COPING STRATEGIES USED BY CANCER PATIENTS
IN ANTICIPATION OF CANCER CENTRE
FOLLOW-UP APPOINTMENTS

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Abstract

Sixty cancer patients who had completed their course of treatment were contacted prior to a scheduled follow-up appointment at the Thunder Bay Regional Cancer Centre. Subjects completed four questionnaires (Daily Stress Inventory, Ways of Coping, Desirability of Control, Multidimensional Health Locus of Control), two brief scales (Hope and Dread), and were interviewed individually on the day of the follow-up appointment. The structured interview included questions concerning appointment-induced stress, individual coping strategies, personal beliefs concerning health, existing support systems, and opinions regarding the Cancer Centre. Follow-up visits may be very stressful life events for cancer patients. For some the visit may be anticipated with hopeful expectancy, while for others it may be a dreaded experience, and the individual's coping style plays a large part in determining how stressful the visit may be. This study assessed patients' use of emotion-focused and problem-focused coping strategies, the degree of personal control generally deemed desirable by the individual in a variety of situations, the belief concerning the degree of control specific to their personal health, and related these factors to the amount of stress reported daily for a fourteen-day period prior to the visit. It was hypothesized that: (1) patients more inclined to use emotion-focused coping, as opposed to problem-focused coping, would experience lower levels of stress, and that (2) patients who reported a higher desirability for control in general, yet believed they had little control over their health, would cope least effectively and would experience higher levels of stress than their counterparts. The findings indicated that patients did not consider the follow-up appointment to be unusually stressful and that both emotion-focused and problem-focused coping positively correlated with stress, although problem-focused coping was the best predictor of daily stress. The interaction between desire for control and belief in health control in mitigating stress is worthy of further investigation. Implications for the care of cancer patients are discussed.

I would like to dedicate this thesis to my Dad Irwin, whose life ended with lung cancer before we were able to really know each other. I know he would have been proud of his little Kip.

This work is also dedicated to my Mom Betty, a courageous woman who never gave up doing the best she could through everything and always encouraged me to do the same. Mom, you have been there for me more than you will ever know.

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Introduction

To date there has been little research on follow-up visits as significant stressful events in the lives of cancer patients. Cancer patients attend follow-up visits to monitor their condition and determine the present state of their cancer. They may discover that their cancer has remained the same, gone into remission, progressed, or recurred. Naturally, for many people an event like this can be very stressful. For some people, however, this may be an event to be anticipated with a sense of hopeful expectancy, rather than a sense of dread.

Various studies have investigated how people cope with particularly stressful situations, such as women with breast cancer (Taylor, 1983), a self-help group with genital herpes (Manne & Sandler, 1984), and postoperative patients recovering from surgery (Cohen & Lazarus, 1973). Other studies have also considered how stress and coping relate to issues of personal control with female nurses (Parkes, 1984), people threatened by exposure to radiation (Collins, Baum, & Singer, 1983), and people with a chronic illness (Felton & Revenson, 1984), yet none to date have investigated the potential stress of cancer patients' follow-up visits and how it relates to the coping strategies utilized, the patient's desire for control, the patient's beliefs of health control, and the patient's feelings of hope and dread.

The present study was conducted to examine whether the anticipation of a cancer centre follow-up visit is a stressful experience or not. If it is a stressful situation, which individuals cope successfully, and how? Is there a difference between those who find the follow-up visit to be stressful and those who do not? How much control is desirable for individual patients, how much control do they believe they have over their health, and what is the relationship between these two control issues? Do patients experience feelings of dread or hope in anticipation of the follow-up visit? Finally, what is the subsequent relationship of all of these factors with the cancer patient's experience of stress?

It is important to examine patients' experience of stress in anticipation of a follow-up visit for a variety of reasons. Once patients have had cancer, follow-up visits become a necessary requirement at least once a year to check on any possible recurrence or new cancer. With the dawning awareness we are experiencing with regards to the effects of stress in one's life, it is highly desirable that patients attending follow-up visits are able to cope effectively and experience as little stress as possible. If there are people who do not find this particular situation to be stresssful, we need to determine the relationship between the lack of stress and effective coping, as well as identify factors which distinguish "good" copers from "bad" copers. If patients could be offered an array of effective coping strategies in their initial visits, perhaps their future visits would be less stressful and compliance in attending follow-up visits could be enhanced. To take this a step further, if control were shown to be an important factor to consider in the potentially stressful situation of a follow-up visit, attending physicians could be helpful in easing anxiety if they knew how much control the patient desired and believed s/he possessed. The physician could possibly address the patient's beliefs by fitting in treatment and suggestions from the patient's viewpoint, thereby enhancing the placebo effect. Lately, there has been an upsurge of literature suggesting that people can exercise control over their health and consequently recover from major illnesses. But do these cancer patients want that kind of control, or does it place unwanted responsibility upon them, thus causing even more stress? The relationship between stress, coping, and personal control is a complex one which needs to be addressed in the context of patients anticipating a cancer centre follow-up visit.

In order to investigate the complex relationship of stress with coping and issues of control, it is first necessary to understand how stress affects one's psychological and physiological well-being. When a person is faced with a stressful situation, it is not only the stressor itself which affects the person, but how the person perceives that stressor. Our bodies and minds do not exist in isolation from one another. They are intricately united, with each having substantial influence on the other. Psychological factors have been shown to play a major role in both the coping strategies implemented by the individual and the body's response to the stressor. These factors include personal control, learned helplessness, self-efficacy, emotions, hope, expectations, and social connectedness.

Stress and the individual

It has been shown that stressors, whether consciously perceived or not, alter neurophysiological processes, blood supply and pressure, endocrine and immunological balance, respiration rate and pattern, and digestive processes (Pelletier, 1977).

Selye, a pioneer in stress research, noticed a "common pattern of physiological reactions to extreme change" (Selye, 1956). He found that regardless of the source of biological stress, the organism would react with the same pattern of response to regain its internal homeostasis (Selye, 1974). When the organism is unable to regain its homeostasis, or when the stress response is uninterrupted and continual, the biochemical changes related to stress become potentially harmful to health (Pelletier, 1977). This continual stress response creates havoc in almost every bodily system, subsequently influencing the possibility of immune disorders, gastrointestinal disease, hypertension, and heart disease (Ornstein and Sobel, 1987).

Selye's work has been taken a step further. The field of psychosomatic medicine began with the suggestion that there are specific and distinctive stress responses for each illness (Lipowski, 1977). Lacey (1967, cited in Lazarus, 1982) had impressive results demonstrating that differing stressful situations produced specific autonomic end-organ reactions. Both studies suggest that somatic responses are to some extent a reflection of the psychological relationship between the person and the environment. A review article by Locke (1982) examining the effects of stress on the human immune system lends further support to these ideas.

Locke, Kraus, Le Serman, Flurst, Heisel, and Williams (1984) conducted a study of 114 healthy undergraduate students to see whether stress was related to changes in cell-mediated immunity. The correlations between self-reported life change stress (and psychiatric symptoms) and natural killer cell activity were computed. Subjects who had few psychological/psychiatric symptoms while experiencing large amounts of life change stress ("good copers"), possessed significantly higher natural killer cell activity than those subjects who were also undergoing high levels of life change stress but were exhibiting greater psychological/psychiatric symptoms ("poor copers"). It is also interesting to note that natural killer cell activity was inversely correlated with self-reported psychiatric symptoms. This suggests that there is a relationship between immunity and such symptoms as anxiety and depression. However, the nature and direction of that relationship needs to be clarified since this study is correlational and retrospective, and causality cannot be implied. Therefore, it is not apparent whether natural killer cell activity affects symptom distress or vica versa. The statistical relationship may also be explained by some other variable which affects both natural killer cell activity and coping, such as life-style changes. What is needed is an experimentally controlled study to discover if a causal relationship in fact does exist.

In a controlled experiment, Kiecolt-Glaser et al. (1985) trained elderly subjects in systematic relaxation and found an increase in natural killer cell activity. Other studies indicate that emotional states of depression and bereavement may be important factors contributing to suppression of one's immune system (Schleifer, Keller, Camerino, Thorton, & Stein, 1983; Schleifer & Keller, 1984).

Consequently, the possibility exists that one's interaction with the environment, hence one's coping strategies used in facing life's challenges, are reflected in one's physiology. Research upholds the view that the objective stressor is not as important as how the stressor is perceived (Pelletier, 1977). Therefore, the presence of certain psychological factors such as self-efficacy, positive expectations and emotions, hope, and social connectedness may have positive effects on one's ability to cope with stress, which in turn may affect the intricate functioning of the immune system.

That immunological changes may be sufficient to change the course of an illness has been suggested by single-case reports, such as Norman Cousins' (1979) autobiographical account of his recovery from the often fatal disease of ankylosing spondylitis. Cousins believes he enhanced his immune system by making use of positive emotional states of laughter, hope, and belief in his ability to recover. Cousins claims that his positive attitude was augmented by laughter induced by watching reruns of Candid Camera and Marx Brothers films. As Norman Cousins (1979) states:

> At any rate, long before my own serious illness, I became convinced that creativity, the will to live, hope, faith, and love have biochemical significance and contribute strongly to healing and wellbeing. The positive emotions are life-giving experiences. (p. 86)

Hope may also play a primary role in healing and recovery from illness. For example, Mason, Clark, Reeves, and Holman (1969) surveyed patients before an operation for surgical repair of a detached retina. The degree of hope, trust, and acceptance on the part of the patients correlated very highly with the speed of healing. However, once again this is a correlational study and causality cannot be determined.

In a well-designed study, hope and expectations appeared to be significant psychological variables in a real life situation. Bresnitz (1984, cited in Ornstein and Sobel, 1987) investigated the effects of expectation and hope on Israeli soldiers embarking on a long march. The soldiers were divided into four groups which were given different information about how far they were to march. The dependent measurements were morale level and performance, and changes in serum cortisol and prolactin (their levels are believed to rise as stress increases). Those who were given realistic information about how far they were to march reported the least amount of stress and possessed the highest degree of hopefulness. The soldiers who were given false information or no information fared much worse in terms of stress levels and hopefulness. It is very interesting to note that when asked to estimate how far they had traveled, these men's subjective estimates of distance correlated better with serum cortisol than did the actual distance traveled. Hence, expectations appear to have some specific physiological correlates.

Self-efficacy

Expectations are very much a part of one's sense of self-efficacy. What are people's expectations in terms of their ability to effectively handle a given situation? Albert Bandura (1982) proposes that how people judge their own capabilities is carried through their motivation and behavior. Bandura writes that:

> Initiation and regulation of transactions with the environment are therefore partly governed by judgments of operative capabilities. Perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations. (Bandura, 1982, p. 122)

Similarly, the work of Kobasa, Maddi, and Kahn (1982) is related to Bandura's concept of self-efficacy. They proposed that there are certain psychological elements which make up something they termed "hardiness". Hardiness is considered to be the overall characteristic of stress resistant executives who experienced high stress, yet possessed a low tendency towards illness. Hardiness was found to consist of (1) a strong commitment to self, family, work, and other important values; (2) a sense of control over one's life; and (3) the ability to view change as normal and something to be anticipated as a challenge to grow, not a source of fear. In this study, it appears that coping is enhanced when one feels a sense of control and faces the events of life as challenges rather that threats.

Another study demonstrating the importance of self-efficacy, found that certain perceptions of one's own health and capabilities appear to be correlated with better health (Lorig, Laurin, & Holman, 1984). For this prospective study, participants were asked to decide upon individual goals and break them down into smaller achievable steps in order to be successful. A crucial element in the ability to harbour an increased sense of control seems to be the achievement of a goal. "Modeling successful coping, encouraging reinforcement, and providing the skills to manage anxiety and reinterpret physical symptoms also contributes to self-efficacy" (Ornstein & Sobel, p. 248). Improvements in arthritis symptoms were significantly correlated with perceived self-efficacy. The participants experienced a 28 percent reduction in pain, a 20 percent decrease in swollen joints, a 14 percent decrease in disabiity, an 18 percent decrease in depression, and a 20 percent increase in perceived self-efficacy (Lorig, Laurin, & Holman, 1984).

O'Leary (1985) has reviewed other studies which demonstrate that perceived self-efficacy is useful in understanding smoking cessation relapse, control of eating and weight, pain experience and management, adherence to preventive health programs, and success of recovery from myocardial infarcation, and the successful use of biofeedback with migraine headaches (Sellick & Fitzsimmons, 1989).

Physiological changes associated with changes in self-efficacy were demonstrated in a study by Bandura, Taylor, Williams, Mefford, and Barchas (1985). The results demonstrated that subjects with a high perceived capability to cope with the stressful encounter, exhibited less stress and lower catecholamine secretion. Furthermore, when the subject's sense of self-efficacy was strengthened, catecholamine secretion dropped.

Langer and Rodin (1976) conducted a well-designed prospective study in a nursing home to test the hypothesis that if patients felt they had some degree of personal responsibility and control over their lives, they would benefit both physically and mentally in relation to those who stayed in an environment which produces dependency, as found in most nursing homes.

There were noticeable differences between the two groups within a few weeks. An improvement in a number of measures of physical and mental well-being was seen in the responsibility-enhancement group. This group also demonstrated an obvious increase in activity level and social interaction. Then, even more astounding, eighteen months later, the responsibility-enhanced group revealed a mortality rate of only one half that of the control group (15% versus 30%).

Another important concept within the framework of self-efficacy is that of the placebo effect. "Placebo has come to connote any aspect of the healing process which cannot be attributed to a physical or pharmacological effect" (Pelletier, 1977, p. 14). The placebo effect is important because of its meaning to the patient. It is a clear indication of the self-healing abilities which a person possesses. These inner self-healing mechanisms can be mobilized by the right cues which offer positive expectation and hope. Through awareness of how the placebo effect works, it is possible that patients may learn to strengthen their body's innate inner healing system.

Within any system of belief lies the

self-fulfilling prophecy. "What is expected is observed, and what is observed confirms the expectations. Any experience occurring outside of this cultural, social, and individual matrix is dismissed" (Kiev, 1969, p. 25). This leads to the acknowledgement that therapeutic effects are to be found in the very essence of the doctor-patient relationship. The presence of the doctor and her or his attitude may be the most effective element of the treatment.

> Knowing that "I have control" is one part of the undefined healing quality often transmitted by 'bedside manner' when a physician gives her or his patient the inner confidence that he can get well. This same mobilization of an individual's volition may also be one major aspect of the placebo effect. (Pellieter, 1977, p. 272)

Positive emotions, expectations, hope, and self-efficacy are not the only notable contributions to an individual's psychological and physical well-being (i.e., effective immune system). The potentially important contributions of social relationships and social connectedness in affecting the immune system have only recently been recognized and continue to be investigated.

Supportive research for the important implications of social connectedness and its effects upon the body is found with studies of animals such as mice. Isolation, or lack of social connection may have a significant role to play in the function of the immune system. Henry and Santisteban, (1971, cited in Riley, Fitzmaurice, & Spackman, 1981) compared mice reared in isolation to those raised in groups in order to investigate the effects of population density on tumor growths. It was demonstrated that prolonged isolation-rearing of mice negatively modified their immunological capacity to cope with tumors (Henry & Santisteban, 1971 cited in Riley et al., 1981). It was also found that isolation-rearing impaired mice for coping with stressful situations imposed later in life.

In a similar study (Glenn & Becker, 1969, cited in Riley et al., 1981), results suggested that the immune capabilities of mice housed alone were handicapped when compared to mice living in a more "normal" crowded social situation.

A prospective study of increased social

interaction among isolated senior citizens draws parallel results. Arnetz, Theorell, Levi, Kallner, and Enoroth (1983) were able to show how increased social interaction caused physiological changes. There were significant changes in certain metabolic hormones revealed in blood tests of the socially active group in comparison to a control group. Higher levels of estradiol, testosterone, dehydroepiandrosterone, and growth hormone were found. These are hormones that may build the body up to offer protection and counterbalance stress effects. This study suggests that increasing social interaction in real life situations can elicit psychoendocrine alterations which are harmonious with better health results.

People need other people for their very health and well-being! In some way social interaction draws us outside of ourselves and enhances our ability to cope, while increasing our resistance to disease. As further evidence of psychological factors affecting physiological processes, we may consider the effectiveness of interventions such as imagery/relaxation methods (Simonton & Simonton, 1975; Olness, 1981), biofeedback (Burish, Carey, Redd, &

Krozely, 1983), and hypnosis (Goldberg, 1985; Newton, 1983). These self-regulatory methods have been successfully used in alleviating pain and psychological discomfort (Carey & Burish, 1988).

Only recently have we developed sufficient understanding of how an individual's reaction to stress in a particular situation may affect one's physiology and immune system in disease. This understanding provides a base upon which links between learned helplessness, emotions, expectations, self-efficacy, social relations, and coping can be explored. However, while exciting possibilities exist, caution must be observed in interpreting studies which are correlational and/or anecdotal.

A major factor influencing the stress of anticipating such a visit is the coping ability of the patient. Coping has been defined by Lazarus and Launier (1978) as "efforts, both action oriented and intrapsychic, to manage . master, tolerate, reduce (or) minimize environmental and internal demands and conflicts which tax or exceed a person's resources" (p.843). From this definition it can be seen that a number of different coping strategies may evolve in the face of a stressful event. These strategies may involve specific strategies such as denial, acceptance, avoidance, vigilance, problem-solving, or confrontation. The strategies chosen will depend upon how the situation is appraised, as well as the personal variables of the individual involved.

Appraisal occurs as the person judges the ongoing and changing meaning of his or her interaction with the environment. When appraising, the person is evaluating (consciously or unconsciously) his or her abilities to manage the environmental demands (Lazarus, 1982). Therefore, what is threatening to one person may be challenging to another. For example, the same event (a cancer patient's scheduled appointment) may be considered by one person as a "good" stressor, and by another as a "bad" stressor. It is possible that threat and challenge have different adaptational outcomes (Lazarus, 1982).

Folkman and Lazarus (1980) maintain that there are two main goals of coping. These are (1) the regulation of distress or emotions, and (2) the management of the particular problem which is creating the distress. In other words, coping strategies may be either emotion-focused or problem-focused. When faced with uncontrollable events, using emotion-focused coping strategies may involve reinterpreting a situation's meaning in order to augment one's feeling of mastery or to realize positive aspects in the situation. These strategies are used to increase one's sense of control (Rothbaum, Weisz, & Snyder, 1982). By comparison, problem-focused coping strategies involve attempts to directly influence the environment to alleviate the environmental stress. A person may use such techniques as problem-solving, or decision-making, or may take direct action to alter or modify the environment.

Folkman and Lazarus (1980) assessed coping with stressful episodes, and found that although emotion-focused coping was used more often in health problems (e.g. accepted sympathy and understanding from someone) and problem-focused coping was utilized more frequently for work-related situations (e.g. got the person responsible to change his/her mind), both problem-focused and emotion-focused coping strategies were used together in 98% of the stressful situations, whereas only one coping style was implemented in the remaining 2% of the episodes.

Health-related situations may be appraised as needing to be accepted, rather than altered. In situations regarding health, one might expect that coping efforts might be better aimed at managing feelings of distress, anxiety, and dread (which are basically emotion-focused strategies), than at directly changing the stressful episode (problem-focused coping). What remains to be seen, however, is whether there is any clear benefit to the patient for utilizing emotion-focused strategies.

The utilization of coping strategies has been examined in numerous studies with a variety of scales, with few studies investigating the same scales (Felton & Revenson, 1984; Scherer, Wiebe, Luther, & Adams, 1988; Folkman, Lazarus, Gruen, & DeLongis, 1986). For example, Manne and Sandler (1984) examined the use of wishful thinking (e.g. wished the situation would go away or somehow be over with), minimization of threat (e.g. didn't let it get to you), and problem-focused coping (e.g. changed something so things would turn out better), with a self-help group coping with genital herpes. The items were selected from the Ways of Coping Inventory (Folkman & Lazarus, 1980). They found that wishful thinking was associated with maladjustment, suggesting that perhaps the person employing this strategy was focusing on the past and was unable to accept the reality of the situation.

In some situations, implementation of successful coping strategies appears to depend upon a particular event and how much control one has over it. For example, a study conducted by Collins, Baum, and Singer (1983) of residents living on Three Mile Island suggests that people utilizing problem-focused coping (when the event becomes chronic and is uncontrollable), were troubled with more psychological symptoms and emotional disturbance than those who used emotion-focused coping (Collins, Baum, & Singer, 1983). In this study, the four coping subscales used for measurement consisted of problem-focused coping and emotion-focused coping derived from the Ways of Coping Inventory (Folkman & Lazarus, 1980), as well as denial and reappraisal derived by Collins, et al. (1983). For those people who did use problem-focused strategies, there was also a tendency to use denial, although the relationship between the two was not strong and denial is not usually considered to be a problem-focused strategy. This suggests that these people were maladaptively overestimating their sense of personal control and distorting reality (Collins, Baum, & Singer, 1983). Therefore, outcome seems to be hindered a great deal when the person's perception or appraisal of the amount of control is unrealistic. Folkman (1984) suggests that when faced with an uncontrollable situation, cognitive emotion-focused coping processes (rather than a problem-focused strategy) with realistic appraisal may aid in fostering hope and feelings of challenge while reducing feelings of depression and helplessness.

Learned-helplessness research has demonstrated that when an uncontrollable and stressful situation is appraised realistically, helplessness and depression may set in (Seligman, 1975). This has been demonstrated effectively with both animals, (Seward & Humphrey, 1967), and humans (Hiroto & Seligman, 1975; Krantz, Glass & Snyder, 1974; Miller & Seligman, 1973; Thorton & Jacobs, 1972). Seligman found that a sense of helplessness was not produced by the stressor itself, but by the perceived inability to control the stressor (Seligman & Maier, 1967, cited in Seligman, 1975). Seligman also demonstrated that learned helplessness could be reversed when the subject was able to regain a sense of control.

It would seem logical that under most circumstances vigilance would be more helpful than denial in dealing with illness. Indeed this is often the case (e.g. Staudenmayer, Kinsman, Dirks, Spector, & Wangarrd, 1979). Sometimes, however, it is just not possible to cope by directly attempting to solve the particular problem which is causing stress. Confrontation in some situations may only serve to heighten the anxiety and distress (Folkman, Lazarus, Gruen, & DeLongis, 1986). Therefore, it appears that in order to adapt to an uncontrollable situation, it may be best to relinquish attempts directed at changing the situation and turn instead to denial as a coping strategy. This may enhance one's well-being in the face of inevitability (Cohen & Lazarus, 1973).

Furthermore, it may be useful to be unrealistically optimistic in times of illness. In a study of women with breast cancer, Taylor (1983) found that those women who responded best to treatment had given inflated attributions of their doctors' abilities to control the illness. In this prospective study, the women's completely unrealistic confidence resulted in very positive effects upon their physical and mental condition. In this case, illusions were used effectively for better adaptation.

It appears that the key to the best coping strategies may be flexibility, knowing when to use acceptance or denial (emotion-focused strategies) and when to use vigilance or confrontation (problem-focused strategies). Thus, the meaning of the situation can be changed by the individual through reappraisal and cognitive coping processes to alleviate distress and anxiety. As previously mentioned, any of the coping strategies may be beneficial, depending upon how the situation is appraised by the individual. Perhaps what may be most important is not so much that one is actually able to completely control a situation, but rather how much control one believes one has, in interaction with how much control one deems desirable in a given situation. Perhaps "helplessness" is averted when a particular individual achieves a right fit between the amount of control s/he desires, and the degree of control which can in fact be realistically negotiated in a given situation. A situation which realistically allows only minimal if any control need not necessarily result in feelings of helplessness and despair unless the individual desires that control and fails in achieving it. The individual who desires little control, and who appraises the context as one demanding acceptance, may in fact cope more successfully, with less distress.

The emotion-focused coping scales used by Folkman and Lazarus (1988) seem to involve a variety of efforts which one may consider "active" as opposed to "passive". For example, seeking social support describes "efforts to seek informational support, tangible support, and emotional support" and escape-avoidance describes "wishful thinking and behavioural efforts to escape or avoid the problem" (Folkman & Lazarus, 1980, p. 8). Perhaps both emotion-focused and problem-focused coping as defined and measured by these scales may be considered "active" strategies aimed at gaining control. What these scales may not address so effectively is a non-controlling, more passive, kind of coping in the face of adversity.

The array of possible coping strategies is varied and complex, just as the process of coping is intricate. Coping may also have functions aside from the main strategies of problem-focused and emotion-focused. There are other possibilites such as whether coping can be considered as active or passive, and whether it is directed at oneself or at another person (Rothbaum, Wolfer, & Visintainer, 1979). As Folkman and Lazarus (1980) point out, perhaps we need to consider another level of abstraction which reaches beyond situational contexts for the ways people view themselves and others in their coping strategies. Measures such as the Ways of Coping Questionnaire (Folkman & Lazarus, 1988) are very microanalytical and are not able to assess the continually shifting coping process which occurs even within the appraisal and reappraisal of a given situation (Folkman, Lazarus, Dunkel-Schetter,DeLongis, & Gruen, 1986). However, for the present time a more encompassing measure is not available.

In summary, coping represents a reaction to both situational and personal variables of a stressful event. Whether coping is successful or not depends upon the situation and how it is appraised. Emotion-focused coping appears to be more successful according to research, with uncontrollable and health-related situations, whereas problem-focused coping is better with controllable situations, although both strategies are frequently used concurrently.

With this in mind, it might be expected that with the emotional distress and anxiety which patients may experience in attending a follow-up visit, those who engage in emotion-focused strategies may experience less stress than those who use problem-focused coping methods. Emotion-focused coping strategies have been thought to be more effective than problem-focused for dealing with health-related and uncontrollable events such as follow-up visits.

The Present Study

A follow-up visit may be considered both an uncontrollable and a stressful situation. This study examined sixty cancer patients' experience of stress daily over a two week period in relation to their choice of coping strategies, beliefs concerning control over health, desired personal control in life, and feelings of hope and dread in anticipation of a cancer centre follow-up appointment. Because emotion-focused coping appears to be a more effective way of dealing with health problems and uncontrollable events through the management of distressing emotions, it was postulated that cancer patients who engaged primarily in emotion-focused coping as they anticipated their follow-up visits would experience lower levels of stress than those who primarily used problem-focused coping (hypothesis 1). It was also postulated that patients who experienced a higher desire for control but who believed that they had little control over their health, would not cope effectively and would experience high levels of stress. Likewise, patients who experienced a high desire for control and believed they had much control over their health, would cope effectively and would experience low levels of stress. (hypothesis 2).

In order to understand how patients cope with the experience itself, coping strategies were investigated to discover if this health-related and uncontrollable situation would result in the increased use of emotion-focused coping over problem-focused coping (Folkman & Lazarus, 1980). In this situation, what coping strategies result in the least amount of stress? Also, because the issue of perceived control appears to have an impact on how an individual copes with a stressful situation (Collins, Baum, & Singer, 1983; Seligman, 1975), perceived health control and desired control were considered in this study to investigate the effects of control upon the cancer patients'experience of stress. The use of the different measures examining stress, coping strategies, desired control, health locus of control, hope, and dread will allow for a more complete picture of how patients experience the anticipation of a follow-up visit.

Method

Subjects

Initially, 175 potential subjects were contacted by phone, 90 of whom declined, and 85 of whom agreed to participate. Of these 85 cancer patients, 25 then cancelled, leaving sixty subjects who participated in this study. All subjects had been previously diagnosed with cancer, yet were not receiving active treatment. This study was conducted during a five month period of June 1989 -- October 1989 at the local Thunder Bay Regional Cancer Centre.

Materials

Four questionnaires were used to examine the relationships between the coping strategies which the cancer patients implemented, how much control they desired, how much control they believed they possessed, and the amount of stress they experienced. Two simple scales were also used to measure the degree of dread and hope experienced by these cancer patients immediately preceeding their cancer centre appointment.

1) The Daily Stress Inventory (DSI) is a 58-item inventory used as a measure of daily minor stress

(Brantley, Dietz, Mcknight, Jones, & Tulley, 1988). The respondent is requested to rate the subjective stress he/she has experienced through events occurring in the past 24 hours. The ratings are given on a Likert-type scale ranging from 0 (did not occur past 24 hrs) to 7 (caused me to panic). The three scores obtained are frequency (FREQ: number of events which occurred), sum (SUM: total of stress ratings for the events), and air (AIR: SUM/FREQ, average score). Convergent validity has been demonstrated between the DSI and biochemical measures of daily stress (Brantley et al., 1988), as has construct validity. Chronbach alpha coefficients are .83 and .87 for FREQ and SUM respectively (Anastasi, 1976, cited in Brantley et al., 1988).

Concurrent validity has been well established (Brantley, Waggoner, Jones, & Rappaport, 1987, cited in Brantley et al., 1988). This scale has been used as the equivalent of a biochemical measure of stress (Brantley et al., 1988), and was used here in order to monitor the stress experienced as subjects utilized possible coping strategies in anticipation of the cancer centre appointment (see Appendix A).

2) The Ways of Coping Questionnaire is a 66-item scale which measures how contextual processes affect coping strategies (Folkman & Lazarus, 1988) The contextual process approach for coping considers the relationship between personal and situational factors. The validity of this approach is demonstrated by differences reflected in coping strategies and factor structures of the questionnaire responses (Folkman & Lazarus, 1985). Folkman (1984) suggests that coping processes differ from one person/situation to the next, due to both the individual's personal control and their cognitive evaluation of the situation. For reliability, Cronbach's alpha coefficients range from .61 to .79 for the eight scales of this questionnaire. This is higher than alphas reported for most other coping measures (Folkman & Lazarus, 1985).

The Ways of Coping Questionnaire measures coping on eight scales: 1) confrontive coping (e.g., stood my ground and fought for what I wanted; I did something which I didn't think would work, but at least I was doing something; 2) distancing (e.g., went on as if nothing happened; tried to forget the whole thing); 3) self-controlling (e.g., I tried to keep my feelings to myself; I went over in my mind what I would say or do); 4) seeking social support (e.g., talked to someone to find out more about the situation; I got professional help); 5) accepting responsibility (e.g., criticized or lectured myself; I apologized or did something to make up); 6) escape-avoidance (e.g., hoped a miracle would happen; took it out on other people); 7) planful problem solving (e.g., I made a plan of action and followed it; came up with a couple of different solutions to the problem) 8) positive reappraisal (e.g., changed or grew as a person in a good way; I prayed).

Through direct consultation with R.F. Scherer, Ph.D, an assistant professor at Kennesaw State College, it was considered appropriate for analysis to add the subscale scores together to form 2 main scales, a Problem-focused Coping Scale consisting of two subscales (confrontive coping and planful problem solving), and an Emotion-focused Coping Scale consisting of six subscales (distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, and positive reappraisal) (Scherer & Brodzinski, 1990).

Unfortunately, there is at present a lack of normative data to compare with the present sample when the subscales are grouped together in this way.

This questionnaire was used to assess the coping strategies used by subjects as they anticipated cancer centre appointments (see Appendix B).

3) The Desirability of Control Scale contains 20 items which measure individual differences in the general level of motivation one possesses to control the events in one's life (Burger & Cooper, 1979). This scale has substantial internal consistency of .80 and test-retest reliability of .75. Discriminant validity has been demonstrated with measures of locus of control (Rotter, 1966 cited in Burger & Cooper, 1979). Construct validation studies (Langer, 1975) found that subjects with a large desire for control possessed a belief of personal control over chance outcomes. It was also found that people who desire a high degree of control in their lives may respond with greater learned helplessness to aversive stimuli which are both uncontrollable and unpredictable (Hiroto & Seligman, 1975). Hence, the Desirability of Control Scale was used to assess the degree of control which each subject

desired (see Appendix C). Did these subjects want control over events in their lives, or would they rather have had minimal control and reduced responsibility for outcomes?

4) The Multidimensional Health Locus of Control (MHLC) Scales, has been developed by Wallston and Wallston (1978) to distinguish how people believe their health is determined. The original Health Locus of Control (HLC) scale was an unidimensional measure that assessed whether an individual believed that their health was determined by their behaviour or not (Wallston, Wallston, Kaplan, & Maides, 1976 cited in Wallston et al., 1978). The MHLC Scales consider three aspects of this health-control concept and assess the degree to which an individual believes that their health-control is mainly internal (eg., if I take care of myself, I can avoid illness), due to chance (no matter what I do, I'm likely to get sick), or controlled by powerful others (regarding my health, I can only do what my doctor tells me to do).

The alpha reliabilities ranged from .673 to .767. For an indication of predictive validity, the health status was correlated with MHLC scales. The correlations of health status were positive with Internal Health Locus of Control ($r = .403$, $p < .001$), negative with Chance Health Locus of Control ($r = -.275$, $p < .01$), and not correlated with Powerful Others Health Locus of Control ($r = .055$). The MHLC Scales were used to measure the subject's assessment of how his/her health was controlled (see Appendix D).

5) The Dread Scale is a simple Likert-type scale derived by Dr. Scott Sellick and the author to measure the degree to which subjects dreaded the impending follow-up visit. The scale ranged from 1 (I do not dread this visit at all) to 7 (I extremely dread this visit). Subjects were asked to indicate which number best represented how they were feeling about their cancer centre appointment (see Appendix E).

6) The Hope Scale is another simple Likert-type scale constructed by Dr. Scott Sellick and the author to rate the degree of hope which the subject experienced in anticipation of the follow-up visit. This scale also ranged from 1 (not hopeful at all) to 7 (extremely hopeful). Subjects were requested to note the number which best described how they were feeling about this appointment (see Appendix F).

Aside from the questionnaires and scales, there was also a patient information sheet which was completed by either the physician or the author. This sheet was used to obtain information consisting of the patient's demographics, cancer diagnosis, date of diagnosis, treatment, last date of treatment, and any additional comments from the doctor. This information was obtained from patients' medical file (see Appendix G).

Procedure

Potential subjects were contacted by phone approximately three weeks prior to their scheduled follow-up appointment. A brief description of the study was given, participation was requested and if granted, an interview time was arranged with the subject for approximately 30 minutes before her/his scheduled follow-up appointment. After agreement was obtained, each participant was mailed a package consisting of a cover letter (see Appendix H), consent form (see Appendix I), fourteen DSI forms, WOCQ, and a DCS approximately two and a half weeks prior to the follow-up appointment. Each subject was requested to complete the WOCQ and the DCS once (total time < 30 minutes), as well as complete a DSI form each day for fourteen days prior to the cancer centre appointment (time < 5 minutes).

Prior to the follow-up visit, the subject accompanied the author into an interview room and was asked to complete one more questionnaire consisting of the Multi-dimensional Health Locus of Control Scale, as well as the Hope and Dread Scales (time < 7 minutes). While the subject was answering the questionnaire and the scales, the author checked the package materials to ensure that the consent form was signed and the questionnaires were completed. After the subject had completed the final scales, the author requested permission from the subject to record the subsequent interview on tape. If the subject refused, the interview was recorded solely on paper, and if not, the author took notes as a supplement to the taping. An interview was then conducted based upon the following semi-structured format:

1. What happens to you as the time of your cancer centre appointment draws near?
2. Overall, how do you cope in anticipation of your follow-up visit and do you feel that you cope

effectively? Why or why not?

3. To what degree do you feel you are in control of your health and do you wish for more or less control or responsibility?

4. Do you feel you have a supportive network in your family and friends? Why or why not?

5. If you could change anything about the cancer centre visit, what would that be?

Each interview was approximately 20 - 30 minutes long.

Following the interview, the author placed the patient information sheet into the patient's file for the physician to subsequently fill out. If the doctor was unable to complete this form, the author completed it at a later date.

After the study was completed, an evaluation form was mailed to each participant to discover whether participation in the study itself had been stressful (see Appendix J). Subjects were asked to send it back anonymously, unless they wished to include their name.

Results

Demographic Information

This sample consisted of sixty subjects, 77% of whom were female (n = 46) and 60% of whom were married (n = 36). There were 57 Caucasians and 3 Native Canadians. The ages ranged from 24 - 81 with the mean age being 60.6 years, and 38% of the subjects being retired (n = 23). The subjects' diagnoses are catagorized in Appendix K. Seven subjects had been diagnosed with cancer for the second time. For our sample, 4.6 years was the average time since the most recent diagnosis. It is interesting to note that almost half of the subjects had received an initial diagnosis or had a recurrence of cancer very recently, within the last two years (n = 29). The most recent diagnosis was cancer of the breast for just less than one half of the subjects (n = 24) (see Appendix K), and 55% of all subjects received treatment in the form of either surgery or a combination of surgery and radiation, while 10% were given chemotherapy. The average time which had passed since the end of treatment was 4.3 years.

Interview Results

The interviews were very helpful in yielding interesting answers which enhance the understanding of the cancer patient's experience of the follow-up visit. In particular, there were a number of distinct themes which were shared by many of the people as they volunteered their thoughts and feelings to me in response to the various questions I asked.

Were the prior two weeks stressful?

In responding to the first question of "did you find the two week period prior to the follow-up visit to be stressful?", the most common answer was no, with very few reports of noteable experiences of stress in anticipation of the follow-up visit.

> "No [the visit] doesn't bother me at all. I'm grateful to still be checked." (male, aged 61)

As the appointment day drew closer, most people did not find themselves doing anything unusual or different in regards to their everyday behaviours.

> "There's no difference [in stress] from other days unless I notice something is obviously wrong with me." (female, aged 74)

A recurring attitude among people was one of thinking that as long as there were no telltale signs of ill health, there was no need to worry about this routinely appointed follow-up visit.

> "I try to cope effectively. I don't worry really - a bit though. There's always the chance they didn't get all the cancer. But I don't worry as long as I feel good." (female, aged 72)

Most people had put their experience with cancer behind them, refusing to allow an impending follow-up visit to interfere with their full and productive lives, while being thankful they still had lives to live.

> "No, my life is pretty much the same each day. I'm not a person to worry. I don't let things bother me. I think about how lucky I am." (female, aged 57)

> "No, [I do not find the two week period to be stressful]. I have lots of fun and enjoy life to the fullest - I just enjoy each day." (female, aged 63)

<u>Was coping effective?</u>

The second question was "do you feel you cope effectively in anticipation of this follow-up visit? How so?"

Overall, the general consensus was that subjects coped effectively, often because they had decided there was no point in worrying about a recurrence.

> "I've always been very optimistic and outgoing -take things in my stride, I

> don't dwell on my problems. I'll worry when it happens, why worry if it hasn't happened?" (female, aged 69)

Many others had reached an acceptance point of "whatever will be will be".

> "I have to be realistic. If I take every ache and pain seriously, I'll sit and brood and it will get worse. I have a positive attitude - when something happens in life I'll face it - that's all. Face it and accept it." (female, aged 66)

Another common reason given for effective coping was faith in God and trusting that if there was a recurrence of cancer, God would also supply the resources to handle it.

> "I cope because of my faith in God. wouldn't cope as well without Him." (male, aged 75)

> "What will be will be. I don't worry if I'll be sick or not or if the cancer will come back - I've had a good life. If it comes back it is God's will - I have a strong faith." (female, aged 68)

Other subjects explained that they coped extremely well because they were able to "live one day at a time", and they just did not think about the possibility of a cancer recurrence.

> "It's [possibility of a recurrence] something you can't change and you have to forget about it - it's not a sin to forget. Can't function if you're always uptight." (female, aged 65)

> "I tell myself that things will work out - go with the flow. I try to do the best I can everyday and keep learning. I take one day at a time and accept what's given." (male, aged 45)

Support from family and friends?

The majority of subjects did not think they would have coped as effectively as they did without the tremendous support they received from family and friends.

> "Yes I have a lot of support. I'd probably not cope as well without it because you need someone to help you. No man is an island." (male, aged 61)

> "I'd not cope as well without my family. It's comforting to know that they love you and if you really need them they'll be there. I thought I could handle everything on my own, but I'm finding out I can't." (female, 53)

Many people pointed out the limitations of not seeking out one's family and friends in times of illness.

> "I couldn't cope without my complete family support. It's very important. I've seen similar cases to me that didn't have family support and its hard for them to take. Being well has lots to do with the famiy." (female, aged 66)

> "I have very much support. That's the biggest thing for me. Helps alot if I can talk. Many people make the mistake and don't confide in their family when ill, but should, and they should be prepared to cope with it too, especially

> if it doesn't work out." (female, aged 69)

This awareness of the importance of support networks has given these people a renewed appreciation of their family and friends.

Belief in one's control over health?

Almost without exception, most subjects believed they had control over their diet, sleeping habits, exercise, alcohol consumption, and refraining from smoking. Many people, however, did not believe they had any control over their cancer or whether they might get it again.

> "I believe I have a moderate amount of control. It's fate and the luck of the draw. Everyone should look after themselves, but eventually fate takes over." (male, aged 46)

When the question was taken a step further to ask, "do you wish you had more control over your health?", the answer was basically no. One gentleman framed his answer in a very thought-provoking statement,

> "No, I'm quite satisfied. I could wish for a million dollars but I don't know if I want that responsibility." (male, aged 73)

Do thoughts affect one's health?

Many people also acknowledged adherence to the belief that their thoughts and attitudes do indeed affect their health.

> "I'm not consciously doing anything differently, but I'm surviving better than others. People say it's my attitude. I enjoy everything I do or I wouldn't do it." (male, aged 61)

It was suggested that positive attitudes and expectations generate a healthy mind and body.

> "Put your mind to getting well. That the mind can control the body, I'm not saying in all cases it does, but a certain percentage has something to do with a positive attitude." (male, aged 46)
>
> "If I keep my thoughts positive, my immune system works well." (female, aged 53)
>
> "I got over cancer because of my positive attitude. I never say I have cancer. I had it and it is cured. I told myself the cancer is all gone and I just need to build up my health." (female, aged 75)

On the other hand, negative beliefs may contribute to a lack of wellness.

> "You can get sick by worrying." (male, aged 61)
>
> "If you never have a real will to survive - you won't." (female, aged 63)
>
> "If you think sick, you'll be sick." (female, aged 71)

Change anything about the visit?

Most people were quite satisfied with the cancer centre appointments and did not have too many suggestions for change.

> "I'm quite satisfied and impressed with the whole operation of the cancer clinic." (male, aged 46)

A common complaint, however, was about the long time periods spent waiting for the doctors.

> "The stress of waiting is worse than the stress of cancer." (female, aged 53)

> "I wish they'd treat people as intelligent. I know the difference between five minutes and forty-five minutes." (female, aged 53)

Other patients suggested that in the beginning, when they first were told they had cancer, they would have appreciated more explanations about what was happening to them.

> "I wish they would explain more to the patient about what is going on and why." (female, aged 58)

> "Doctors should be more frank with patients - stop playing God." (female, aged 53)

Patients also commented on the necessity of the medical profession to realize that there is more to treatment than medicine.

> "Part of the treatment is the doctors and nurses talking to you - it's unlike any other disease." (female,

> aged 58)
>
> "Some doctors don't realize that inner healing is as important as medicine. We need to help people understand their bodies and that they have a lot of input themselves. Doctors need to build up health." (male, aged 46)

Most patients attending this cancer centre are appreciative of the staff members and find them to be supportive and caring.

Daily Stress Inventory

For each subject, the Daily Stress Inventory (DSI) average score for the two week period preceding the follow-up appointment was obtained from the three scores obtained daily in the following way: 1) the number of events which the subject had specified as having taken place that day (FREQ) was calculated; 2) the total sum of the ratings of those events for degree of stress from 1 = occurred but was not stressful to 7 = caused me to panic, (SUM) was calculated; and 3) the average rating for that day (AIR: SUM divided by FREQ), was calculated. These calculations were repeated for each of the fourteen days prior to the follow-up visit (Brantley, et al., 1988). Each subject's daily AIR score was calculated as the average daily score over the fourteen days. This DSI AVG score was used for analysis, (possible range of 0 - 7).

Comparison of Sample and Normative DSI

Subjects' average daily scores (DSI AVG) on the DSI ranged from .00 (did not occur) 4.62 (caused between some and much stress), with a mean value of 2.21 (s.d. = 1.00) (caused very little stress). As reported by Brantley et al. (1988), the normative sample consisted of 433 community residents with an age range of 17 to 77 years, and a mean of 34.9 years. The normative data for the DSI was stratified by sex with the mean value being 2.68 (s.d. = .97) for females and 2.36 (s.d. = .82) for males. Among our sample of cancer patients, the mean DSI AVG value for females was 2.28 (s.d. = 1.04). There was a significant difference between this DSI AVG sample mean and the normative mean for females ($z = -2.86$, $p < .01$), with our sample female subjects reportedly experiencing less stress than the normative sample females. For males, the sample mean value was 1.97 (s.d. = .84) with no significant difference between this mean and the normative sample mean (see Table 1).

When the male and female groups of this sample were compared to each other there was no significant able 1 Comparison of Sample and Normative Data Scores for Variables

ariable		Sample Subjects	Normative Data	Z Test
aily Stress nventory Females)	Range	.00 - 4.62		
	Mean	2.28	2.68	-2.86
	S.D.	1.04	.97	*p* < .01
aily Stress nventory Males)	Range	.52 - 3.71		
	Mean	1.97	2.36	-1.77
	S.D.	.84	.82	*p* > .05
nternal ealth Locus f Control	Range	15 - 34		
	Mean	26.12	25.104	1.62
	S.D.	4.84	4.891	*p* > .05
owerful thers Health ocus of ontrol	Range	11 - 35		
	Mean	23.10	19.991	4.64
	S.D.	5.78	5.221	*p* < .01
hance Health ocus of ontrol	Range	8 - 30		
	Mean	18.87	15.574	4.46
	S.D.	5.59	5.751	*p* < .01
esirability f Control	Range	45 - 115		
	Mean	87.33	99.1	7.74
	S.D.	16.31	11.80	*p* < .01

difference between the stress experienced by the two groups (t (2,58) = .99, p = .326).

Uniformity of stress scores

On average, the fourteen day period prior to the follow-up visit showed no significant change in stress as the visit approached. During the two weeks preceeding the visit the daily ratings were rather consistent. This was demonstrated by numerous t-tests which compared the DSI AVG of each day with every other day, none of which was significant (see Table 2). However, when the DSI AVG of the first week was compared to the last week there was an almost significant difference, in favour of the first week being slightly more stressful (t (1,59) = 1.89, p = .063).

A comparison of subjects diagnosed in the past 1-2 years with subjects diagnosed 3-20+ years ago revealed no significant difference in the amount of stress experienced by the two groups (t (2,58) = .45, p = .653), suggesting that the subjects who were diagnosed more recently were not experiencing more stress than those whose cancer had been in remission longer.

There was no significant difference in the amount of stress experienced by those subjects who received treatment in the last twelve months and those who

Table 2 Average Means for the Daily Stress Inventory

Day	Mean	St. Dev.
One	2.31	.95
Two	2.31	1.02
Three	2.37	1.08
Four	2.06	1.07
Five	2.12	1.22
Six	2.10	1.32
Seven	2.24	1.39
Eight	2.09	1.14
Nine	1.93	1.16
Ten	2.11	1.24
Eleven	2.12	1.21
Twelve	2.15	1.13
Thirteen	2.22	1.18
Fourteen	2.07	1.29
Week 1	2.22	.98
Week 2	2.09	1.07

received treatment earlier (_t_ (2,58) = -.01, _p_ = .989), indicating that subjects who recently underwent treatment did not experience more stress in anticipation of the follow-up visit than those who had been treated before the past year.

The average stress experienced by those subjects who had been diagnosed with cancer twice was 2.27 which is consistent with the average score of 2.21 for the whole sample.

Ways of Coping Questionnaire

The Ways of Coping Questionnaire (WOCQ) yielded 8 separate subscale scores, which will be considered separately, as well as together in the two main scales of problem-focused coping consisting of two subscales (confrontive coping and planful problem solving) and emotion-focused coping consisting of six subscales (distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, and positive reappraisal). As previously mentioned in the Method section, there is no normative data to compare with the present sample for the two main scales. However, there are normative data for the separate subscales, which will be considered later.

Problem-focused Coping Scale

The Problem-focused Coping Scale revealed a mean value of 11.62 (s.d. = 6.88), and a range of .00 - 29.00.

Emotion-focused Coping Scale

The Emotion-focused Coping Scale yielded a mean value of 35.7 (s.d. = 17.99), and a range of 6.00 - 84.00.

WOCQ Subscales

The WOCQ subscales were also considered separately for analyses. These subscales consist of confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal. Each subscale will be dealt with separately. The means and standard deviations of the subscale scores are compared to the normative data scores in Table 3.

The present sample of cancer patients used all of these coping styles to a significantly greater degree than did the normative sample, with the exception of the planful problem solving subscale (see Table 3).

Desirability of Control Scale

The Desirability of Control Scale (DCS) scores

Table 3 Comparison of Sample and Normative Data Scores for Ways of Coping Questionnaire Subscales

Coping Subscale		Sample Subjects	Normative Data	Z Test
Confrontive Coping	Range	0 - 14		
	Mean	4.63	3.94	2.56
	S.D.	3.65	2.09	*p* < .05
Distancing	Range	0 - 15		
	Mean	6.33	3.05	14.26
	S.D.	3.68	1.78	*p* < .01
Self-Controlling	Range	1 - 18		
	Mean	8.05	5.77	6.16
	S.D.	4.51	2.87	*p* < .01
Seeking Social Support	Range	0 - 18		
	Mean	6.48	5.40	3.48
	S.D.	4.56	2.40	*p* < .01
Accepting Responsibility	Range	0 - 12		
	Mean	2.98	1.87	5.84
	S.D.	2.61	1.44	*p* < .01
Escape-Avoidance	Range	0 - 2		
	Mean	4.88	3.18	5.31
	S.D.	4.56	2.48	*p* < .01
Planful Problem Solving	Range	0 - 18		
	Mean	6.98	7.25	0.9
	S.D.	4.52	2.34	*p* > .05
Positive Reappraisal	Range	0 - 21		
	Mean	6.97	3.48	9.18
	S.D.	5.58	2.96	*p* < .01

ranged from 45 -115, with a mean value of 87.33 (s.d. = 16.31). The normative data reported by Burger and Cooper (1979) was comprised of 453 college students, yielding a mean value of 99.1 (s.d. = 11.80). There was a significant difference between the normative mean and the sample mean ($z = 7.74$, $p < .01$), indicating that this sample of subjects experienced significantly less desire for control than did the subjects of the normative sample (see Table 1).

Multidimensional Health Locus of Control Scale

The Multidimensional Health Locus of Control (MHLC) scale yields 3 separate scales: Internal Health Locus of Control Scale, Powerful Others Health Locus of Control Scale, and Chance Health Locus of Control Scale.

Internal Health Locus of Control Scale

The Internal Health Locus of Control (IHLC) Scale scores ranged from 15 -- 34, with a mean value of 26.12 (s.d. = 4.84). As reported by Wallston and Wallston (1978), the normative sample of 115 people yielded a mean value of 25.104 (s.d. = 4.891). This sample appears to be similar to the normative sample ($z = 1.62$, $p > .05$) (see Table 1).

Powerful Others Health Locus of Control Scale

The scores for the Powerful Others Health Locus of Control (PHLC) Scale ranged from 11 35, with a mean value of 23.10 (s.d = 5.78). The normative data reported by Wallston and Wallston (1978) revealed a mean value of 19.991 (s.d. = 5.221). A significant difference was found between our sample and the normative mean ($z = 4.64$, $p < .01$), indicating that our sample subjects reported a stronger belief in powerful others controlling their health than the normative subjects did (see Table 1).

Chance Health Locus of Control Scale

Subjects' scores on the Chance Health Locus of Control (CHLC) Scale ranged from 8 - 30, with a mean value of 23.10 (s.d. = 5.78). The normative data reported by Wallston and Wallston (1978) yields a mean value of 15.574 (s.d. = 5.751). A z test indicated a significant difference between the sample and normative means ($z = 4.46$, $p < .01$), indicating that our sample subjects held higher beliefs in a chance locus of control than did their normative sample counterparts (see Table 1).

Dread Scale

Subjects' scores on the Dread Scale had a mean value of 1.48 (s.d = 1.07) with a range of 1 - 5, suggesting that they did not dread this visit at all.

Hope Scale

The mean value of subjects' scores on the Hope Scale was 6.73 (s.d. = .918) with a range of 1 7, suggesting that they were extremely hopeful in their feelings about the cancer centre appointment.

Evaluation Form

Of the sixty post-interview evaluation forms mailed to subjects, 23 were returned. The majority of subjects (n = 12) indicated that the experience of participating in this study had been very pleasant, 22% (n = 5) found it to be moderately pleasant, 9% (n = 2) considered it to be mildly pleasant, 13% (n = 3) noted that it was neither positive or negative, and 4% (n = 1) indicated that it was mildly unpleasant. The majority also said that if they were given the opportunity to participate again in a study of a similar nature they would do so (n = 18).

Correlations of Independent Variables

Correlations were calculated between all independent variables for the purpose of identifying any significant relationships.

The Problem-focused Coping Scale correlated significantly with the Emotion-focused Coping Scale, (r (60) = .675, $p < .001$), suggesting that those subjects who used problem-focused coping also tended to use emotion-focused coping as they anticipated the cancer centre visit (see Table 4).

The IHLC Scale correlated significantly both with the Problem-focused Coping Scale (r (60) = .279, $p < .05$), and with the Emotion-focused Coping Scale (r (60) = .316, $p < .05$). This indicates that those subjects who believed they had control over their health were also more likely to use both problem-focused and emotion-focused coping strategies, while those subjects who did not believe so strongly that they had control over their health were less likely to engage either in problem-focused or in emotion-focused coping strategies (see Table 4).

The Dread Scale also correlated significantly with both Problem-focused (r (60) = .391, $p < .01$) and Emotion-focused (r (60) = .291, $p < .05$) Coping Scales, suggesting that those subjects who experienced feelings

TABLE 4 CORRELATIONS AMONG VARIABLES									
	DSI	PFC	EFC	IHLC	PHLC	CHLC	DC	H	D
Daily Stress Inventory (DSI)									
Problem-Focused Coping Scale (PFC)	*** .468								
Emotion-Focused Coping Scale (EFC)	*** .408	*** .675							
Internal Health Locus of Control Scale (IHLC)	.104	* .279	** .316						
Powerful Others Health Locus of Control Scale (PHLC)	-.048	-.181	.014	.127					
Chance Locus of Control Scale (CHLC)	.155	.156	.194	.034	* .314				
Desirability of Control Scale (DC)	.202	** .352	.154	.123	* -.368	-.080			
Hope Scale (H)	.165	.024	-.010	.049	-.209	.023	.132		
Dread Scale (D)	* .258	** .391	* .291	* .305	-.080	.176	** .354	.047	

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

of dread in anticipation of the follow-up appointment also utilized both coping strategies (see Table 4).

The Problem-focused Coping Scale maintained a significant correlation with the DCS (r (60) = .352, p < .01), implying that subjects who desired more control in their lives were also more likely to engage in problem-focused coping strategies than were those subjects who desired less control (see Table 4). Interestingly, however, the DCS does not correlate with the Emotion-focused Coping Scale, suggesting that the desire for control has no apparent association with emotion-focused coping at all, even though the DCS correlates with problem-focused coping and problem-focused coping correlates with emotion-focused coping.

The IHLC Scale correlated significantly with the Dread Scale (r (60) = .305, p < .05), suggesting that the more subjects believed they had internal control over their health, the more they dreaded the cancer centre visit (see Table 4).

The IHLC scale also correlated significantly with both emotion-focused WOCQ subscales of self-controlling (r (60) = .311, p < .05) and positive reappraisal (r (60) = .313, p < .05), implying that those subjects who

TABLE 5. CORRELATIONS OF THE WAYS OF COPING SUBSCALES

	Daily Stress Inventory	Confrontive Coping	Distancing	Self-Controlling	Seeking Social Support	Accepting Responsibility	Escape-Avoidance	Planful Problem Solving	Positive Reappraisal	Internal Health Locus of Control	Chance Health Locus of Control	Powerful Others	Desirability of Control	Hope
Daily Stress Inventory														
Confrontive Coping	*** .509													
Distancing	.092	.211												
Self-Controlling	*** .434	*** .547	*** .512											
Seeking Social Support	.239	* .296	.155	.193										
Accepting Responsibility	* .365	*** .456	** .367	*** .451	.102									
Escape-Avoidance	* .370	*** .602	*** .466	*** .595	** .372	*** .457								
Planful Problem Solving	* .301	** .414	*** .472	*** .405	** .342	.253	.244							
Positive Reappraisal	.235	* .300	*** .512	*** .443	*** .457	.228	*** .403	*** .604						
Internal Health Locus of Control	.104	.141	.220	* .311	.138	.070	.204	.311	* .313					
Chance Health Locus of Control	.155	.183	.148	.104	.053	.122	* .266	.089	.126	.034				
Powerful Others Health Locus of Control	-.048	-.148	.006	-.033	.070	.030	.044	-.156	-.033	.127	.314			
Desirability of Control	.202	.113	* .291	.216	-.076	.133	-.018	*** .444	.143	.123	.080	* .368		
Hope Scale	.165	-.004	-.074	.122	-.034	-.157	-.077	.040	.081	.049	.028	-.209	.132	
Dread Scale	* .258	* .256	* .274	.182	.042	.100	* .351	** .389	.242	* .305	.176	-.080	** .354	.047

* p < .05, ** p < .01, *** p < .001

strongly believed they had control over their health used self-control and positive reappraisal to specifically cope (see Table 5).

The PHLC Scale significantly correlated with the DCS in a negative direction (r (60) = -.368, p < .01), indicating that the subjects who had a low desire for control in their lives had a strong belief in powerful others controlling their health (see Table 4).

The PHLC Scale also correlated significantly with the CHLC Scale (r (60) = .314, p < .05), which is to be expected as they both measure external health locus of control (see Table 4).

The DCS correlated significantly with the Dread Scale (r (60) = .354, p < .01), suggesting that those subjects who had a high desire for control in their lives also experienced more dread in anticipation of the follow-up visit than did those who had less desire for control (see Table 4).

The DCS also maintained a significant correlation with the WOCQ subscales of distancing (emotion-focused) (r (60) = .291, p < .05) and planful problem solving (problem-focused) (r (60) = .444, p < .001), indicating that those subjects who experienced a high desire for control in their lives attempted to cope using the strategies of distancing and planful problem solving (see Table 5).

The Dread Scale correlated significantly with the two problem-focused WOCQ subscales of confrontive coping (*r* (60) = .256, *p* < .05) and planful problem solving (*r* (60) = .389, *p* < .01), as well as two emotion-focused subscales of distancing (*r* (60) = .274, *p* < .05) and escape-avoidance (*r* (60) = .351, *p* < .05), suggesting that those subjects who experienced feelings of dread towards the follow-up visit also implemented the use of the specific coping strategies of confrontive coping, planful problem solving, distancing, and escape-avoidance (see Table 5).

Many of the WOCQ subscales intercorrelated significantly among themselves (see Table 5).

Daily Stress Inventory Correlations

In order to answer the question "are there any relationships between the independent variables and the DSI?", correlations were calculated for the DSI AVG with all independent measures.

The DSI AVG correlated significantly with both Emotion-focused and Problem-focused Coping Scales with

(r (60) = .408, $p < .001$), and (r (60) = .468, $p < .001$) respectively. Subjects who reported the most daily stress also scored higher on both the Emotion-focused and Problem-focused Coping Scales (see Table 4).

The DSI AVG also correlated significantly with the Dread Scale (r (60) = .258, $p < .05$), indicating a positive relationship between the amount of stress subjects reportedly experienced and the amount of dread they reported in anticipation of the follow-up appointment (see Table 4).

The DSI AVG did not correlate significantly with any of the other independent variables of Internal Health Locus of Control, Powerful Others Health Locus of Control, Chance Health Locus of Control, Desirability of Control, or Hope (see Table 4).

Daily Stress Inventory Multiple Regression Analyses

When all of the variables (DSI, Problem-focused Coping Scale, Emotion-focused Coping Scale, Internal Health Locus of Control Scale, Powerful Others Health Locus of Control Scale, Chance Health Locus of Control Scale, Desirability of Control Scale, Hope Scale, and Dread Scale) were entered for a stepwise multiple regression analysis with the DSI as the dependent variable, the Problem-focused Coping Scale was the only variable entered into the equation (F (1,58) = 16.25, $p < .001$), explaining 21% of the variance. This indicates that problem-focused coping was the best predictor of daily stress in our study (see Appendix L), and was sufficient by itself to yield maximal prediction on the DSI. Emotion-focused coping, while highly correlated with the DSI, was also highly correlated with problem-focused coping, and therefore added no significant predictive power. In order to test the second hypothesis, an interaction variable of the IHLC Scale combined with the DCS was entered into the multiple regression analysis, revealing no significant interaction effect (F (3,56) = 1.75, p = .168.

When all of the WOCQ subscale variables (confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal) were entered into a stepwise multiple regression analysis with the DSI as the dependent variable, confrontive coping was the only variable entered into the equation, explaining 25% of the variance (F (1,58) = 11.55, p < .01), and indicating that of the problem-focused coping subscales, confrontive coping, was the best predictor of daily stress (see Appendix M).

Daily Stress Inventory Analysis of Variances

For the purpose of further testing the second hypothesis, that is to determine whether there might be an interaction between IHLC and DCS on daily stress with the effects of believing one has control depending on how much control one desires, two 2x2 ANOVAs were calculated: one for the IHLC Scale and the DCS with the DSI as the dependent variable, and one for the PHLC Scale and the DCS, also with the DSI as the dependent variable.

Consequently, it was necessary to divide the scores of each scale using a median split. For the IHLC Scale, the median split produced two groups with significantly different means ($\underline{t}$ (1,28) = 32.84, $\underline{p}$ < .001) (see Appendix N). For the PHLC Scale, a significant difference was also found between the means of the low and high groups ($\underline{t}$ (1,28) = 34.68, $\underline{p}$ < .001) (see Appendix N). The median split for the DCS also produced two groups with significantly different means (_t_ (1,29) = 27.36, _p_ < .001) (see Appendix N).

A 2x2 (IHLC x DCS) analysis of variance with the DSI as the dependent variable (see Appendix O) revealed as expected from the regression analysis, no significant main effects for either IHLC or DCS. More importantly, there was no significant interaction effect (_F_ (3,56) = 1.19, _p_ = .324), indicating in confirmation of the regression analysis, that believing one has control over one's health does not interact with how much one desires control to mitigate daily stress (see Appendix O). Similarly, a second 2x2 (PHLC x DCS) analysis of variance revealed no significant main effects for either PHLC or DCS. There was also no significant interaction effect (_F_ (3,56) = 1.03, _p_ = .386), suggesting that adhering to the belief that powerful others control one's health does not interact with one's desire for control to mitigate daily stress (see Appendix P).

It is interesting to note, however, that the means of the groups reveal the possibility of a trend (see Table 6 and Table 7). For the 2x2 (IHLC x DCS) analysis of variance, the lowest stress is reported by those subjects who have a low belief in internal control over their health and a low desire for control (1.82). The highest stress as predicted, is characteristic of those subjects who also possess a low belief in internal control over health, but who have a high desire for control (2.49) (see Table 6). A t-test of these two means, although not significant ($\underline{t}$ = 1.86, $\underline{p}$ = .074), was definitely approaching significance. A t-test was also calculated to test the prediction that the group with high desirability of control and low belief in internal health control (mean = 2.49) would experience high stress, while the group with high desirability of control and high belief in internal health control (mean = 2.33) would maintain low stress. A significance level was not achieved ($\underline{t}$ = .44, $\underline{p}$ = .666). Clearly, those subjects with a high desire for control as well as a high belief in personal control over health, were not, as had been hypothesized, the least stressed. While the evidence of ad-hoc t-tests is at best weak, it can be seen from the mean DSI scores for these subjects that they were in fact among the more stressed.

For the 2x2 (PHLC x DCS) analysis of variance, the lowest stress was experienced by subjects who have a high belief in powerful others controlling their health and a low desire for control (1.90), whereas the highest stress was reported by subjects who also had a strong belief in powerful others controlling their health, but with a high desire for control (2.49) (see Table 7). A subsequent t-test revealed that the difference between the two means, although not significant, was in the predicted direction (_t_ = -1.66, _p_ = .107).

Table 6. Cell Means from the 2x2 (IHLC x DCS) Analysis of Variance with the Daily Stress Inventory

	Low DCS	High DCS
Low IHLC	1.82	2.49
High IHLC	2.16	2.33

Table 7. Cell Means from the 2x2 (PHLC x DCS) Analysis of Variance with the Daily Stress Inventory

	Low DCS	High DCS
Low PHLC	2.15	2.35
High PHLC	1.90	2.49

Discussion

Follow-up visits are necessary facts of life for cancer patients. Through our present knowledge, we can comprehend that various possible links between stress and adaptation seem to depend upon how one perceives the stressor and consequently how one chooses to cope. This study addresses the important issues of how stressful follow-up visits are for cancer patients and how their experience of stress relates to their coping strategies and to issues of personal control. The resolution of these issues may help to identify coping strategies which would have a bearing on patients' stress and general wellbeing. Encouragement and support of these coping styles by sensitive physicians could possibly work to fully enhance the placebo effects inherent in the doctor-patient relationship.

The findings of this study did not support the preference of emotion-focused coping over the utilization of problem-focused coping in this health-related and uncontrollable situation. Instead it was found that both scales correlated highly with the DSI, indicating that both coping strategies were used as stress increased. However, the multiple regression analysis revealed that problem-focused coping was the single best predictor of daily stress. Emotion-focused coping was eliminated from the equation because problem-focused coping maintained a higher correlation with the DSI, and consequently the variance shared by the two coping strategies, which was quite high, was attributed to problem-focused coping.

The second hypothesis postulated that patients who experienced a higher desire for control but who believed that they had little control over their health in this particular situation would be frustrated in their desire for control, would not cope effectively, and would therefore also experience high levels of stress. Further, it was expected that patients who experienced a high desire for control and who also believed that they had a lot of control over their health would cope more effectively and would experience lower levels of stress. The findings of this study tentatively supported the first of these two hypotheses, but definitely not the second. In fact, what was found, albeit only tentatively via ad-hoc t-tests, was quite unexpected in that the subjects who experienced the least stress (as measured by the DSI) had little desire for control in this situation (low DCS) and did not believe that they even had any control (low IHLC). Further, those subjects who had little desire for control and who attributed control of their health to their physicians rather than themselves, also tended to experience less stress than subjects who desired more control. Subjects who desired control and believed they had control were, contrary to our initial expectations, among the most stressed.

Were the prior two weeks stressful?

As indicated in the interview results, most subjects did not find the two weeks prior to the follow-up visit to be stressful. This finding is also supported by the generally low stress scores on the DSI, as well as the significant difference between the present study's females and the normative sample females. Although the same trend was found for males, the sample size was too small to make an appropriate comparison to the normative data.

Although this trend towards lower stress may have been affected by the wide gap in mean ages between the two groups of 60.6 and 34.9 respectively, the average DSI scores for this sample of females (2.28) and males (1.92) are still defined as "caused very little stress". This suggests that regardless of the age difference, this sample generally reported a low stress score.

One might expect that since many of these people were older and retired, and may have been anticipating this time in their lives as a wonderful opportunity to do those things that they never had the chance to do before, the possibility of a recurrence might have been more traumatic. However, perhaps such a possibility is less threatening when one is older and has faced and accepted the inevitability of death.

It is also necessary to consider that the general report of low stress may be attributed to a self-selection bias. If patients were experiencing a great deal of stress when the author contacted them, or if they expected to experience a large amount of stress in anticipation of the follow-up visit, they may have refused to participate in the study.

There were a number of reasons given by these cancer patients themselves through the interviews to explain their experience of low stress: 1) they had a strong faith in God to be there for them if they were to become sick with cancer again; 2) these people had already overcome their cancer once (seven patients had overcome it twice), and believed they could do it again if they had to; 3) they felt fortunate to be as healthy as they were at the time of the visit and were very relieved to be having regular checkups so that even if they had cancer again, it would be detected early; 4) they trusted their own ability to monitor their body and to notice any physical symptoms which may have served as a warning; 5) they would not take time to worry about a possible recurrence; 6) they had strong confidence in their doctors' abilities to keep them free from cancer.

Another possible reason for patients' report of generally low stress could have been that they were using denial as a defense. Denial is considered to be mainly an emotion-focused coping strategy and patients did indicate using a substantial amount of emotion-focused coping. In order to know with certainty whether this reason is applicable, objective endocrine measures of stress would be better indicators. The DSI is reported to have similar results to certain biochemical indices of stress, but perhaps in a group facing this kind of stressor, the relationship would not apply as well.

It is impossible to isolate any particular reason or reasons as the explanation for the low incidence of stress reported. Either the anticipation of this visit was generally not stressful for the various reasons provided by the patients, or these people were experiencing strong denial.

Comparisons within the sample

Although on average the stress levels as a whole were lower than we might anticipate, there was a good range of reported stress, with some subjects reporting daily stress levels from .00 (no stress) to 4.62 (some - much stress). We might expect, therefore, that some of these differences in stress would depend on such factors as time since the diagnosis, time since treatment, and frequency of cancer occurrences. As reported in the Results, however, none of these factors seemed to make any systematic difference.

It is surprising that those subjects who had been recently diagnosed within the last two years were not experiencing more stress than those who had been diagnosed in the last 3 -- 20 years. One might expect that subjects recently diagnosed would have been anxious about a possible recurrence and experienced more stress as they anticipated a follow-up visit with the memory of their recent bout with cancer still fresh in their minds. This was not the case. Perhaps patients were experiencing denial or maintaining confidence in their doctor to keep them free of cancer.

It is also interesting to note that patients who only finished treatment in the last year were not experiencing more stress than those treated previously to the last year. Again one would expect the memory of treatment to be a source of anxiety with the impending possibility of a recurrence. However, with treatment just finished, there was a high probability that their cancer would not suddenly recur and this may have given patients the confidence that the treatment was still working, providing insurance against a recurrence.

There were also the seven people who had been diagnosed with cancer twice, whose experience of stress was consistent with the amount of stress reported by the normative subjects. Perhaps these people believed that if they were to have cancer again, the doctor would detect it early enough within the regular follow-up appointment. Having overcome their cancer twice they may also have believed that they could do it again if necessary.

Therefore, as demonstrated by both interview results and the DSI self-reports, the anticipation period of the follow-up visit was on average not unusually stressful.

Was coping effective?

The majority of cancer patients reported in the interviews that they coped effectively and did not worry about the possibility of a recurrence. The various reasons given by the patients for their ability to cope effectively were acceptance, faith in God, taking one day at a time, lack of physical symptoms, and the support of family and friends.

The high correlation between problem-focused and emotion-focused coping indicates that both coping strategies were implemented concurrently in subjects' attempts to cope with the stress of anticipating the follow-up visit. This is consistent with studies in the literature which demonstrate both coping strategies being used interchangeably (Folkman and Lazarus, 1980, 1985), although at the same time, emotion-focused coping strategies were used significantly more with health-related episodes and uncontrollable situations than were problem-focused coping strategies. Therefore, the finding that emotion-focused coping was not used more than problem-focused coping in this health-related situation is contrary to the findings of Folkman and

Lazarus (1980).

For this study, the multiple regression analysis revealed that the Problem-focused Coping Scale was the best variable which predicted daily stress, although the Emotion-focused Coping Scale also correlated highly with the DSI. When the coping strategies were broken down into subscales, the only subscale which best predicted daily stress was confrontive coping which is defined as "aggressive efforts to alter the situation and suggests some degree of hostility and risktaking" (Folkman & Lazarus, 1988, p.8). In fact, this single subscale, on its own, was an even better predictor of daily stress than the entire Problem-focused Coping Scale.

Perhaps with anticipation of the follow-up visit, attempts to directly alter the situation with problem-focused coping and more particularly with the aggressive and hostile strategies which the WOCQ calls confrontive coping (e.g. took a big chance or did something very risky), are not helpful and result in increased stress. However, the similar correlation of the Emotion-focused Coping Scale with the DSI, suggests that emotion-focused coping may not have been the preferred coping strategy either. It is possible that neither coping strategy successfully addresses the stress of cancer patients anticipating follow-up visits. One must not neglect the possibility, however, that with this being a correlational study, the coping strategies may increase with stress because patients are experiencing increased stress which necessitates a comparable increase in coping strategies.

Perhaps, as mentioned by Folkman et al. (1986) the coping strategies measured by the WOCQ are too generally applicable and do not distinguish the coping strategies necessary for particular situations. This may be such a situation. For example, the interview results suggest that two common reasons given for effective coping are acceptance and strong religious beliefs, both of which do not appear to be fully addressed by the WOCQ. For the religious dimension of coping, the WOCQ subscale of positive reappraisal does acknowledge it to a certain degree with items of "found new faith" or "I prayed", but there are not enough items to distinguish the religious dimension in analysis. The other reasons of "living one day at a time" or "if it is going to happen it will happen" also do not appear to be adequately addressed by the WOCQ, and are centered instead around a focal point of acceptance which may be considered a passive acceptance. Furthermore, there is the possibility that the WOCQ emotion-focused and problem-focused coping strategies are both "active" coping styles and these cancer patients may be very "passive" copers, as suggested by the reasons for effective coping they gave in the interview. Emotion-focused coping in the WOCQ still appears to be aimed at gaining control. But control is not always possible or desirable, contrary to Seligman's (1975) work. "Passive" coping may sometimes be better.

It is important to attempt identification of how exactly these cancer patients are coping if they, on average, are not experiencing a great amount of stress and yet their stress levels are positively correlated with the Emotion-focused and Problem-focused Coping Scales. This also ties in with the point made earlier by Folkman et al. (1986) that perhaps the WOCQ is too general to apply to some specific situations. It appears to the author that these patients are in general coping effectively through the "passive" coping which they explained in the interview results and which is not identified by the WOCQ.

This suggestion would tie in with the findings of the regression analysis which indicated that confrontive coping was the best predictor of daily stress. Actually, confrontive coping also appears to be the most aggressive style of the eight subscales. This speculation is also supported by the tentative finding that the least amount of stress is experienced by those patients who do not desire control and who either do not believe they have control over their health or attribute health control to powerful others. If these patients do cope passively, perhaps that is even more reason to have a low desire for control and to let the physicians control health matters.

The significantly higher scores of this sample over the normative sample for the WOCQ subscales suggests that all specific strategies (except for planful problem solving) were used more than would be expected, especially considering the low stress reported. It appears that the coping strategies may have been heavily implemented unnecessarily. If the coping strategies were inappropriate for this situation, the correlation of the DSI with the Problem-focused and Emotion-focused Coping Scales might suggest that the heavy utilization of the coping strategies increased subjects' experience of stress, rather than alleviated it. If patients are passive copers, they may have attempted to use these coping strategies, but found them unhelpful.

This possibility is consistent with the correlation of the Dread Scale with both Problem-focused and Emotion-focused Coping Scales, as well as with the DSI. Patients' experience of stress and dread elevated with the increased use of both coping strategies, suggesting again that the coping strategies may have been ineffective since they were not only associated with increased stress, but also with elevated feelings of dread.

Belief in one's control over health?

Furthermore, the subjects who implemented increased coping strategies possessed a strong belief in internal health control as well as dreaded the visit more than those who did not believe strongly in internal health control. Since both the Dread Scale and the two coping scales correlated with the DSI, we would expect a correlation to also exist between the IHLC Scale and the DSI, but this was not the case. Yet, patients who strongly believed in internal health control experienced increased dread of the visit, and those who dreaded the visit reported more daily stress, as well as implemented more coping strategies. It appears that the relationship between stress and belief in internal health control is not as direct as we would expect and is mediated by other factors.

One of those intervening factors appears to be the DCS. An increase in desire for control is correlated with dread and dread correlates with a strong belief in internal health control. This relates back to the means from the 2x2 (IHLC x DCS) analysis of variance, even though a significance level was not obtained and the findings must be interpreted cautiously. The lowest stress was reported by the group who had a low desire for control as well as a low belief in internal health control, whereas the highest stress was reported by the group who had a high desire for control with a low belief in internal health control. Consequently, it appears that it is not the belief in internal health control that affects the subject's experience of stress, but is rather the combination of health beliefs and desire for control. In this situation, it appears that cancer patients do not prefer to have control because when they do, they not only experience more stress but also dread the visit more than those who either do not prefer to have control or do not believe they have control over their health.

It is interesting to note that the DCS correlated with the Problem-focused Coping Scale, but not with the Emotion-focused Coping Scale, and yet both coping scales and the DCS correlated with the Dread Scale. It appears that the more one desires control, the more one implements direct attempts rather than indirect efforts to change the situation, and with this goes an increases one's feelings of dread.

The negative correlation of the DCS with the PHLC Scale indicates that the more that subjects believed in powerful others controlling their health, the less control they desired. Since the DCS correlated with the two coping strategies as well as dread, this suggests that a low desire for control is associated with decreased coping strategies and decreased dread. And as both coping strategies and dread are correlated with the DSI, then we would expect that less stress is experienced by those subjects who do not desire control and who believe in powerful others controlling their health.

Although a .05 significance level was not achieved and the finding is tentative, this expectation is demonstrated by the means generated by the 2x2 (IHLC x DCS) analysis of variance and by the 2x2 (PHLC x DCS) analysis of variance. The lowest stress score is reported by the group which has a low desire for control and a strong belief in powerful others controlling their health. The highest stress, on the other hand, is characteristic of those who have a great desire for control with either a strong belief in powerful others or a low belief in internal control over their health.

Therefore, again, it seems that it is not how much control one believes one has that is important on its own. Rather, the crucial factor appears to be the amount of control that the person deems desirable in relation to his/her attribution of health control.

When health control is limited to diet, exercise, sleeping habits, alcohol consumption, and smoking, subjects basically believed that they had control over these areas of their lives. But when asked if they had any control over their cancer, or if they would like more control, the general consensus was no. These interview findings also support the outcome of subjects' generally low stress associated with both low desire for control and a low belief in internal health control.

As a whole, this sample expressed a significantly lower desire for control, while believing more in powerful others and chance controlling their health when compared to the normative subjects. This collaborates with the previously mentioned findings in that it is more comfortable for these cancer patients to believe in powerful others and chance controlling their health instead of taking the responsibility upon themselves. It is understandable that the attempt to take control of one's cancer would be very stress provoking. If cancer patients were to possess strong beliefs in internal health control they would not only be assuming a great amount of responsibility for recovery, but also for having had cancer in the first place. Perhaps that is one of the reasons why subjects score higher on belief in powerful others and chance for their health control, while scoring lower on the desire for control than the normative samples.

One gentleman summarized it nicely when he said that "I could wish for a million dollars but I don't know if I want that responsibility." If subjects wanted more control, they would have to take increased responsibility for their health. Yet they experience a high degree of stress when they want responsibility or control, but do not believe they actually possess that control. Perhaps their experience with cancer has instilled in them the belief that if they really did have control, they would not have become sick in the first place. Then if they do want control, the belief that they do not have it would understandably contribute to a stressful experience of the follow-up visit, which may serve as a reminder of their lack of control.

Furthermore, patients do not need to take control if they are able to put their faith in powerful others such as the medical profession and/or God. If they have previously attributed their recovery from cancer to these powerful others, it is logical to then expect that not only do these cancer patients not desire control, but they have no reason to be anxious or to dread their follow-up visit. If they put their faith in others and God before, and were healed (reinforced), they are even less likely to take things into their own hands now! Therefore, they would also have less of a need to implement coping strategies because there just would not be the stress to contend with for this follow-up appointment. This possibility is supported by Taylor's

(1983) study which found that female patients fared better when they attributed the control of their illness to their doctors.

The Hope Scale did not correlate with any other variables, suggesting that hope did not play a significant role in the anticipation of the follow-up visit, or that it was not a valid measure. Considering the generally low stress reported, perhaps hope was not applicable if patients expected the visit to be an unstressful routine visit in the first place.

These findings fit together to reveal important implications for cancer patients anticipating follow-up visits. As cancer patients experienced elevations in stress, they implemented increased coping strategies, while also experiencing more dread. This suggests that the coping strategies were ineffective, resulting in increased stress and dread. Although tentative, it appears that this group of cancer patients fared better when they did not desire control and either believed strongly in powerful others controlling their health or believed weakly in internal health control. It is possible that this would have been a statistically significant finding if the sample size had been larger.

Do thoughts affect one's health?

When asked if they believed that their thoughts affect their health, most people acknowledged the direct role of their thoughts and attitudes upon their health. Many subjects believed that positive attitudes are essential to recovery while negative thoughts contribute to sickness. The general impression which the author received was that although some people were cautious about what exactly they believed was the extent of mind over body, they firmly adhered to the health benefits of a positive attitude and the lack of wellbeing associated with a negative attitude.

Other people were very candid in exhorting the advantages of maintaining positive attitudes and expectations with reasons such as keeping the immune system functioning well. There were a number of subjects who claimed they overcame their cancer because of their positive attitude and expectations.

Therefore, it is highly possible that while adhering to a positive attitude with respect to their cancer, these subjects did not experience very much stress in anticipation of the follow-up visit because they believed that their cancer would not recur. Yet by believing in the personal power of positive attitudes and expectations, these people are subscribing to more internal control over their health than is apparent from the IHLC Scale scores.

Also in the area of locus of control, many subjects referred back to when they were initially told they had cancer to say that they would have appreciated being told the truth from the beginning and being told more about what was happening to them and why it was occurring. The unknown tends to be more fear provoking than the actual knowledge of the truth. These subjects wanted to know what exactly was happening to them.

Suggestions for changes

It was important to this group of patients for the medical profession to realize that dealing only with the objective medical facts was not enough. They wanted doctors and nurses to see them as human beings, not merely as diagnoses. Having cancer is not comparable to the mere removal of an appendix, because the effects of having cancer permeate to all facets of the patient's life. These people believed that an understanding medical staff was just as important as chemotherapy and radiation, and could make a difference to their health.

Each cancer patient is unique and needs to be treated with respect to individual questions and concerns. Cancer is not merely a disease, it is about people whose lives are more often than not, turned inside out when they receive a diagnosis of cancer.

Although it is generally accepted that patients will have to spend a long time in the waiting room to see their doctor, it is rather anxiety-provoking for cancer patients, especially in the initial stages of their diagnosis and treatment.

Perhaps patients do not believe they have very much control over their health and do not desire more control because they are not used to thinking that they could do anything more. One also has to keep in mind that with the average age being 60, these people may have been brought up on the premise that doctors hold the power over health matters. With our traditional medical practices having had for many years discouraged people from taking control over their health, it is not surprising that these cancer patients experienced less stress with less desire for and belief in control over health. Yet many patients believed that their beliefs and attitudes affect their health. These people also wanted to be told the truth about their cancer and not have doctors playing God. It was suggested by one patient that "doctors need to build up health" by helping people to realize that the patients themselves have a substantial amount of internal resources to offer for their own recovery in partnership with the doctor.

Implications for care of cancer patients

The findings of this study have important implications for the care of cancer patients. Overall, this group of cancer patients did not find the anticipation of the follow-up visit to be a stressful period. Interestingly, however, their use of both emotion and problem-focused coping strategies increased with an increase in stress, as well as an elevation in feelings of dread. As previously discussed, it appears that the "active" coping strategies of the WOCQ may not have adequately measured the "passive" coping possibly used, which seems to be centered on an attitude of acceptance. This is useful information for cancer patients attempting to cope with follow-up visits who may be actively attempting to cope and in doing so, may be increasing their experience of stress, rather than alleviating it. Instead, cancer patients may be encouraged from the beginning of their visits to a cancer centre, to adopt passive accepting attitudes to cope with the uncontrollable situation of the cancer centre visits. This possibility of passive acceptance being the key to effective coping by this group of cancer patients also ties in with the issues of control. The lack of desire for control in combination with the low belief in internal health control is understandable in the context of a passive coping strategy. If patients neither believe in nor desire control, it seems appropriate to cope passively, because active control suggests an attitude of direct action and taking control. Passive coping, on the other hand suggests a low desire for control which was apparent in this study. Likewise, if patients experience low stress through desiring low control and attributing health control to powerful others, passive coping seems very appropriate and a good choice for effective coping which places the responsibility of health care in the hands of the medical profession. The implications of this suggest that physicians could shape their patient's treatment regimen to a certain extent according to the patient's desire and belief in health control, thereby assisting the patient in experiencing the least amount of stress possible. This also brings into account the inherent possibility of strengthening the physician-patient relationship, as well as enhancing the placebo effect, which may both be considered helpful in creating and maintaining a positive experience of a cancer centre follow-up visit.

Hopefully, the findings of this study will be used as a foundation upon which to further explore the complex relationship of stress, coping, and issues of control in the context of anticipation of a cancer centre follow-up visit.

Limitations of this study

There are a number of limitations inherent in this study. An unavoidable drawback is the self-selection bias mentioned earlier. However, any study of this nature is only able to accept those people who are willing to participate for whichever reasons they choose.

If another study were to be done of a similar nature, the author would recommend using a different measure of stress. The DSI range of scores was rather limited and not as conducive to analysis as would be preferred. There is the problem with this measure being self-reported, while an objective measure would lend itself to more accuracy. Also, the DSI did not include any "good" stressors, which can be just as stressful as "bad" stressors. For any follow-up study, a more well-rounded daily stress measure is recommended, such as the measure of urinary catecholamines specifically for concentrations of epinephrine and norepinephrine.

It is also recommended that the sample size be larger next time in order to fully examine the possible interaction effects of desirability of control with belief in health control as they relate to daily stress. This is a promising area to pursue in future research.

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APPENDIX A

DAILY STRESS INVENTORY

Daily Stress Inventory

me:________________ Date:__________

low are listed a variety of events that may be viewed as stressful or unpleasant. ad each item carefully and decide whether or not that event occurred within the st <u>24 hours</u>. If the event <u>did not</u> occur, place an "X" in the space next to that em. If the event <u>did</u> occur, indicate the amount of stress that it caused you by acing a number from zero to 7 in the space next to that item (see numbers below). ease answer as honestly as you can so that we may obtain accurate information.

x = did not occur (past 24 hrs.)
1 = occurred but was not stressful
2 = caused very little stress
3 = caused a little stress
4 = caused some stress
5 = caused much stress
6 = caused very much stress
7 = caused me to panic

__ 1. Performed poorly at task
__ 2. Performed poorly due to others
__ 3. Thought about unfinished work
__ 4. Hurried to meet deadline
__ 5. Interrupted during task/activity
__ 6. Someone spoiled your completed task
__ 7. Did something you are unskilled at
__ 8. Unable to complete a task
__ 9. Was unorganized
__ 10. Criticized or verbally attacked
__ 11. Ignored by others
__ 12. Spoke or performed in public
__ 13. Dealt with rude waiter/waitress/salesperson
__ 14. Interupted while talking
__ 15. Was forced to socialize
__ 16. Someone broke a promise/appointment
__ 17. Competed with someone
__ 18. Was stared at
__ 19. Did not hear from someone you expected to hear from
__ 20. Experienced unwanted physical contact (crowded, pushed)
__ 21. Was misunderstood
__ 22. Was embarrassed
__ 23. Had your sleep disturbed
__ 24. Forgot something
__ 25. Feared illness/pregnancy
__ 26. Experienced illness/physical discomfort
__ 27. Someone borrowed something without your permission
__ 28. Your property was damaged
__ 29. Had minor accident (broke somethng, tore clothing)
__ 30. Thought about the future
__ 31. Ran out of food/personal article
___ 32. Argued with spouse/boyfriend/girlfriend
___ 33. Argued with another person
___ 34. Waited longer than you wanted
___ 35. Interrupted while thinking/relaxing
___ 36. Someone "cut" ahead of you in line
___ 37. Performed poorly at sport/game
___ 38. Did something that you did not want to do
___ 39. Unable to complete all plans for today
___ 40. Had car trouble
___ 41. Had difficulty in traffic
___ 42. Money problems
___ 43. Store lacked a desired item
___ 44. Misplaced something
___ 45. Bad weather
___ 46. Unexpected expenses (fines, traffic ticket, etc.)
___ 47. Had confrontation with an authority figure
___ 48. Heard some bad news
___ 49. Concerned over personal appearance
___ 50. Exposed to feared situation or object
___ 51. Exposed to upsetting TV show, movie, book
___ 52. "Pet peeve" violated (someone fails to knock, etc.)
___ 53. Failed to understand something
___ 54. Worried about another's problems
___ 55. Experienced narrow escape from danger
___ 56. Stopped unwanted personal habit (overeating, smoking, nailbiting)
___ 57. Had problem with kid(s)
___ 58. Was late for work/appointment

Any stressors that we missed? (list below)
___ 59. ____________________
___ 60. ____________________

APPENDIX B

WAYS OF COPING QUESTIONNAIRE

WAYS OF COPING QUESTIONNAIRE

INSTRUCTIONS

To respond to the statements in this questionnaire, you must have a specific stressful situation in mind. Take a few moments and think about the most stressful situation that you have experienced in the **past week**.

By **"stressful"** we mean a situation that was difficult or troubling for you, either because you felt distressed about what happened, or because you had to use considerable effort to deal with the situation. The situation may have involved your family, your job, your friends, or something else important to you. Before responding to the statements, think about the **details** of this stressful situation, such as where it happened, who was involved, how you acted, and why it was important to you. While you may still be involved in the situation, or it could have already happened, it should be the most stressful situation that you experienced during the week.

As you respond to each of the statements, please keep this stressful situation in mind. Reach each statement carefully and indicate, by filling in the appropriate circle, to what extent you used it in the situation. Please respond to each item.

Does not apply or not used
| Used somewhat
| | Used quite a bit
| | | Used a great deal

0 1 2 3 1) I just concentrated on what to do next - the next step.

0 1 2 2) I tried to analyse the problem in order to understand it better.

0 1 2 3) I turned to work or another activity to take my mind off things.

0 1 2 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 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.

Does not apply or not used
Used somewhat
Used quite a bit
Used a great deal

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 2 3 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 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 that I had brought the problem on myself.

0 1 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.

Does not apply or not used
Used somewhat
Used quite a bit
Used a great deal

0 1 2 3 32) I tried to get away from it for a while by resting or taking a vacation.

0 1 33) I tried to make myself feel better by eating, drinking, smoking, using drugs, or medications, etc.

0 1 2 34) I took a big chance or did something very risky to solve the problem.

0 1 2 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 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 situation before.

0 1 2 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.

Does not apply or not used
Used somewhat
Used quite a bit
Used a great deal

0 1 2 3 52) I came up with a couple of different solutions to problem.

53) I accepted the situation, since nothing could be done.

0 1 54) I tried to keep my feelings about the problem from interfering with other things.

0 1 55) I wished that I could change what 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 58) I wished that the situation would go away or somehow be over with.

0 1 2 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 this situation and used that as a model.

0 1 2 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.

APPENDIX C

DESIRABILITY OF CONTROL SCALE

BELOW YOU WILL FIND A SERIES OF STATEMENTS.
PLEASE READ EACH STATEMENT CAREFULLY AND RESPOND TO IT BY EXPRESSING THE EXTENT TO WHICH YOU BELIEVE THE STATEMENT APPLIES TO YOU.
FOR ALL ITEMS A RESPONSE FROM 1 TO 7 IS REQUIRED.
CIRCLE THE NUMBER THAT BEST REFLECTS YOUR BELIEF WHEN THE SCALE IS DEFINED AS FOLLOWS:

1 = The statement *doesn't apply* to me at all.
2 = The statement *usually doesn't apply* to me.
3 = *Most often*, the statement does not apply.
4 = I am *unsure* about whether or not the statement applies to me, or it applies to me about *half the time*.
5 = The statement *applies more often than not.*
6 = The statement *usually applies* to me.
7 = The statement *always applies* to me.

I prefer a job where I have a lot of control over what I do and when I do it.

I enjoy political participation because I want to have 1
as much of a say in running government as possible.

I try to avoid situations where someone else tells me...... 1
what to do.

I would prefer to be a leader rather than a follower......

I enjoy being able to influence the actions of others. 1

I am careful to check everything on an automobile before I leave for a long trip.

Others usually know what is best for me.

I enjoy making my own decisions.

I enjoy having control over my own destiny.

I would rather someone else take over the leadership......
role when I'm involved in a group project.

[consider myself to be generally more capable of handling situations than others are.

['d rather run my own business and make my own mistakes than listen to someone else's orders.

i like to get a good idea of what a job is all about .... before I begin.

When I see a problem, I prefer to do something about it rather than sit by and let it continue.

When it comes to orders, I would rather give them 1
han receive them.

wish I could push many of life's daily decisions off ...... on someone else.

Vhen driving, I try to avoid putting myself in a ituation where I could be hurt by someone else's nistake.

prefer to avoid situations where someone else has 1 6
o tell me what it is I should be doing.

'here are many situations in which I would prefer . 1
nly one choice rather than having to make a ecision.

like to wait and see if someone else is going to 1 6
lve a problem so that I don't have to be bothered th it.

APPENDIX D

MULTIDIMENSIONAL HEALTH LOCUS OF CONTROL

MHLC

orm A

his is a questionnaire designed to determine the way in which ifferent people view certain important health-related issues. ach item is a belief statement with which you may agree or isagree. Each statement can be rated on a scale which ranges rom strongly disagree (1) to strongly agree (6). For each item e would like you to record the number that represents the extent o which you disagree or agree with the statement. The more trongly you agree with a statement, then the higher will be the umber you record. The more strongly you disagree with a tatement, then the lower the number you record. Please make ure that you answer every item and that you record *only one* umber per item. This is a measure of your personal beliefs; bviously, there are no right or wrong answers.

lease answer these items carefully, but do not spend too much ime on any one item. As much as you can, try to respond to each tem independently. When making your choice, do not be nfluenced by your previous choices. It is important that you espond according to your actual beliefs and not according to how ou feel you should believe or how you think we want you to elieve.

NAME: ______________________________

DATE: ______________________________

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Slightly agree
5 = Moderately agree
6 = Strongly agree

If I get sick, it is my own behaviour which determines how soon I get well again.

. No matter what I do, if I am going to get sick, I will get sick.

3. Having regular contact with my physician is the best way for me to avoid illness.

. Most things that affect my health happen to me by accident.

5. Whenever I don't feel well, I should consult a medically trained professional.

6. I am in control of my health.

. My family has a lot to do with my becoming sick or staying healthy.

8. When I get sick, I am to blame.

9. Luck plays a big part in determining how soon I will recover from an illness.

_ 10. Health professionals control my health.

___ 11. My good health is largely a matter of good fortune.

12. The main thing which affects my health is what I myself do.

_ 13. If I take care of myself, I can avoid illness.

14. When I recover form an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking care of me.

_ 15. No matter what I do, I'm likely to get sick.

___ 16. If it's meant to be, I will stay healthy.

___ 17. If I take the right actions, I can stay healthy.

___ 18. Regarding my health, I can only do what my doctor tells me to do.

APPENDIX E

DREAD SCALE

DREAD

Please indicate how you have been feeling about this appointment at the Cancer Centre.

7 I EXTREMELY DREAD THIS VISIT

6

5 I MODERATELY DREAD THIS VISIT

4

3 I MILDLY DREAD THIS VISIT

2

I DO NOT DREAD THIS VISIT AT ALL

APPENDIX F

HOPE SCALE

HOPE

Please indicate how you have been feeling about this appointment at the Cancer Centre:

7 EXTREMELY HOPEFUL

6

5 MODERATELY HOPEFUL

4

3 MILDLY HOPEFUL

2

1 NOT HOPEFUL AT ALL

APPENDIX G

PATIENT INFORMATION SHEET

PATIENT INFORMATION SHEET FOR RESEARCH PROJECT NUMBER TWO

NAME:__________________________________

ADDRESS:______________________________ PHONE:__________________

CITY:__________________________ POSTAL CODE:______________

AGE:_____ SEX:_____ MARITAL STATUS:________________

OCCUPATION:______________________________

****
(TO BE COMPLETED BY NURSE OR PHYSICIAN)

DIAGNOSIS:____

DATE OF INITIAL DIAGNOSIS:____

TREATMENT:____

LAST DATE OF TREATMENT:____

NUMBER OF WEEKS SINCE LAST TREATMENT:____________________________

****

ADDITIONAL COMMENTS:

____

____

____

____

____

____

****

PLEASE RETURN TO SHELLEY MAHON - PSYCHOLOGICAL SERVICES. THANK YOU.

APPENDIX H

PATIENT CONSENT FORM

PATIENT CONSENT FORM

I AGREE TO PARTICIPATE IN THIS STUDY WHICH EXPLORES ASPECTS OF A PATIENT'S EXPERIENCE OF RETURNING TO THE CANCER CENTRE FOR AN APPOINTMENT. I UNDERSTAND THAT FINDINGS WILL BE KEPT CONFIDENTIAL. I ALSO UNDERSTAND THAT I WILL BE ASKED TO COMPLETE A NUMBER OF QUESTIONNAIRES AND TO BE INTERVIEWED BY THE INVESTIGATOR PRIOR TO MY CANCER CENTRE VISIT, OR AT ANOTHER TIME WHICH MAY BE MORE CONVENIENT FOR ME.

DATE:______________________ NAME:______________________________

SM/spw

1989/05/29

APPENDIX I

COVER LETTER

The Ontario Cancer Treatment and Research Foundation
THUNDER BAY REGIONAL CANCER CENTRE

Director:
J.F.KOTALIK, M.D.
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Thunder Bay, Ontario
P7A 7T1
(807) 343-1610
FAX (807) 345-2630

July 07, 1989

Dear

I am presently conducting research with Dr. Scott Sellick, Clinical Psychologist, at the Thunder Bay Regional Cancer Centre. This research is for a thesis requirement for my Master's Degree in Psychology at Lakehead University. This proposal has been reviewed and approved by the Department of Psychology at Lakehead University.

This research involves an investigation of pleasant or unpleasant experiences of cancer patients in anticipation of an appointment with a doctor at the Cancer Clinic. This is often considered to be a "follow-up" visit.

I greatly appreciate your participation in this study. There are three questionnaires enclosed with this letter. These scales are straight forward and easily completed. The first two only need to be completed once and then set aside. Together, they should take <u>less than 30 minutes</u> to complete.

The last scale measures the amount of stress you experience daily. I ask that you faithfully fill this out each day for the 14 days prior to your Cancer Centre appointment. This will require <u>less than five (5) minutes</u> of your time each day.

The final step involves a 20-30 minute interview conducted by myself, preferably one-half hour before your scheduled appointment with Dr. Pratt on July 27, 1989 at 10:15 a.m. I ask that you come to the Clinic 30 minutes prior to your appointment and meet me at 9:45 a.m. in the waiting room. If this is not a convenient time for you, I would be more than willing to arrange it for a different time or even a different day. If this would be preferable, please call me before you come or explain when you come in for your appointment.

Please call either myself, Shelley Mahon, or Dr. Sellick at the

Affiliated with McMaster University, Hamilton, Ontario

Cancer Clinic (343-1680) if you have any questions or wish to arrange a different interview time. I would be pleased to return your call. Research findings will be kept confidential, but will be shared with you at your request.

Thank you for your time and consideration. I look forward to talking with you.

Yours sincerely,

Shelley Mahon, H.B.A.	S. M. Sellick, Ph.D., C. Psych.
Practicum Student in	Clinical Psychologist and
M.A. Clinical Psychology Programme	Adjunct Professor
Lakehead University	Lakehead University

SM/spw
Encl.

APPENDIX J

PATIENT EVALUATION FORM

1. On this scale from 1 to 7 how do you rate the experience of participating in this study? Please circle your choice:

   1....very pleasant (enjoyable)
   2....moderately pleasant
   3....mildly pleasant
   4....neither positive nor negative
   5....mildly unpleasant
   6....moderately unpleasant
   7....very unpleasant (aggravating)

2. If given the opportunity would you be willing to participate in study of a similar nature again? Please circle your choice:

   YES NO

   Why or why not? (If you care to explain.)

   ____

   ____

   ____

   ____

   ____

Thank you for your co-operation.

SM/spw/1989/10/19

APPENDIX K

Patient Diagnoses

Cancer Type	Frequency
Breast	24
Rectum, Prostate	11
Blood, Leukemia	8
Ovary, Cervical	6
Skin	6
Lung	
Brain	
Larynx	
Ear	
Tongue	

APPENDIX L

Multiple Regression for the Daily Stress Inventory with all other variables

$R = .219$, $F (1,58) =16.25$, $p < .001$

Variable	Beta		
Problem-focused Coping	.468	4.03	< .001

APPENDIX M

Multiple Regression for the Daily Stress Inventory with the Ways of Coping Questionnaire Subscales

$R = .259,\ F\ (1,58) = 20.30,\ p < .001$

Variable	Beta		
Confrontive Coping	.509	4.51	< .001

Appendix N. The Medians and Means for the IHLC Scale, PHLC Scale, and DCS

Scale	Median	Low Group	High Group
IHLC	27	21.93	29.76
PHLC	24	18.24	27.17
DCS	90.5	73.93	100.73

Appendix O. A 2x2 (IHLC X DCS) Analysis of Variance with the Daily Stress Inventory

Source	SS	DF	MS	F	Sign.
IHLC	.104	1	.104	.105	p =.747
DCS	2.55		2.55	2.56	p =.115
IHLC X DCS	.916		.916	.921	p =.341
EXPLAINED	3.53	3	1.18	1.19	p =.324
RESIDUAL	55.66	56	.994		

Appendix P. A 2x2 (PHLC x DCS) Analysis of Variance with the Daily Stress Inventory

Source	SS	DF	MS	F	Sign.
PHLC	.029	1	.029	.029	p =.865
DCS	2.36		2.36	2.35	p =.131
PHLC x DCS	.558		.558	.557	p =.459
EXPLAINED	3.10	3	1.03	1.03	p =.386
RESIDUAL	56.09	56	1.00		