall
Edmonton, Alberta T6G 2E7

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By Lisa Sisneros
Lisa Sisneros - Permission Specialist
Date 28 September 1992

I AGREE TO THE ABOVE CONDITIONS
By Priscilla M. Koop
Priscilla M. Koop
Date 10 September 1992

BEN-GURION UNIVERSITY OF THE NEGEV
P.O.B. 653, 84105 BEER-SHEVA, ISRAEL

אוניברסיטת בן-גוריון בנגב
ת.ד. 653 באר-שבע 84105

Department of the Sociology of Health

28 April 1992

Ms. Priscilla M. Koop
Dept. of Family Studies
3-38 Assinibola Hall
University of Alberta
Edmonton, AB
Canada T6G 2E7

Dear Ms. Koop:

Thank you for your undated letter about the Family Adaptation Scale. Please go ahead and use it.

However, I must call your attention to the fact that this was a scale that was developed, under my direction, by an MA student. She did not submit the scale to rigorous methodological analysis. To the best of my knowledge, there is no published work using this scale other than our paper, though I have heard of a few people who planned to use it.

This is not to say that I think the scale is not good. But you would be taking a pioneer step, and should do so with caution.

If I can be of any further help, particularly if you intend using the sense of coherence construct, let me know.

Sincerely,

Aaron Antonovsky, Ph.D.

Test of Independence of Spousal Scores

CORRELATIONS	T-TESTS	
	LOW (p > .05)	HIGH (p < .05)
HIGH R > .30	Age Domestic changes Appraised centrality Appraised controllability by the self Satisfaction with family functioning	Appraised challenge Appraised controllability by the self Distancing (coping)
LOW R < .29	Concurrent life events Appraised threat Appraised controllability by others Appraised uncontrollability Positive reappraisal (coping) Escape-avoidant coping Confrontive coping Problem-oriented coping Self-controlling coping	Symptoms Treatment demands Appraised stressfulness Accepting responsibility (coping) Seeking social support (coping)

CONSENT FORM

This consent form, a copy of which has been given to you, is only a part of the process of informed consent. It should give you the basic idea of what the research project is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The purpose of this study is to learn more about how newly diagnosed cancer patients and their spouses/partners cope with cancer. This study is being conducted to fulfill requirements for a Ph.D. in Family Studies at the University of Alberta. It is hoped that these results will help nurses and others to plan care that enhances patient and family coping.

Your physician has given me permission to approach you regarding participation in this study. There are no known risks or discomforts associated with your participating in this study and it is not part of standard care. Participation in this study may be of no personal benefit to you. However, based on the results of this study, it is hoped that, in the long-term, patient care can be improved.

This study involves filling out several questionnaires by you and your wife or husband. The questionnaires can be filled in at the Cross Cancer Institute or in your home, whichever is more convenient for you. There are six questionnaires in all and the total amount of time needed for completing them would be about one to two hours. The first questionnaire is very general in nature and includes questions about your age, education and family composition. The second questionnaire asks some questions about any problems or concerns related to having cancer or being treated for it. The third questionnaire asks about other events going on in your life. The fourth questionnaire asks some questions about what the cancer means to you. The fifth questionnaire asks about how you cope with the cancer. The sixth and final questionnaire asks some questions about how your family has been affected by cancer. After the forms are complete, you and your wife or husband will be asked if you have any other comments you want to make. These comments will be audio-tape recorded. All of the information given will be kept confidential. Your identification will be noted on questionnaires with numbers only and only the researcher, Priscilla Koop, and her research assistants will know your identity. All personnel involved in this study have sworn an oath of confidentiality at the Cross Cancer Institute.

You will be telephoned in a few days to give you a chance to ask any questions or to indicate your decision about participating. The researcher, Priscilla Koop, is willing to answer any further questions about this study. Should you wish to ask any questions before this call or to indicate your decision, you can call Priscilla Koop at 492-2962 during normal working hours.

STRESS, APPRAISAL AND COPING WITH CANCER

My signature on this form indicates that I have understood to my satisfaction the information regarding my participation in the research project, and agree to participate as a subject. In no way does this waive my legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities.

I am free to withdraw from the study at any time without jeopardizing my health care. My continued participation will be as informed as my initial consent, so I am free to ask for clarification or new information throughout my participation.

I understand that Priscilla Koop at 492-2962 or Kärin Olson at 492-7751 or 492-8771 (CCI switchboard) will answer any questions that I have about the research project.

If at any time during the course of this study I feel that I have been inadequately informed of the risks, benefits, or alternatives, or that I have been encouraged to continue in this study beyond my wish to do so, I can contact the Patient Advocate at (403) 492-8585.

A copy of this consent form will be given to me to keep for my records and future reference.

Name of Patient or Partner	Signature of Patient or Partner
Name of Witness	Signature of Witness
Name of Investigator	Signature of Investigator
Date	

DEMOGRAPHIC QUESTIONS - Patient Version

Please answer the following general questions. Your answers will be used for research purposes only and will be kept confidential.

1. How old are you? ___________ (years)
2. How long have you been married? ______________ (years)
3. How many years of education have you completed? ______________ (years)
4. What is the highest level of education you have completed? (Please check one).

_____ Less than high school

_____ High school

_____ Post secondary diploma

_____ Bachelor's degree

_____ Master's degree

_____ Doctoral degree

5. Do you have children? YES _____ NO _____. If YES, how many? _____

What are their ages? ____

How many are still living at home? _____

6. Are you employed now? YES _____ NO _____. If YES, are you employed

PART-TIME? _____ FULL-TIME? _____.

7. Has your employment status changed as a result of your cancer?

YES _____ NO _____. If YES, how (describe briefly)? ____________________

____

____

8. Has your financial status changed as a result of your cancer?

YES _____ NO _____ If YES, is this a problem for you? YES _____ NO _____.

DEMOGRAPHIC QUESTIONS - Husb [illegible] ersion

Please answer the following general questions. Your answers will be used for research purposes only and will be kept confidential.

1. How old are you? ____________ (years)
2. How long have you been married? ______________ (years)
3. How many years of education have you completed? ______________ (years)
4. What is the highest level of education you have completed? (Please check one).

   _____ Less than high school

   _____ High school

   _____ Post secondary diploma

   _____ Bachelor's degree

   _____ Master's degree

   _____ Doctoral degree

5. Do you have children? YES _____ NO _____. If YES, how many? _____

   What are their ages? ____

   How many are still living at home? _____

6. Are you employed now? YES _____ NO _____. If YES, are you employed

   PART-TIME? _____ FULL-TIME? _____.

7. Has your employment status changed as a result of your wife's cancer?

   YES _____ NO _____. If YES, how (describe briefly)?____________________

   ____

   ____

8. Has your financial status changed as a result of your wife's cancer?

   YES _____ NO _____ If YES, is this a problem for you? YES _____ NO _____.

DEMOGRAPHIC QUESTIONS - Wife's Version

Please answer the following general questions. Your answers will be used for research purposes only and will be kept confidential.

1. How old are you? ___________ (years)
2. How long have you been married? ______________ (years)
3. How many years of education have you completed? ______________ (years)
4. What is the highest level of education you have completed? (Please check one).

    _____ Less than high school

    _____ High school

    _____ Post secondary diploma

    _____ Bachelor's degree

    _____ Master's degree

    _____ Doctoral degree

5. Do you have children? YES _____ NO _____. If YES, how many? _____

    What are their ages? ____

    How many are still living at home? _____

6. Are you employed now? YES _____ NO _____. If YES, are you employed

    PART-TIME? _____ FULL-TIME? _____.

7. Has your employment status changed as a result of your husband's cancer?

    YES _____ NO _____. If YES, how (describe briefly)?____________________

    ____

    ____

8. Has your financial status changed as a result of your husband's cancer?

    YES _____ NO _____ If YES, is this a problem for you? YES _____ NO _____.

SCHEDULE OF RECENT EXPERIENCE (Holmes, 1981)

These questions look at a wide range of events that happen to people. Some are happy occasions and others are clearly troublesome. Some events are common and others happen only rarely. Read each item carefully, and **circle** the correct number to indicate whether or not the event happened **to you personally within the past year**. If the event happened more than once, write down how many times it happened on the line provided. If it happened more than once, but you don't know how many times it happened, put a question mark (?) on the line.

		0 = no	1 = yes	How many times?
1.	A lot more or a lot less trouble with the boss	0	1	____
2.	A major change in sleeping habits (sleeping a lot more or a lot less, or change in part of day when asleep)	0	1	____
3.	A major change in eating habits (a lot more or a lot less food or very different meal hours or surroundings)	0	1	____
4.	A revision of personal habits (dress, manners, associations, etc.)	0	1	____
5.	A major change in your usual type and/or amount of recreation.	0	1	____
6.	A major change in your social activities (e.g. clubs, dancing, movies, visiting, etc.).	0	1	____
7.	A major change in church activities (e.g. a lot more or a lot less than usual).	0	1	____
8.	A major change in number of family-get-togethers (e.g. a lot more or a lot less than usual).	0	1	____
9.	A major change in financial state (e.g. a lot worse off or a lot better off than usual).	0	1	____
10.	In-law troubles.	0	1	____
11.	A major change in the number of arguments with spouse (e.g. either a lot more or a lot less than usual regarding child-rearing, personal habits, etc.).	0	1	____

		0 = no	1 = yes	How many times?
12.	Sexual difficulties.	0	1	_____
13.	Major personal injury or illness.	0	1	_____
14.	Death of a close family member (other than spouse).	0	1	_____
15.	Death of a spouse.	0	1	_____
16.	Death of a close friend.	0	1	_____
17.	Gaining a new family member (e.g. through birth, adoption, oldster moving in, etc.).	0	1	_____
18.	Major change in the health or behavior of a family member.	0	1	_____
19.	Change in residence.	0	1	_____
20.	Detention in jail or other institution.	0	1	_____
21.	Minor violations of the law (e.g. traffic tickets, jaywalking, disturbing the peace, etc.).	0	1	_____
22.	Major business readjustment (e.g. merger, reorganization, bankruptcy, etc.).	0	1	_____
23.	Marriage.	0	1	_____
24.	Divorce.	0	1	_____
25.	Marital separation from spouse.	0	1	_____
26.	Outstanding personal achievement.	0	1	_____
27.	Son or daughter leaving home (e.g. marriage, attending college, etc.).	0	1	_____
28.	Retirement from work.	0	1	_____
29.	Major change in working hours or conditions.	0	1	_____
30.	Major change in responsibilities at work (e.g. promotion, demotion, lateral transfer).	0	1	_____

		0 = no	1 = yes	How many times?
31.	Being fired from work.	0	1	_____
32.	Major change in living conditions (e.g. building a new home, remodeling, deterioration of home or neighbourhood).	0	1	_____
33.	Spouse beginning or ceasing work outside the home.	0	1	_____
34.	Taking out a mortgage or loan for a major purchase (e.g. purchasing a home, business, etc.).	0	1	_____
35.	Taking out a loan for a lesser purchase (e.g. purchasing a car, TV, freezer, etc.).	0	1	_____
36.	Foreclosure on a mortgage or loan.	0	1	_____
37.	Vacation.	0	1	_____
38.	Changing to a new school.	0	1	_____
39.	Changing to a different line of work.	0	1	_____
40.	Beginning or ceasing formal schooling.	0	1	_____
41.	Marital reconciliation with mate.	0	1	_____
42.	Pregnancy.	0	1	_____

DEMANDS OF ILLNESS INVENTORY - Patient Version (Woods, Haberman & Packard, 1987)

Below is a list of events and thoughts that some individuals have when they experience a health problem. Read each item carefully and **circle** the number which best indicates the extent to which you have had the experience as the result of your cancer from the **onset of your illness to the present including today.**

0	1	2	3	4
not at all	**a little**	**moderately**	**quite a bit**	**extremely**

As the result of my cancer I have experienced:	**To what extent have you experienced this?**				
1. Headaches.	0	1	2	3	4
2. Faintness or dizziness.	0	1	2	3	4
3. Pains in heart or chest.	0	1	2	3	4
4. Pains in lower back.	0	1	2	3	4
5. Nausea or upset stomach.	0	1	2	3	4
6. Soreness of muscles.	0	1	2	3	4
7. Hot or cold spells.	0	1	2	3	4
8. Numbness or tingling in parts of my body.	0	1	2	3	4
9. Feeling weak in parts of my body.	0	1	2	3	4
10. Heavy feelings in my arms or legs.	0	1	2	3	4
11. Feeling rundown.	0	1	2	3	4
12. Inability to stay at my usual weight.	0	1	2	3	4

As the result of my illness our family:	**To what extent have you experienced this?**				
13. Income has gone down.	0	1	2	3	4
14 Doesn't have enough time or energy for recreational activities outside our home.	0	1	2	3	4

0	1	2	3	4
not at all	a little	moderately	quite a bit	extremely

As the result of my illness our family:	To what extent have you experienced this?				
15. Doesn't have enough money to support our usual lifestyle.	0	1	2	3	4
16. Doesn't have enough time or energy to entertain friends at home.	0	1	2	3	4
17. Doesn't have [illegible] for our health care bills.	0	1	2	3	4
18. Doesn't have [illegible] or energy to go out with friends.	0	1	2	3	4
19. Has had to change [illegible]old meal patterns.	0	1	2	3	4
20. Has had to change our child care arrangements.	0	1	2	3	4

As the result of my illness:	To what extent have you experienced this?				
21. The children have had to take responsibility for household tasks.	0	1	2	3	4
22. My partner has had to take responsibility for household tasks.	0	1	2	3	4
23. The quality of my sexual activities has changed.	0	1	2	3	4
24. The frequency of my sexual activities has changed.	0	1	2	3	4
25. There isn't time or energy for sexual activities.	0	1	2	3	4
26. I worry about how my children are reacting to my illness.	0	1	2	3	4
27. The children need more emotional support.	0	1	2	3	4
28. The children need more information.	0	1	2	3	4
29. I need more emotional support from my family.	0	1	2	3	4
30. There is a strain on my relationship with my partner.	0	1	2	3	4

0 not at all	1 a little	2 moderately	3 quite a bit	4 extremely

As the result of my illness:	To what extent have you experienced this?				
31. My partner has had difficulty understanding my feelings.	0	1	2	3	4
32. I worry about how my partner is responding to my illness.	0	1	2	3	4
33. I wish my partner were handling my cancer better.	0	1	2	3	4
34. I need to be more sensitive to my partner's moods.	0	1	2	3	4
35. I need to provide more emotional support to my partner.	0	1	2	3	4
36. I need to protect my partner from stress.	0	1	2	3	4
37. I need my partner to be more sensitive to my moods.	0	1	2	3	4
38. I need my partner to help me with my treatment.	0	1	2	3	4
39. My partner has had to change his (or her) work patterns.	0	1	2	3	4
40. I'm not able to work at my job.	0	1	2	3	4
41. I've had to miss more time at work than usual.	0	1	2	3	4
42. I'm not able to do my usual amount of work.	0	1	2	3	4
43. I've had trouble finding a job.	0	1	2	3	4

As the result of my illness our family has had to:	To what extent have you experienced this?				
44. Make new decisions about running the house.	0	1	2	3	4
45. Revise the rules for the children.	0	1	2	3	4
46. Discuss things concerning the children more.	0	1	2	3	4
47. Decide what is really important to us.	0	1	2	3	4

0 not at all	1 a little	2 moderately	3 quite a bit	4 extremely

As the result of my treatment for cancer I've:	To what extent have you experienced this?				
48. Found it difficult to continue with follow-up appointments.	0	1	2	3	4
49. Found it difficult to continue the treatments.	0	1	2	3	4
50. Questioned if the adverse effects of treatment outweigh the possible benefits.	0	1	2	3	4
51. Worried about the expense of treatment.	0	1	2	3	4
52. Had to change my diet.	0	1	2	3	4
53. Had to be more regimented in the time I eat.	0	1	2	3	4
54. Had to make my whole life more regimented.	0	1	2	3	4
55. Had to adjust the way I exercise.	0	1	2	3	4
56. Had difficulty finding suitable clothing.	0	1	2	3	4
57. Had to consider the need to undergo more treatment.	0	1	2	3	4
58. Had to consider if I should try a different treatment.	0	1	2	3	4
59. Found it difficult waiting for the results of medical tests.	0	1	2	3	4
60. Found it difficult waiting for treatments or surgery.	0	1	2	3	4

At times, some of my health care providers have:	To what extent have you experienced this?				
61. Been insensitive to my preferences for treatment.	0	1	2	3	4
62. Acted as if my opinions are unimportant.	0	1	2	3	4
63. Made decisions without my best interests in mind.	0	1	2	3	4
64. Not told me the truth about changes in my health.	0	1	2	3	4
65. Not shown concern for me as a person.	0	1	2	3	4

0	1	2	3	4
not at all	**a little**	**moderately**	**quite a bit**	**extremely**

At times, some of my health care providers have:	**To what extent have you experienced this?**				
66. Not thoroughly explained my health status to me.	0	1	2	3	4

As I've experienced my illness situation I've:	**To what extent have you experienced this?**				
67. Wanted more facts about the treatments.	0	1	2	3	4
68. Had questions that I wanted to ask but just couldn't.	0	1	2	3	4
69. Felt rushed to make a hasty treatment decision.	0	1	2	3	4
70. Wanted to be more assertive about the direction my treatment should take.	0	1	2	3	4
71. Wanted to be told the reason why, when asked to do something for treatment.	0	1	2	3	4
72. Realized I was initially unclear about the treatment I'd receive.	0	1	2	3	4
73. Been dissatisfied with the progress of my treatment.	0	1	2	3	4
74. Been dissatisfied with my hospital care.	0	1	2	3	4
75. Felt my illness was incorrectly managed.	0	1	2	3	4
76. Worried my illness may be incorrectly managed in the future.	0	1	2	3	4

As the result of my medical treatments I've:	**To what extent have you experienced this?**				
77. Worried about the physical side effects of treatment.	0	1	2	3	4
78. Developed new physical symptoms.	0	1	2	3	4
79. Felt worse rather than better after treatment.	0	1	2	3	4

DEMANDS OF ILLNESS INVENTORY - Spouse Version (Woods, Haberman & Packard, 1987)

Below is a list of events and thoughts that some individuals have when someone in their family faces a health problem. Read each item carefully and **circle** the number which best indicates the extent to which you have had the experience as the result of your partner's cancer from the **onset of your partner's illness to the present including today.**

0	1	2	3	4
not at all	**a little**	**moderately**	**quite a bit**	**extremely**

As the result of my partner's cancer I have experienced:	**To what extent have you experienced this?**				
1. Headaches.	0	1	2	3	4
2. Faintness or dizziness.	0	1	2	3	4
3. Pains in heart or chest.	0	1	2	3	4
4. Pains in lower back.	0	1	2	3	4
5. Nausea or upset stomach.	0	1	2	3	4
6. Soreness of muscles.	0	1	2	3	4
7. Hot or cold spells.	0	1	2	3	4
8. Numbness or tingling in parts of my body.	0	1	2	3	4
9. Feeling weak in parts of my body.	0	1	2	3	4
10. Heavy feelings in my arms or legs.	0	1	2	3	4
11. Feeling rundown.	0	1	2	3	4
12. Inability to stay at my usual weight.	0	1	2	3	4

As the result of my partner's illness our family:	**To what extent have you experienced this?**				
13. Has had less income	0	1	2	3	4
14. Doesn't have enough time or energy for recreational activities outside our home.	0	1	2	3	4

0	1	2	3	4
not at all	**a little**	**moderately**	**quite a bit**	**extremely**

	As the result of my partner's illness our family:	**To what extent have you experienced this?**				
15.	Doesn't have enough money to support our usual lifestyle.	0	1	2	3	4
16.	Doesn't have enough time or energy to entertain friends at home.	0	1	2	3	4
17.	Doesn't have enough money for our health care bills.	0	1	2	3	4
18.	Doesn't have enough time or energy to go out with friends.	0	1	2	3	4
19.	Has had to change our old meal patterns.	0	1	2	3	4
20.	Has had to change our child care arrangements.	0	1	2	3	4

	As the result of my partner's illness:	**To what extent have you experienced this?**				
21.	The children have had to take responsibility for household tasks.	0	1	2	3	4
22.	I've had to take responsibility for household tasks.	0	1	2	3	4
23.	The quality of my sexual activities has changed.	0	1	2	3	4
24.	The frequency of my sexual activities has changed.	0	1	2	3	4
25.	There isn't time or energy for sexual activities.	0	1	2	3	4
26.	I worry about how my children are reacting to my partner's illness.	0	1	2	3	4
27.	The children need more emotional support.	0	1	2	3	4
28.	The children need more information.	0	1	2	3	4
29.	I need more emotional support from my family.	0	1	2	3	4
30.	There is a strain on my relationship with my partner.	0	1	2	3	4
31.	My partner has had difficulty understanding my feelings.	0	1	2	3	4

0	1	2	3	4
not at all	a little	moderately	quite a bit	extremely

As the result of my partner's illness:	To what extent have you experienced this?				
32. I worry about how my partner is responding to his (or her) illness.	0	1	2	3	4
33. I wish my partner were handling the illness situation better.	0	1	2	3	4
34. I need to be more sensitive to my partner's moods.	0	1	2	3	4
35. I need to provide more emotional support to my partner.	0	1	2	3	4
36. I need to protect my partner from stress.	0	1	2	3	4
37. I need my partner to be more sensitive to my moods.	0	1	2	3	4
38. I need to help my partner with his (or her) treatment.	0	1	2	3	4
39. My partner has had to change his (or her) work patterns.	0	1	2	3	4
40. I'm not able to work at my job.	0	1	2	3	4
41. I've had to miss more time at work than usual.	0	1	2	3	4
42. I'm not able to do my usual amount of work.	0	1	2	3	4
43. I've had trouble finding a job.	0	1	2	3	4

As the result of my partner's illness our family has had to:	To what extent have you experienced this?				
44. Make new decisions about running the house.	0	1	2	3	4
45. Revise the rules for the children.	0	1	2	3	4
46. Discuss things concerning the children more.	0	1	2	3	4
47. Decide what is really important to us.	0	1	2	3	4

0	1	2	3	4
not at all	a little	moderately	quite a bit	extremely

As the result of my partner's medical treatment for cancer I've:	To what extent have you experienced this?				
48. Found it difficult to continue with follow-up appointments.	0	1	2	3	4
49. Found it difficult to continue the treatments.	0	1	2	3	4
50. Questioned if the adverse effects of treatment outweigh the possible benefits.	0	1	2	3	4
51. Worried about the expense of treatment.	0	1	2	3	4
52. Had to change my diet.	0	1	2	3	4
53. Had to be more regimented in the time I eat.	0	1	2	3	4
54. Had to make my whole life more regimented.	0	1	2	3	4
55. Had to adjust the way I exercise.	0	1	2	3	4
56. Observed it is difficult for my partner to find suitable clothing.	0	1	2	3	4
57. Had to consider the need to undergo more treatment.	0	1	2	3	4
58. Had to consider if my partner should try a different treatment.	0	1	2	3	4
59. Found it difficult waiting for the results of medical tests.	0	1	2	3	4
60. Found it difficult waiting for treatment or surgery.	0	1	2	3	4

At times, some of my partner's health care providers have:	To what extent have you experienced this?				
61. Been insensitive to my preferences for treatment.	0	1	2	3	4
62. Acted as if my opinions are unimportant.	0	1	2	3	4
63. Made decisions without my best interests in mind.	0	1	2	3	4
64. Not told me the truth about changes in my partner's health.	0	1	2	3	4

0	1	2	3	4
not at all	a little	moderately	quite a bit	extremely

	At times, some of my partner's health care providers have:	To what extent have you experienced this?				
65.	Not shown concern for me as a person.	0	1	2	3	4
66.	Not thoroughly explained my partner's health status to me.	0	1	2	3	4

	As I've experienced my partner's cancer I've:	To what extent have you experienced this?				
67.	Wanted more facts about the treatments.	0	1	2	3	4
68.	Had questions that I wanted to ask but just couldn't.	0	1	2	3	4
69.	Felt rushed to make a hasty treatment decision.	0	1	2	3	4
70.	Wanted to be more assertive about the direction my partner's treatment should take.	0	1	2	3	4
71.	Wanted to be told the reason why, when asked to do something for treatment.	0	1	2	3	4
72.	Realized I was initially unclear about the treatment my partner would receive.	0	1	2	3	4
73.	Been dissatisfied with the progress of my partner's treatment.	0	1	2	3	4
74.	Been dissatisfied with my partner's hospital care.	0	1	2	3	4
75.	Felt my partner's illness was incorrectly managed.	0	1	2	3	4
76.	Worried my partner's illness may be incorrectly managed in the future.	0	1	2	3	4

	As the result of my partner's medical treatments I've:	To what extent have you experienced this?				
77.	Worried about the physical side effects of treatment.	0	1	2	3	4
78.	Developed new physical symptoms.	0	1	2	3	4
79.	Felt worse rather than better after treatment.	0	1	2	3	4

STRESS APPRAISAL MEASURE (Peacock & Wong, 1990)

This questionnaire is concerned with how **YOU FEEL ABOUT YOUR EXPERIENCE WITH CANCER.** There are no right or wrong answers. Please answer **ALL** questions by circling the number that best fits for you.

1 not at all	2 slightly	3 moderately	4 considerably	5 extremely

1.	Is this (cancer) a totally hopeless situation?	1	2	3	4	5
2.	Does this situation (cancer) create tension in me?	1	2	3	4	5
3.	Is the outcome of cancer beyond anyone's control?	1	2	3	4	5
4.	Is there someone or some agency I can turn to for help if I need it?	1	2	3	4	5
5.	Does this situation (cancer) make me feel anxious?	1	2	3	4	5
6.	Are the outcomes of this situation (cancer) important to me?	1	2	3	4	5
7.	Is this (cancer) going to have a positive impact on me?	1	2	3	4	5
8.	How eager am I to tackle this problem (cancer)?	1	2	3	4	5
9.	How much will the outcome of this cancer affect me?	1	2	3	4	5
10.	To what extent can I become a stronger person because of this cancer?	1	2	3	4	5
11.	Will the outcome of this cancer be negative?	1	2	3	4	5
12.	Do I have the ability to do well in this situation (cancer)?	1	2	3	4	5
13.	Does this situation (cancer) have serious implications for me?	1	2	3	4	5
14.	Do I have what it takes to do well in dealing with cancer?	1	2	3	4	5
15.	Is there help available to me for dealing with this cancer?	1	2	3	4	5

1 **not at all**	2 **slightly**	3 **moderately**	4 **considerably**	5 **extremely**

16.	Does this situation with cancer tax or exceed my coping resources?	1	2	3	4	5
17.	Are there sufficient resources available to help me in dealing with this cancer?	1	2	3	4	5
18.	Does anyone have the power to do anything about this situation (cancer)?	1	2	3	4	5
19.	To what extent am I excited thinking about the possible outcomes of this cancer?	1	2	3	4	5
20.	How threatening is this cancer to me?	1	2	3	4	5
21.	Is cancer a problem that has no solution?	1	2	3	4	5
22.	Will I be able to overcome the problem (cancer)?	1	2	3	4	5
23.	Is there anyone who can help me to manage the problem (cancer)?	1	2	3	4	5
24.	To what extent do I perceive this situation (cancer) as stressful?	1	2	3	4	5
25.	Do I have the skills necessary to achieve a successful outcome to this situation (cancer)?	1	2	3	4	5
26.	To what extent does this situation (cancer) require coping efforts on my part?	1	2	3	4	5
27.	Will this situation (cancer) affect me in the long run?	1	2	3	4	5
28.	Is this cancer going to have a negative impact on me?	1	2	3	4	5

WAYS OF COPING QUESTIONNAIRE - RESEARCH EDITION
(Sample questions only) (Folkman & Lazarus, 1988)

This questionnaire includes a number of ways which people use to cope with a variety of situations. Before responding to the statements, think about the *details* of your experience with cancer. As you respond to each of the statements, please keep this situation - **your experience with cancer** - in mind. Read each statement carefully and indicate, by circling the appropriate number, to what extent you used it to cope with cancer. Please respond to each item, using the following scale:

0	1	2	3
does not apply or not used	**used somewhat**	**used quite a bit**	**used a great deal**

1.	I just concentrated on what I had to do next - the next step.	0	1	2	3
2.	I tried to analyze the problem in order to understand it better.	0	1	2	3
3.	I turned to work or another activity to take my mind off things.	0	1	2	3
4.	I felt that time would make a difference - the only thing was to wait.	0	1	2	3
5.	I bargained or compromised to get something positive from the situation.	0	1	2	3
6.	I did something that I didn't think would work, but at least I was doing something.	0	1	2	3
7.	I tried to get the person responsible to change his or her mind.	0	1	2	3
8.	I talked to someone to find out more about the situation.	0	1	2	3
9.	I criticized or lectured myself.	0	1	2	3
10.	I tried not to burn my bridges, but leave things open somewhat.	0	1	2	3
11.	I hoped for a miracle.	0	1	2	3
12.	I went along with fate; sometimes I just have bad luck.	0	1	2	3

0 does not apply or not used	1 used somewhat	2 used quite a bit	3 used a great deal

13.	I went on as if nothing had happened.	0	1	2	3
14.	I tried to keep my feelings to myself.	0	1	2	3
15.	I looked for the silver lining, so to speak; I tried to look on the bright side of things.	0	1	2	3
16.	I slept more than usual.	0	1	2	3
17.	I expressed anger to the person(s) who caused the problem.	0	1	2	3
18.	I accepted sympathy and understanding from someone.	0	1	2	3
19.	I told myself things that helped me feel better.	0	1	2	3
20.	I was inspired to do something creative about the problem.	0	1	2	3
21.	I tried to forget the whole thing.	0	1	2	3
22.	I got professional help.	0	1	2	3
23.	I changed or grew as a person.	0	1	2	3
24.	I waited to see what would happen before doing anything.	0	1	2	3
25.	I apologized or did something to make up.	0	1	2	3
26.	I made a plan of action and followed it.	0	1	2	3
27.	I accepted the next best thing to what I wanted.	0	1	2	3
28.	I let my feelings out somehow.	0	1	2	3
29.	I realized I had brought the problem on myself.	0	1	2	3
30.	I came out of the experience better than when I went in.	0	1	2	3
31.	I talked to someone who could do something concrete about the problem.	0	1	2	3
32.	I tried to get away from it for a while by resting or taking a vacation.	0	1	2	3

0	1	2	3
does not apply or not used	**used somewhat**	**used quite a bit**	**used a great deal**

33.	I tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.	0	1	2	3
34.	I took a big chance or did something very risky to solve the problem.	0	1	2	3
35.	I tried not to act too hastily or follow my first hunch.	0	1	2	3
36.	I found new faith.	0	1	2	3
37.	I maintained my pride and kept a stiff upper lip.	0	1	2	3
38.	I rediscovered what is important in life.	0	1	2	3
39.	I changed something so things would turn out all right	0	1	2	3
40.	I generally avoided being with people.	0	1	2	3
41.	I didn't let it get to me; I refused to think too much about it.	0	1	2	3
42.	I asked advice from a relative or friend I respected.	0	1	2	3
43.	I kept others from knowing how bad things were.	0	1	2	3
44.	I made light of the situation; I refused to get too serious about it.	0	1	2	3
45.	I talked to someone about how I was feeling.	0	1	2	3
46.	I stood my ground and fought for what I wanted.	0	1	2	3
47.	I took it out on other people.	0	1	2	3
48.	I drew on my past experiences; I was in a similar position before.	0	1	2	3
49.	I knew what had to be done, so I doubled my efforts to make things work.	0	1	2	3
50.	I refused to believe that it had happened.	0	1	2	3
51.	I promised myself that things would be different next time.	0	1	2	3

0	1	2	3
does not apply or not used	used somewhat	used quite a bit	used a great deal

52.	I came up with a couple of different solutions to the problem.	0	1	2	3
53.	I accepted the situation, since nothing could be done.	0	1	2	3
54.	I tried to keep my feelings about the problem from interfering with other things.	0	1	2	3
55.	I wished that I could change what had happened or how I felt.	0	1	2	3
56.	I changed something about myself.	0	1	2	3
57.	I daydreamed or imagined a better time or place than the one I was in.	0	1	2	3
58.	I wished that the situation would go away or somehow be over with.	0	1	2	3
59.	I had fantasies or wishes about how things might turn out.	0	1	2	3
60.	I prayed.	0	1	2	3
61.	I prepared myself for the worst.	0	1	2	3
62.	I went over in my mind what I would say or do.	0	1	2	3
63.	I thought about how a person I admire would handle the situation and used that as a model.	0	1	2	3
64.	I tried to see things from the other person's point of view.	0	1	2	3
65.	I reminded myself how much worse things could be.	0	1	2	3
66.	I jogged or exercised.	0	1	2	3

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FAMILY ADAPTATION SCALE (Antonovsky & Sourani, 1988)

These questions are about how satisfied you feel with the way your family is managing right now. Some families seem to do well, no matter what happens. Other families do less well for a time. Please **circle** the number which best indicates **your** level of **satisfaction.**

1 not satisfied	2	3	4	5 completely satisfied

1.	Are you satisfied in belonging to your family?	1	2	3	4	5
2.	Are you satisfied about the way the children are being raised? (like with their education, their behavior, their activities?)	1	2	3	4	5
3.	Are you satisfied with the family's way of life?	1	2	3	4	5
4.	Are you satisfied with the possibility of expressing what you feel in your family?	1	2	3	4	5
5.	Are you satisfied with the extent to which family members are close to each other?	1	2	3	4	5
6.	Are you satisfied with how the family spends its leisure time?	1	2	3	4	5
7.	Are you satisfied with the way family members communicate with each other?	1	2	3	4	5
8.	Are you satisfied with how your family fits into the neighbourhood?	1	2	3	4	5
9.	Are you satisfied with the social relations your family has?	1	2	3	4	5
10.	Are you satisfied with the way the family relates to the wishes of all family members?	1	2	3	4	5

11. And now, think of what for you would be an ideal family, one which is perfectly adjusted. Where on the line would you rank your family compared to the ideal family?

(ideally adjusted family) ______________________ (a family which is not at all adjusted)

Interview Guide

1. First, I would like to ask you both if you have any thoughts or ideas about your experience with cancer that you would like to talk about - anything that the questions reminded you of, or ideas that you wanted to cover in more detail?

2. When you were answering questions about your family, who were you thinking about? (focus is on relationships, not names) [children? children-in-law? grandchildren? brothers and/or sisters? parents? friends and/or neighbors? pets?] Any one else? Ask the questions separately of patient and spouse. Did it make a difference whether the people you included or excluded live near you or far away?

3. Has anyone close to you ever had cancer? If so, who? (relationships, ages). What has this experience been like? How is (are) he/she/they now? Has your experience with others' cancer affected how you deal with yours?

4. The first questionnaire asked about all of the other things going on in your lives besides the cancer. Could you identify which event over the past year has stood out the most in your minds (either the most stressful or the most wonderful)? (If they identify cancer as the most critical event, ask which event besides the cancer stands out in their minds.) Do you think this event affected the way you deal with the cancer?

5. One of the questionnaires dealt with the problems associated with having cancer. What has been the most significant aspect of the cancer or the treatment? How stressful has this been for you? Has cancer produced any benefits for you? (If yes, what might they be?)

6. The third set of questions looked at whether you see the cancer experience as challenging or threatening; whether you see it as something that can be managed or rather hopeless. How do you see cancer? Do you think your views about cancer have changed as a result of experiencing it first hand?

7. The fourth set of questions looked at how you cope with the cancer. What would you say is your most common way of coping?

8. The final set of questions looked at how you think your family is managing. How well do you think your family is managing?

9. Is there anything else that you think I need to know to understand what your experience with cancer has been like for you?