COUPLES COPING WITH END-STAGE CANCER: THE INFLUENCE OF ATTACHMENT, EMOTIONAL SUPPORT, AND POSITIVE MEANING ON PSYCHOLOGICAL ADJUSTMENT AND EACH OTHER

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Abstract

This thesis was concerned with the psychological adjustment of 67 end-stage cancer patients, and three psychosocial variables considered to influence that adjustment: emotional support from spouse, positive meaning, and working models of attachment. Furthermore, this thesis was also concerned with the psychological adjustment of the patients' spouses, and the influence of emotional support from patient and working models of attachment on their adjustment. It was hypothesised that each of these psychosocial variables would directly influence the psychological adjustment of patients and spouses, measured using the negative affectivity scale of the Positive and Negative Affect Scale (PANAS). Furthermore, it was hypothesised that emotional support would influence positive meaning, and working models of attachment would influence both emotional support and positive meaning.

Variables were measured via paper and pencil self-report inventories, with the exception of positive meaning, where verbal responses to an open question were coded. Univariate analyses indicated an association between patients’ and spouses’ emotional support provided by one another and their psychological adjustment. Univariate results also showed that patients’ positive meaning was related to patients’ psychological adjustment, and that patients’ working models of attachment involving higher levels of attachment anxiety were associated with patients’ poorer psychological adjustment. All these individual associations remained statistically significant after three control variables related to the patients’ physical condition were taken into account. In addition, univariate
analyses indicated that attachment was associated with emotional support, and that emotional support was associated with positive meaning.

Following univariate analyses, variables were integrated into one model for patients and another for spouses using path analyses. Results were generally consistent with the prior sets of analyses. However, patients’ working models of attachment involving higher levels of attachment anxiety no longer had a direct effect on patients’ psychological adjustment to statistically significant levels. Rather, the influence of the working models of attachment on patients’ psychological adjustment was mediated by emotional support. In addition, patients’ positive meaning no longer had a significant direct effect on patients’ psychological adjustment. The insignificant path coefficients between attachment anxiety and psychological adjustment, and between positive meaning and psychological adjustment, were attributed to the large amount of variance in negative affect due to emotional support.

In summary, this research indicates that emotional support given and received between patients and spouses is important to the psychological adjustment of each party. Furthermore, emotional support influences patients’ ability to construe positive meaning in their illness, although positive meaning does not appear to be as critical to the psychological adjustment of patients as emotional support. Working models of attachment influence the psychological adjustment of patients primarily through their influence on emotional support.
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Sources Statement

The present thesis describes original research undertaken while a postgraduate student at the School of Applied Psychology at Griffith University. The theoretical contributions and empirical data in this thesis are my own original work. This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, this thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed…………………………………………

Signed…………………………………………
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Chapter 1

Overview of the End-Stage Cancer Context
Cancer is now the leading cause of death in Australia. In 1992, 32,033 Australians died of cancer (Commonwealth Department of Human Services and Health, 1994), and this figure has now risen to 36,000, with approximately 20,000 males and 16,000 females dying each year (Australian Institute of Health and Welfare, 1998). This increase in mortality is largely due to the aging population and an increase in lung cancer, and is despite improvement in the early detection and treatment of many cancers, which has lead to a 30% increase in survival rates over the past two decades. Almost 80,000 new cases of cancer are diagnosed each year in Australia, and current statistics suggest that approximately 1 in 3 men and 1 in 4 women will suffer cancer before the age of 75, and that 1 in 8 men and 1 in 9 women will eventually die from the disease (Australian Institute of Health and Welfare, 1998).

Living and dying with cancer can involve great suffering, both physical and psychological. In mid stages of the illness the physical symptoms are varied, and depend on the type of cancer and the areas of the body to which metastasis have spread. Treatments, which are often aggressive, may add to the patient’s discomfort, and side effects include nausea and weight change, fatigue, cramps, skin burns, and hair loss. If cancers advance into the end stage, typical symptoms include pain, nausea, anorexia, exhaustion, delirium, problems of infection, and bleeding. Dyspnea (breathing difficulty) is also a distressing symptom for patients whose lungs are affected. Organic Mental Syndrome, which involves cognitive confusion, is observed in a small proportion of patients in the last days of life. Lung cancer patients form the majority of this group, presumably due to brain metastases or hypercalcemia as a result of bone metastases. While palliative care is largely successful in managing end-stage pain for most patients, side effects of constipation and nausea are common. Cognitive disturbance is rarely a
consequence of palliative care per se, although sedatives prescribed for anxiety may lead
to unfortunate deficits in cognitive functioning during the palliative care of end-stage
cancer patients.

In addition to the physical symptoms of cancer, patterns of psychological distress
best represented in the Diagnostic and Statistical Manual of Mental Disorder (DSM-IV)
(American Psychiatric Association, 1994) by the diagnosis of adjustment disorder are
common in end stage patients (Massie & Holland, 1992; de Walden-Galuszko, 1996).
These symptoms may include mixed anxiety-depression states, irritability, emotional
lability, hypervigilance of somatic symptoms, difficulty in concentrating and sleep
disturbance. Research has found as many as one in four terminal patients meet criteria for
clinical diagnosis, and many more display distress not reaching clinical levels (de
Walden-Galuszko, 1996). The uncertainty of the future, the threat of worsening physical
pain, and the threat of death all help to explain why anxiety is common at this time.
Furthermore, the many themes of loss in this context explain why depression is also
common. Cancer patients have experienced considerable loss of their physical capacities
by end-stage. Hope for successful treatment is largely relinquished, often intensifying
disappointment and mood swings. In cancers that are a consequence of past lifestyle
factors (such a smoking in lung cancer), patients can feel an intense sense of
responsibility and guilt for their illness, intensifying perception of pain and mood swings
(Barkwell, 1991). Additionally, a more general life review that leaves the patient feeling
regretful may also contribute to distress (Weisman & Worden, 1976). Distress for
whatever reason may contribute to patients withdrawing from loved ones prematurely,
进一步 intensifying psychological morbidity (Moorey & Greer, 1989). Finally, as
patients approach death, they must increasingly face the loss of all their attachments,
which include their loved ones and their possessions. Total denial of this reality is difficult to maintain, and for those not reconciled to this enormous loss, depression is unavoidable. Thus there are many factors that can explain why end-stage cancer patients may experience considerable difficulty with adjustment at this most difficult stage of life.

Despite poor adjustment being common in dying patients, it is also important to note that there is considerable individual variation in the amount people suffer, even when their physical condition is similar. In other words, the level of pain and psychological morbidity patients’ report is not always directly related to their physical condition. Thus it follows that psychological and contextual variables help explain why people differ in the amount they suffer when dying of cancer. Existential issues such as the patient’s sense of meaning and their life satisfaction are thought to contribute to this variation, as does spiritual belief (Brady, Peterman, Fitchett, Mo, & Cella, 1999; Moadel et al., 1999). Similarly, current psychosocial factors are also recognised as important in explaining why some patients report more pain, anxiety, and/or depression than others. For patients with a spouse, the marital relationship is identified by research as a particularly important psychosocial factor (e.g., Rose, 1990; Taylor & Dakof, 1988). It is with this relationship that the present research is primarily concerned.

Understandably, the end stage of cancer is also a traumatic experience for the patient’s spouse. The death of a partner has been rated as the greatest stressor that an individual faces in a lifetime (Kramer, 1997), and coping with cancer has additional stressors associated with it. There are physical and practical concerns that need to be addressed by the spouse, often intensifying emotional and philosophical issues that can be complex and confronting for the spouse. Observing the physical deterioration and pain
of a loved partner can be extremely distressing, and in the context of this distress the spouse is required to provide increasing physical care for the patient on a day to day basis. Patients gradually become incapacitated and require total care, including ambulation, feeding, toileting, and bathing. This can be demanding both physically and mentally and, not surprisingly, research has shown a link between caregiver burden and the mental health of spouses (Nijboer, Triemstra, Tempelaar, Sanderman, & van den Bos, 1999). Furthermore, the spouse must also become actively involved in the palliation of the patient’s pain. The prospect of taking some responsibility for the pain management of their loved one is often daunting, and the confidence the spouse has for nursing his or her partner may influence the difficult decision as to whether the patient should die at home if they desire to do so. The couples’ finances may also influence this difficult decision, itself another important and sometimes worrying issue that often requires reorganisation at this time.

In addition to practical physical concerns, the spouse must also face powerful emotional issues raised in the context of end-stage cancer. A sense of lack of control over the future can induce intense anxiety, as can the uncertainty of what to expect of the dying process (Ersek & Ferrell, 1994). There is also often anxiety at the prospect of functioning alone in a complex world after the death of their partner and the loss of comfort and support their partner provided. Many of the previous tasks and responsibilities previously shared will now be faced alone. For younger spouses this may include the task of raising and guiding offspring through childhood and adolescence. Thus it is not surprising that, similar to patients, research has found one quarter to one third of spouses of cancer patients are clinically anxious, depressed, or both (Glasdam, Jensen, Madsen, & Rose, 1996).
Not only may the spouse of the cancer patient entering end-stage regard the future with intense trepidation, current relationship difficulties with the patient may also compound distress. The spouse may find personality changes in the patient marked by mood swings, anger or withdrawal unsettling and difficult to understand. They may also feel periods of anger, resentment, and distance from the patient, and be ashamed and distressed by these feelings. A breakdown in communication may further intensify distress. Spouses who report poor communication with their partners are more likely to meet criteria for anxiety or depression (Glasdam et al., 1996). Fears of misunderstanding may limit open communication, despite a clear need for communication at this time. For example, it is not unusual for the patient’s spouse to harbour fears that discussing death and future management issues with either the patient or family will be interpreted as premature abandonment or disloyalty (Licter, 1987). Nonetheless, most patients report desiring open communication (Taylor, Falke, Shoptaw, & Lichtman, 1986), and couples in the earlier stages of cancer who do communicate openly report less distress (e.g., Neuling & Winfield, 1988; Northouse, 1989).

Why is communication between couples of particular importance in the context of end-stage cancer? Undoubtedly the benefit of open communication between patient and spouse is multi-faceted. First and most obviously, there are practical benefits. It allows the many practical decisions and plans to be made and prioritised co-jointly, thus reducing pressure on either spouse or patient, and hopefully addressing the needs of both. Second, open communication allows the expression of forgiveness, love, and respect. Emotional support that involves the expression of love and the provision of empathy has long been recognised as a human need in the context of death and dying. It seems likely that emotional support will have a significant influence on the self-worth of patients and
family at a time when such self-perceptions are likely to be tested, given the multiple losses and changing roles at this time. In fact, many with extensive experience in the field of psycho-oncology consider effective communication to be the cornerstone of management of anxiety, depression, and emotional distress, as well as contributing to the relief of pain and other symptoms (e.g., Licter, 1987). Historically, the importance of emotional support is also suggested by ancient traditions that also address this need, the Christian process of the last rites in which the priest takes confession of the dying being but one example.

A third reason why emotional support that involves open communication is important may not be so obvious, yet is just as important. Spiegel and Yalom (1978) suggest that because the cancer context is a time of impending separation, loss, sadness and mourning, there is often an urge to find positive meaning and purpose in the experience. Finding positive meaning is considered beneficial, and indeed a growing body of evidence finds support for this assertion in the early and mid-stages of cancer and bereavement (Barkwell, 1991; Davis, Nolen-Hoeksema, & Larson, 1998; Edmonds & Hooker, 1992; Ersek & Ferrell, 1994; Fife, 1995; Greer, Morris, Pettingale, & Haybittle, 1990; Linn, Linn, & Harris, 1982; Weisman & Worden, 1976). Communication is likely to be important in this context as it facilitates exploration of values and life meaning at this time. Communication allows the couple to develop a sense of closure regarding any unresolved issues. It allows couples to review their lives together, and in doing so find meaning, worth, purpose, and perhaps satisfaction in the past. In this way communication facilitates a sense of community that protects against isolation and meaninglessness. Thus open and honest communication facilitates the
processing of existential issues that are often important in the context of dying and death (Spiegel, 1993).

Given the above description of the end-stage cancer context, what is the present research about? This research is multi-layered, and is first concerned with examining the reciprocal relationship between the patient and his or her spouse in the end-stage of cancer, and the effect their relationship has upon their psychological adjustment. Although research suggests the importance of a supportive spousal relationship in the earlier stages of cancer, little empirical work has been conducted in end-stage, although it is needed (Morasso et al., 1999). Also important, this research focuses on the reciprocity of the relationship: that is, not only support from spouse to patient, but also from patient to spouse. Although there have been many studies examining the effects of the support provided by family to the patient, there are few examining the reciprocal effect the patient has upon the family. Consequently, there are increasing calls for the examination of the reciprocal nature of this relationship in this context (Blanchard, Albrecht, Ruckdeschel, Grant, & Hemmick, 1995; Revenson & Majerovitz, 1990). Thus both the patient and spouse, and the influence of their support to each other on their psychological adjustment, are the focus of this research.

In addition to examining the effects of support on psychological adjustment in the end-stage context, this research is interested in examining the influence of emotional support on the patient’s ability to construe positive meaning. Although theorists have suggested emotional support is likely to influence the processing of existential issues (i.e., Spiegel and Yalom, 1978), little empirical work has been carried out exploring this possible link. Also, and as noted above, there appears to be no quantitative empirical
evidence supporting the assertion that positive meaning is important to the psychological adjustment of end-stage cancer patients. This research will investigate the possible association between patients’ emotional support and patients’ construal of positive meaning, and the influence any such positive meaning has on patients’ psychological adjustment.

Why does this research focus on communication and the construal of positive meaning? Because it is hypothesised that in the context of end-stage cancer, these variables will have a profound impact on the quality of life of the dying patient, and on the quality of life of the spouse during the end-stage of the illness and later in bereavement. Theory, the existing research literature, and reports of professionals working in the field have guided this focus. Why then are other factors, such as the more general practical support of the patient, also not a primary focus? A valid answer is that during the end-stage of cancer, the physical needs of the patient are evident and vary little. Patients are incapacitated and largely require total care. This must be provided. What varies is the capacity for responsive communication equal to the subjective needs of each member of the couple. Spouses may provide general support while maintaining a cheerful façade but without expressing their true feelings. This may leave both parties feeling pressure to suppress their emotions, and feeling alone, perhaps even rejected (Moorey & Greer, 1989; Wortman & Dunkel-Schetter, 1979). In addition, opportunities to explore existential issues and find positive meaning may be limited or curtailed. However, the observation of clinicians who have worked in the field (e.g., Dunkel-Schetter & Wortman, 1982; Kübler-Ross, 1969; Spiegel, 1979) and empirical research (e.g., Kissane et al., 1994; Spiegel, 1993) suggest that it is the ability to address underlying issues associated with death and dying that is central to the psychological
well-being of the dying patient and their loved ones. Thus it is the capacity for communication, commensurate to the couples’ need, which is crucial here. It is the capacity to meet this need that varies from couple to couple. It is this capacity that represents true emotional support, and it is this capacity that the literature describes as being of paramount importance to the psychological functioning of patient and spouse.

There is a further important question of interest in this research. Why do individuals vary in their ability to communicate openly and find positive meaning? Despite the literature indicating the importance of communication patterns and the construal of meaning, there is a dearth of research exploring why individuals vary in these ways. Attachment theory may be significant here. It is hypothesised that attachment theory will predict couples’ capacity to communicate openly and patients’ ability to find meaning in the context of end-stage cancer. Why should attachment theory be relevant in this context? Because one major concern of attachment theory is with maladaptive patterns of adult interpersonal behaviour that defend against distress associated with separation and loss of significant others (Bowlby, 1969, 1973, 1980). The degree to which patterns of behaviour are defensive or otherwise is based on cognitive working models which involve beliefs and expectations concerning the typical responsiveness and accessibility of significant others. Although working models first begin to develop during infancy as a result of the degree to which caregivers are sensitive and responsive in providing support and protection, they influence and are influenced by close interpersonal relationships across the lifespan.

It is important to note here that separation, or threat of separation, and the attachment related anxiety that is triggered by separation or threat of separation, is a
fundamental motivation underlying the insecure styles of attachment. Although this basic tenet of attachment theory is often overlooked or ignored by adult attachment researchers, possibly because it moves away from a cognitive learning model of individual differences in attachment, and towards the normative, ethological, psychodynamic aspects of the theory, this tenet is fundamental to Bowlby’s theory. Experience of caregiving that is sensitive to the need for accessibility increases felt security and reduces the need for individuals to defend against anxiety over separation. This facilitates the development of working models associated with patterns of adaptive coping in times of separation from significant others. A lack of secure experience may result in working models associated with a number of well-recognised patterns of maladaptive adult behaviour utilized to defend against separation anxiety (although such patterns may be adaptive in childhood when options for proactive coping are negligible). Because working models of attachment are relevant to coping with separation and loss, because themes of separation and loss are strong in the context of end stage cancer, and because open communication and the construal of meaning requires acknowledgement of distress, it seems likely that attachment theory will contribute significantly to the understanding of why couples’ capacity for communication and meaning varies in the context of end stage cancer.

Why is this research important? Understanding why and how couples cope in the end-stage cancer context is important for a number of reasons. First, data supporting an attachment theory perspective will contribute to the compassionate understanding of why patterns of poor coping, often associated with suffering that is severe, occur in this context. Such an understanding from an attachment theory perspective will inform our
caregiving to the dying. Also, because the attachment theory component of this research will examine individual differences, those in need of support can be better identified.

Second, the focus of this research on emotional support, positive meaning, and attachment will advance the content and process of individual and group interventions for cancer patients and their families. This is equally as true for interventions in the early stages of cancer as it is for support of advanced cancer patients. Although survival rates are improving for many cancers, nonetheless many patients will progress to end stage. This fact, along with the fact that the diagnosis of cancer raises issues around death and dying, regardless of expected survival, suggests that early interventions cannot ignore issues around death and dying. This research is thus important to psychosocial interventions for cancer patients, regardless of stage.

A third reason why this research is important is because many of its findings may generalise to death and dying nonspecifically. Regardless of the debate as to whether fear of death is normal or pathological (e.g. Feifel, 1959; Kastenbaum & Aisenberg, 1972), research can contribute to society moving further away from a collective denial of death which, although identified by pioneering writers such as Kübler-Ross over 30 years ago, is largely maintained today. In doing so, it may prevent some of the fear and maladaptive patterns of coping and support often associated with death and dying in our society. Thus it is suggested that the benefits of this research are multi-layered, and are not only on the level of intervention but also prevention. Its primary focus is individuals who will be directly exposed to the context of end-stage cancer. However it is also hoped this research may be of benefit more generally.
In conclusion, it is clear that the specific context with which this research is concerned, that of end stage cancer, involves great suffering. At present rates, a very large proportion of our population will experience this suffering. Because it is clear that the amount of distress experienced is compounded by psychological and social factors, identifying patterns associated with minimal distress is critical to reducing this suffering. Not only can this research advance and protect standards of professional care, but it can also serve to educate about issues associated with death and dying more generally. With the above-described focus and purpose of this research in mind, this research seeks to integrate three existing bodies of literature. They are (1) social support in psycho-oncology (2) the construal of positive meaning, and (3) attachment theory.
Chapter 2

Emotional Support

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2.18 Summary
Patients dying of cancer require palliative care which, according to the World Health Organisation (1990), involves

the active total care of patients whose disease is not responsive to curative treatment. Control of pain, of other symptoms, and of psychological, social, and spiritual problems is paramount. The goal of palliative care is achievement of the best possible quality of life for patients and their families (p.1).

This goal is challenging for professionals. End-stage cancer is associated with severe distress for patients and their families, with approximately one-third of terminal patients and their spouses meeting diagnostic criteria for a psychological disorder, and many more experiencing considerable distress not reaching clinical levels (Derogatis et al., 1983; Plumb & Holland, 1977; Taylor, Lichtman, & Wood, 1984; de Walden-Galuszko, 1996). While distress is often influenced by the patient’s physical condition, psychological and social factors also impact on suffering, as the World Health Organisations’s mission statement regarding palliative care reflects. It is therefore surprising that only a small proportion of social support research has been devoted specifically to this context. Because of this lack, this chapter begins with a review of research related to social support across the stages of cancer generally. Literature concerning end-stage cancer is then examined, before reviewing research limitations which, in turn, inform the next section which outlines the proposed research questions concerning social support.

A large body of research reveals that social support is particularly important to cancer patients. Despite this simple assertion, a critical review of the literature reveals inconsistent and contradictory findings. This is in part due to the fact that social support
is a complex construct that has been defined and operationalised in many ways. Because controversy regarding the theoretical foundation of social support has failed to clarify fully its definition and measurement, interpretation and integration of research findings is somewhat difficult (Ell, 1996; Taylor, Roberta, Shoptaw, & Lichtman, 1986). Nonetheless, when taken as a whole the literature does strongly suggest that social relationships are related to the psychological adjustment of cancer patients and their families. Furthermore, longitudinal research suggests that this relationship is causal (Ell, Nishimoto, Mantell, & Hamovitch, 1989; Kelly, et al., 1999; Kissane et al., 1996a, b; Northouse, 1988). There is also some evidence, based on research with early stage breast cancer patients, that it may influence mortality (for a review see Helgeson & Cohen, 1996).

Although there is some variability in social support research, most researchers have utilised one of two frameworks. The first framework is relatively straightforward. It examines the structure of support networks; that is, the size and types of connections of the social network (Shumaker & Hill, 1991). It is the second framework involving the functions of social support that is more complex, and with which most social support research in oncology has been concerned. It is therefore the focus of the present review.

2.1 Functional Social Support

Functional social support, as the name suggests, involves the functions of social support. While there is wide variety in the specific measurement of functional support, there appears to be increasing consensus that functional support is multidimensional, and involves interpersonal transactions in one or more of three main domains (e.g., Helgeson & Cohen, 1996; House, 1981; Manne, Alfieri, Taylor, & Dougherty, 1999; Schaefer,
Coyne & Lazarus, 1981). The first domain reviewed here is emotional support, which involves the verbal and nonverbal communication of concern and care. Listening, empathising, comforting and reassuring define emotional support. It often involves the expression of love for and valuing of the person receiving support, and provides an increased opportunity for the person receiving support to express emotion that may reduce their distress. Emotional support may also lead to an improvement and increased valuing of the relationship in which it is provided, thus providing meaning and purpose in that context (Helgeson & Cohen, 1996).

In addition to emotional support, the other two main domains of functional support are instrumental aid and information. Instrumental support involves providing practical assistance in a variety of forms, and can include help with household tasks, transportation, or material help in the form of goods or money. It is the supply of tangible goods and services. Information is defined as functional support when the information is used to guide or advise. With regards to the cancer context, information is often related to managing illness and coping with symptoms.

Before reviewing the psycho-oncology literature on functional support, it is important to note that some of this research is based on global measures, the scores from which do not distinguish between the various dimensions of functional social support (e.g., Bolger, Foster, Vinoker, & Ng, 1996; Hann, Oxman, Ahles, Furstenberg, Stuke, 1995; Koopman, Hermanson, Diamond, Angell, & Spiegel, 1998). In light of the increasing recognition of the limited utility of data derived from global measures of social support (Coyne & Bolger, 1990; Gottlieb & Wagner, 1991; Pistang, Barker, &
Rutter, 1997), the research to be reviewed in the section to follow will be limited to those studies that have investigated specific dimensions of functional social support.

Functional social support research in oncology has examined two primary issues. The first has concerned patients’ desire for different types of functional support from various sources, and perceptions of how helpful they find the support provided. Taken together, findings suggest that patients not only desire emotional support the most, they also consider it the most helpful (Helgeson & Cohen, 1996). For example, Dunkel-Schetter (1984) interviewed 79 patients diagnosed with cancer during the previous 7 to 20 months. When asked to describe which of four categories of functional support was most helpful, emotional support (defined as listening, empathising, comforting, and the expression of valuing the recipient of support) was identified as the most helpful and instrumental support (practical assistance) as the least helpful. Furthermore, emotional and instrumental support from any source were perceived to be helpful whereas informational support was only considered to be helpful when provided by health professionals. Similarly, Neuling and Winefield (1988) found that 58 women with breast cancer studied prospectively over 3 months reported the greatest need for emotional support (especially from family members), and that informational support was desired, but only from physicians.

Later research has supported the pattern of findings described above. Dakof and Taylor (1990) asked 55 patients with various forms of cancer, diagnosed within the past six years, to identify the most helpful forms of social support. Emotional support was found to be most helpful if related needs were satisfied, and most harmful if not, particularly if emotional support needs were not met by spouse, family member, or
friend. Informational support was most helpful from the physician, and deficits in informational support and emotional support from physician were harmful. Instrumental support was considered more helpful among poor-prognosis patients who were in most need of it. Similarly, in a detailed study of emotional support, Rose (1990) found that 18 months after diagnosis, 64 mixed cancer patients desired emotional support from family, friends and health professionals. However, being able to disclose intimate feelings was more desired with family and friends than with professionals. Instrumental support was also desired more from family than professional carers, and informational support was desired from professionals.

The second concern of researchers investigating functional social support and cancer has been to investigate the association between (a) patients’ perception of and satisfaction with functional support and (b) their adjustment. In accord with the above research that finds patients’ desire for emotional support is particularly strong and considered helpful, patients’ perception of and satisfaction with emotional support are strongly associated with psychological adjustment. For example, Jamison, Wellisch, and Pasnau (1978) found that of 41 women who had mastectomies approximately 2 years before, those who perceived greater emotional support from family and health professionals rated themselves higher on emotional adjustment. Likewise Bloom and Spiegel (1984) reported that perceived emotional support from family was associated with a more positive outlook and hope for the future, and Taylor et al. (1985) found that adjustment was correlated with the degree to which breast cancer patients felt they could share concerns with significant others.
Higher levels of emotional support were also associated with higher levels of role functioning, self-esteem, life satisfaction, and lower levels of hostility in women with early stage breast cancer (Zemore & Shepel, 1989). While all these studies suffer from the weakness of cross-sectional design, and therefore the possibility of third-factor explanations and reverse causation, longitudinal data reveal that emotional support provided three days postmastectomy predicts mood, psychological distress, and psychosocial functioning 30 days later (Northouse, 1988). Similarly, Spiegel, Bloom, and Gottheil (1983) found that families who encouraged open discussion of problems and feelings were associated with less mood disturbance over the following year for breast cancer patients.

Although there is good evidence of the benefits of emotional support and the open communication it entails (i.e., the verbal and non-verbal communication of love and care), a pattern of guarded and avoidant communication between patient and families has been reported repeatedly across the earlier stages of cancer (e.g., Cobb, 1976; Gordon et al., 1980; Lichtman & Taylor, 1986; Wellisch, Jamison, & Pasnau, 1978). Taylor et al. (1986) reported that 55% of 667 cancer patients wished for increased free and open communication with family. Thirty-six percent felt they were not well understood by family members. Eighty-seven percent of Dunkel-Schetter’s (1984) sample reported coping by not expressing thoughts and feelings, largely because they were concerned that intimate others may react negatively. Wortman and Dunkel-Schetter (1979) concluded that cancer patients may sometimes be “victimised” by their families. Family members may feel ambivalence toward the patient due to an underlying fear and anxiety of the cancer and the potential loss of their family member, yet believe they must maintain a cheerful and optimistic facade. Consequently, significant others may avoid the cancer
patient, and when in contact, avoid open communication about the disease and future. These family behaviours can lead to increased distress, and research data support this conclusion. Poor communication is associated with sexual dissatisfaction among patients and spouses (Andersen & Jochimsen, 1985; Taylor et al., 1985) and with higher levels of conflict and lower levels of family cohesion (Lichtman, Taylor, & Wood, 1987; Vess, Moreland, & Schebel, 1985).

A number of studies have examined the effects on adjustment of different aspects of functional support provided simultaneously. For example, the benefits of emotional support and instrumental support were investigated in 58 women suffering breast cancer, fibrocystic disease, or diabetes (Primomo, Yates, & Woods, 1990). Emotional support was operationalised by expression of positive affect towards patient, the extent to which patients could confide in supporters, and the extent to which supporters discussed problems with the patient (labeled reciprocity). Instrumental support was measured by the level of physical aid provided to patients. Higher levels of two forms of emotional support (positive affect and reciprocity) were related to lower levels of depression in the patient when the source was the spouse or family. Instrumental support was not related to depression. This finding regarding instrumental support is contrary to a study conducted 12 years earlier which found that instrumental support was associated with lower depression in 49 women with mastectomies (Woods & Earp, 1978). However, Woods and Earp found that instrumental support was only associated with lower levels of depression for women with lower levels of physical disability, seemingly in further contrast to the finding reported above that it was considered more helpful by poor prognosis patients (Dakof & Taylor, 1990).
One interpretation of these data regarding instrumental support may be that although instrumental support is helpful to patients who need it, it alone cannot provide the support needed to protect against psychological morbidity as distress increases. Furthermore, it seems likely that its benefit depends on the current context and the match between the patient’s needs and the instrumental support provided. Support for this assertion is found in one study that reported instrumental support to be advantageous to the cancer patient when undergoing treatment (Revenson, Wollman, & Felton, 1983). However, these authors reported that when not in treatment, instrumental support actually contributed to increased psychological morbidity in the patient, possibly because it encourages a sense of helplessness resulting from well-meant overprotection. The degree to which instrumental support matches the recipient’s need would seem to be key here. Other authors have also suggested that the benefits of instrumental support may be largely limited to physical recovery (Helgeson & Cohen, 1996). It seems likely that if instrumental support is lacking, the quality of life of the patient will suffer dramatically, but its provision does not necessarily ensure psychological well-being. Emotional support would seem more important in this regard.

To summarise the functional social support literature reviewed above, three points appear salient. First, emotional support is most desired by patients, and considered the most helpful. The positive correlation between emotional support and psychological adjustment also appears to be the most robust. Patients particularly desire emotional support from family, although if it is lacking from professionals this is also harmful. Second, informational support is desired primarily from professionals, and is most useful when received from professionals. And third, the findings regarding instrumental support are varied. It seems likely that the provision of instrumental support needs to be
consistent with the patient’s needs for aid. Furthermore, it may only be protective to a limited degree. Irrespective of the patient’s needs for aid, instrumental support alone cannot ensure optimal well-being.

2.2 Functional Social Support in End-Stage Cancer

Although there appears to have been a growth of popular literature concerning death and dying in the 1970’s and 1980’s (e.g., Kübler-Ross, 1969, 1974; Lavine, 1982; Ring, 1982) few empirical studies have followed this trend (Robak, 1999). This is surprising, because research may inform the optimal care of dying patients. The research that has been conducted has mostly focused on the patients’ reported needs, and two findings seem particularly robust. First, needs in general increase as functional state decreases in the patient (Blank, Clark, Longman, & Atwood, 1989; Morasso et al., 1999), and second, emotional needs of patients are often unmet (Grande, Todd, & Barclay, 1997; Higginson, Wade, & McCarthy, 1990). Terminally ill patients report that their existential, spiritual, or emotional needs are important to them, and that the care they receive rarely meets these needs but, rather, is focused on their needs for instrumental aid (Greisinger, Lorimor, Aday, Winn, & Baile, 1997).

Although emotional support is clearly important for the dying and their family, little attention has been paid to the relationship between social support needs and distress in the terminal phase (Morasso et al., 1999). However, Morasso and colleagues recently found that, after the needs for symptom control and improved physical functioning, need for emotional support was the need most unfulfilled. These unmet needs were also strongly associated with psychological distress, but unmet needs in areas of information, financial support, and instrumental support were not (Morasso et al., 1999). That
emotional support is critical as patients move towards end-stage is also supported by Holland (1977) who, using an experimental design, demonstrated that emotional support was more effective in reducing depression, anxiety and mourning than medication in advanced stage cancer patients.

Apart from a small number of empirical studies, much of the psychosocial literature concerning end-stage cancer has involved observations and assertion based on clinical experience. One important theme has concerned the issue of communication breakdown. Many clinicians comment that it is not uncommon for communication to break down as prognosis worsens, and that this occurs with considerable psychological cost to both patients and their family (e.g., Kastenbaum & Aisenberg, 1972; Kübler-Ross, 1969; Wortman & Dunkel-Schetter, 1979). If communication does break down as prognosis worsens, patients are left feeling isolated and alone. As Lichter (1987) observes:

sometimes there is a call from relatives for the dying patient to fight death when he no longer has the will to do so. He then finds himself in the position where he is forced to protect his loved ones from what he knows to be the fact of his impending death; he is isolated by his inability to share concerns (p. 97).

Maintaining communication involves allowing the dying to express their sorrow, rather than trying to provide support by ‘cheering up’ (Kübler-Ross, 1969). In fact, when patients in the earlier stages of cancer have been asked to identify the least helpful supportive behaviours, forced cheerfulness, unrelenting optimism, and minimising problems are most often identified (Dakof & Taylor, 1990; Dunkel-Schetter, 1984; Peters-Golden, 1982). Rejecting the patient’s sadness fails to empathise with their experience, and thus does not represent effective emotional support.
Emotional support in the end-stages of cancer may also be provided non-verbally, and simply involve “a touch of the hand, a stroking of the hair, or just silently sitting together” (Kübler-Ross, 1969, p. 77). Touch provides a powerful sense of comfort to the dying, and should not be overlooked as inconsequential. Support provided non-verbally provides increased opportunity for acceptance and a peaceful death (Kübler-Ross, 1969; Lichter, 1987). Despite such anecdotal accounts of the benefit of touch, no research to date has examined this form of support in association with other forms of emotional support.

In addition to emphasising the importance of touch, Kübler-Ross (1969) suggested that a gentle letting go or detaching is normal between couples in which one party is dying. Indeed, in one thought provoking study that addressed the issue of detachment, it was found that some women were able to face the reality that their husband was dying, and begin the process of separating from him emotionally and psychologically in preparation for life without him. Importantly, wives were found to be able to separate from husbands in this way while also maintaining affiliation, defined as remaining physically and emotionally close (Kramer, 1997). Women who were able to separate were better adjusted in bereavement. This is in contrast to a premature and extremely defensive exclusion that may be instigated by either party through the dying process, and increase the suffering of all parties (Parkes, 1991).

An example of a defensive exclusion between patient and family is found in one prospective study that observed the interaction between patients dying of renal disease and their families. It was found that patients and “strong” families subtly yet mutually excluded one another from their anticipatory grief, thoughts, feelings, emotions, and
decision-making processes by avoiding conversation related to the imminent death (Reiss, Gonzalez, & Kramer, 1986). While the quality of life of the patient and family was not measured in this study, other work shows such patterns to be associated with increased emotional distress in the patient (Dunkel-Schetter, Feinstein, Taylor, & Falke, 1992). Furthermore, this defensive pattern of interaction was associated with the early death of the patient, suggesting that psychosocial factors may not only effect the patient’s psychological state but may also influence their physical condition (Reiss et al., 1986).

Although no studies appear to have objectively assessed the dying cancer patient’s level of emotional support prospectively, the experience of clinicians and researchers would seem to indicate that emotional support may be withdrawn through the dying process (e.g., Taylor, 1999). Because of this possibility, the patient who is initially well supported should be periodically monitored to ensure that support has not been withdrawn (Rowland, 1989). This would seem particularly important as increased psychological distress in association with increased pain, physical disability, and existential concerns are observed in the patient at this time (Cassileth et al., 1985; Lesko, Ostroff, Maumma, Mashberg, & Holland, 1992), and is consistent with data previously reported indicating that patient’s reported needs increase as their condition deteriorates. Paradoxically, the time at which the patient is in the greatest need of emotional support may also be the time at which it decreases.

Why should communication break down in end-stage cancer? It appears that when stress is moderate, significant others are usually able to provide support without difficulty. However, as distress in the crisis victim increases, the intimacy between victim and supporters may encourage contagion of distress, overwhelming supporters
(Coyne & Fiske, 1992; Gottlieb & Wagner, 1991). This is consistent with one study that found that significant others were able to provide social support in response to advanced-stage cancer patient’s physical impairment, but withdrew their support in response to intense emotional distress (Bolger, Foster, Vinokur, & Ng, 1996). Given that patients’ distress is likely to intensify as they move into the terminal phase, it is therefore not surprising that communication may break down as patient and family members seek to protect themselves from distress. This strategy is unfortunate, however, because as the review above has suggested, the benefit of maintaining communication that involves emotional support is likely to be important to patients during end-stage (Morasso et al., 1999). Furthermore, bereavement studies have shown that family functioning that involves emotional support is predictive of family members adaptation in bereavement (Kelly et al., 1999; Kissane et al., 1996a, b).

In summary, little empirical research has been conducted looking at patterns of social support and their consequences in end-stage cancer. However, similar to the research of the earlier stages of cancer, evidence suggests that emotional support is critical to the holistic care of dying patients. These data largely support the case reports and experience of clinicians working in the field. Unfortunately, it also appears that some families may have difficulty providing emotional support in the final stage of cancer. Both patients and families may become overwhelmed, and as a consequence defensively exclude one another by closing communication of intimate thoughts and feelings, and hence precluding the possibility of providing the empathy, love and care that defines emotional support. This is unfortunate because low levels of emotional support are associated with increased distress in the dying patient and complicated bereavement in family members.
2.3 Methodological Limitations of Social Support Research in Oncology

Much research in this field has involved cross-sectional studies using self-report measures. The limitations of this methodology, common to much psychosocial research, are also found in the present research. These limitations include vulnerability to common method variance and response set, and as previously noted, third factor and reverse causation explanations. Psycho-oncology research also suffers from a number of additional, sometimes unavoidable limitations that have included the following: small sample sizes, inappropriate or no control groups, no control for type of disease or pre-diagnosis psychopathology, age, pain, stage of disease, and socio-economic status. Many studies also suffer from selection biases and high attrition rates due to illness and death.

In addition to the methodological limitations identified above, recent publications have identified two inter-related conceptual limitations of social support research. Past research has been conceptualised largely in terms of a linear stress-resource model, conceiving support from family to patient, and has ignored the issue of reciprocity in the exchange of social support, and the issue of the process of this exchange (Ell, 1996; Pistrang & Barker, 1998). Because these two issues inform the current research focus, they are discussed in detail in the following section.

2.4 The Present Research

The social support literature identifies the importance of emotional support in the psychosocial support of cancer patients. Consequently, the current research will involve an exploration of emotional support between patient and spouse. The spousal sub-system of the family is of focus because the limited research available suggests that support from the partner is particularly important to patients (Coyne & Smith, 1994), and that
supportive relationships outside the sub-system cannot compensate for a problematic relationship with the spouse (Pistrang & Barker, 1995). Similarly, in earlier work on depression, Brown and Harris (1978) found that a confiding relationship with family or friend did not compensate for the absence of a similar relationship with spouse. Recalling that emotional support by definition involves the provision of love, care, and concern, it is not surprising that patients indicate a desire for emotional support from this intimate source (Lichtman et al., 1987; Neuling & Winefield, 1988). Given this importance, research looking specifically at the spousal sub-system has significant implications for therapeutic and preventative interventions. Developing interventions that focus primarily on this sub-system may be of significant benefit to patients and families, particularly in times when limited resources require a priority of interventions that will provide maximum benefit. Within the spousal sub-system, the following two issues are of primary interest in the present research:

2.4.1 The Issue of Reciprocity

Earlier work has paid little heed to the complexity and subtlety of the bi-directional processes involved in emotional social support. Hence, issues of reciprocity in the process of social support have been largely ignored (Ell, 1996). The active role that the patient plays in influencing support has not been focused upon, nor has the possible importance of the patient’s providing support reciprocally to family members. With increasing awareness of this complexity, research is becoming increasingly sophisticated. There is a growing focus on the family’s need for support in addition to the patient’s needs (e.g., Ptacek, Pierce, Dodge, & Ptacek, 1997), and social support is increasingly being conceptualised within a family system framework that better reflects the exchange
of support (e.g., Ell, 1996; Paterson & Garwick, 1994). Likewise, the current research intends to examine the issue of reciprocity by assessing both the patient and the spouse on a number of measures operationalising emotional support.

A range of studies support the notion that reciprocity is important to emotional support. The co-dependent nature of social exchange is well established (Bar-On & Dreman, 1987; Coyne, Ellard, & Smith, 1990; Dunkel-Schetter, Folkman, & Lazarus, 1987), and the importance of reciprocity in social relationships has also been demonstrated by research. However, few studies have examined reciprocity in the context of cancer. As has been noted above, Primomo et al. (1990) operationalised reciprocity at the level of the couple by simply measuring the support given back by the patient to the spouse, and found that higher levels of reciprocity by cancer patients was associated with lower levels of distress for those patients. However, most reciprocity research has occurred with healthy samples at the level of the individual. In this work, individual reciprocity is conceptualised as the difference between what the individual gives and receives in social support. Most noteworthy of this work is Rook (1987), who found that social exchange patterns that involved individuals giving or receiving more than was reciprocated was associated with increased loneliness and lower social satisfaction, regardless of the levels of support given and received.

Given Rook’s findings, it seems likely reciprocity will be relevant in the context of end-stage cancer. Although these data suggest reciprocity is critical to relationships, social support research indicates that spouses purposefully reduce their requests for support from patients (Halstrom & Schram, 1984; van der Does & Duyvis, 1989). That the cancer patient may actually be in a position to provide support to family is consistent
with research finding that the spouse of the cancer patient is often more distressed than the patient (Gotay, 1985). It would seem likely that if the patient is given the opportunity, providing emotional support to loved ones is protective because it may provide meaning and purpose in the disease context (Helgeson & Cohen, 1996), an observation consistent with the research observations and developmental lifespan theory of Eric Erikson (Erikson, Erikson, & Kivnick, 1986). The finding reported previously that reciprocity (defined as the extent supporter discussed problems with patient; Primono, Yates, & Woods, 1990) was associated with better adjustment in cancer patients also supports this assertion.

Reciprocity of emotional support will be examined in this research in two ways. First, and as already described above, the effect of the patient’s support to their spouse will be examined (reciprocity within couples as defined and measured by Primomo et al., 1990). Second, self-report information from each patient and spouse in response to a series of questions asking how much they give and receive on emotional support and affectionate touch will provide a measure of reciprocity in the context of end-stage cancer (i.e., reciprocity within the individual as defined and measured by Rook, 1987).

2.42 The Issue of Process

Little research has examined the specific behaviours of social support or the process of enacting these behaviours (Coyne & Bolger, 1990; Pistang, Barker, & Rutter, 1997). Research that does so is needed for designing preventative and therapeutic interventions (Pistrang & Barker, 1995). How should emotional support be operationalised so that process may be studied? It would appear that in relation to emotional support, communication has tended to be defined and measured by the content of communication
– for example, of discussing fears. Research has asked patients about the content of their communication (e.g., Taylor et al., 1986), although emotional support is defined by listening, empathising, caring and concern. Kübler-Ross (1969) also stressed the importance of patients and families being able to confront their fear of death by discussing distressing topics. The content of communication has also been emphasised by popular writers who have suggested that cancer patients and families should only discuss positive topics (Bobbeck, 1989; Siegel, 1988).

It is suggested here that emphasis on topic or content is missing the most essential point in relation to emotional support and psychological adjustment. It seems likely that the process of communication is more critical than the content. Evidence for why this is so is found in the empirically based psychotherapy literature. There is good evidence that factors associated with the process of psychotherapy are strong predictors of therapeutic outcome (e.g., Burns & Nolen-Hoeksema, 1992; Castonguay et al., 1996). Although the various schools of psychotherapy use different language to describe key aspects of therapeutic process, the process is well captured by the conditions proposed by Rogers’ (1957) influential theory that emphasises empathy, acceptance, and genuineness. These conditions are concerned with the interactive process, and are largely concerned with the response to distressing content, rather than the expression of distress per se. Although first proposed in relation to the context of the professional relationship between clinician and client, Rogers (1975) later suggested these conditions were important in all intimate relationships, including the marital couple.

How may process that involves Roger’s conditions be protective? Undoubtedly it is multifaceted. However, two reasons appear relevant in the context of dying. First and
most important, these conditions provide the self with a sense of acceptance, affirmation of intrinsic value, respect, and security. The provision of such conditions would appear to meet a universal need of the human being, and empirical research indicates they are particularly important to the dying (Carey, 1974; Morasso et al., 1999).

Second, the type of environment in which these types of conditions are salient provide a sense of safety so that the individual may fully express thoughts and feelings and, in doing so, integrate cognition and emotion to form a deeper understanding and greater meaning of their life (Bowlby, 1980; Parkes & Weiss, 1983). Bowlby and colleagues were undoubtedly correct that this type of environment does provide a sense of security, thus encouraging deeper self-disclosure. This is consistent with Rogers’ emphasis on the necessary conditions, and would explain why studies have found that the discussion of distressing topics (Gotcher, 1992) and the expression of negative emotion in bereavement (Bonanno & Keltner, 1997) was not beneficial in and of itself. It is the response to these expressions that is most critical to the therapeutic process.

If the therapeutic conditions are provided, at least to some extent, it seems likely that such an environment will ensure increased benefit of self-disclosure, including the integration of cognition and emotion, and the finding of positive meaning. Under such conditions it is likely that Kübler-Ross was correct in suggesting that the discussion of fear is beneficial. In brief, it is suggested here that operationalising emotional support needs to include some measure of process, because the process of response to distress is likely to influence the benefit of self-disclosure, and thus be key to the individual’s optimal psychological adjustment.
In accord with the above argument, the review of relevant literature, and in agreement with literature calling for focus on process, the present research investigates emotional support between cancer patient and spouse operationalised in terms of two key aspects of supportive interpersonal transactions. The primary measure of the individual’s sense of emotional support is titled *benefit of self-disclosure*. Second to this primary measure is a scale tapping the individual’s *perception of their partner’s empathy*. Item analyses of these two measures suggests the measure of benefit of self-disclosure is a more global measure of emotional support, in that it asks the respondent about their overall sense of benefit from talking with their spouse. The empathy measure, on the other hand, focuses only on the empathic support from spouse and, while empathy is considered critical to emotional support, it was not considered as complete a measure of emotional support as the benefit of self-disclosure measure. These measures were adapted from Pistrang and Barker’s (1992, 1995, 1998) previous work examining the influence of the perception of empathy and benefit of self-disclosure between cancer patients and their spouses in the earlier stages of the disease. Also like Pistrang and Barker’s work, this study will examine self-report information from both patient and spouse in an effort to overcome some of the methodological limitations of past research.

This research will also operationalise emotional support in a further way. Recalling that influential authors such as Kübler-Ross have emphasised the importance of affectionate touch in comforting dying patients, this research will ask couples about their perception of levels of affectionate touch provided between them.
2.43 Hypotheses

Specifically, the following hypotheses are made, consistent with the literature review above:

1. Higher levels of benefit of self-disclosure to spouses and perceived empathy from spouses will be associated with better psychological adjustment for patients. Furthermore, this association will remain after significant control variables are taken into account.

2. Higher levels of benefit of self-disclosure to patients and perceived empathy from patients will be associated with better psychological adjustment for spouses. Once again, this association will remain after significant control variables are taken into account.

3. Higher levels of affectionate touch from partner and to partner will be associated with better psychological adjustment for patients and spouses.

4. Higher levels of individual reciprocity of affectionate touch and individual reciprocity of overall emotional support will be associated with better psychological adjustment for patients and spouses.

5. With regards to process, higher levels of benefit of self-disclosure for patients and spouses will be associated with greater perceived empathy from their partners.

In order to address many of the limitations of previous psycho-oncology research identified above, a large number of non-focal, control variables are included in this study, and are listed and described in the following method section. In order to identify non-focal variables that need to be included in multivariate analyses, with the purpose of
controlling their possible influence on any associations between the focal independent and dependent variables, bivariate correlations will be conducted between the non-focal variables and the dependent variable (psychological adjustment). Those non-focal variables identified as having a significant association with the dependent variable will be included in later multivariate analyses.

With regards to non-focal control variables, no specific hypotheses are made. Based on the literature, it appears likely that of the non-focal variables, those related to the patients’ pain and physical condition will be associated with patients’ psychological distress most strongly (Morasso et al., 1999). Variables related to the patients’ and spouses’ environmental context more generally, such as general social support and socio-economic status, are unlikely to be associated with psychological distress, given the salience of the disease variables and the influence of the emotional support within the couple.

Method

2.5 Participants

Participants were recruited from the Mount Olivet Hospice Homecare Service. The homecare service at Mount Olivet Hospice is a specialised palliative care service. It services the Brisbane metropolitan region which comprises over 1 million people, and offers medical assessment and on-call nursing support, in liaison with the patient’s general practitioner and other community nursing services. Referral to the homecare service is usually made by general practitioners and general hospitals. The service receives approximately 700 new referrals per year, with a mean duration from referral to
death of 42 days. The homecare service operates from, and is integrated with, a 28-bed in-patient hospice unit within Mt Olivet Hospital.

Criteria for inclusion in the study were as follows: (a) patient 18 years or older, (b) patients in end-stage of cancer, (c) patient married or living with a partner, (d) patient able to provide meaningful informed consent.

The final sample consisted of 67 couples. Approximately 71% of eligible couples referred to the palliative homecare service either refused to participate or were too unwell to participate. A decline in health between referral to the homecare service and the interview prevented a further 8% from participating. The overall participation rate of eligible couples (21%) was largely influenced by the level of the patient’s illness, and is consistent with other research conducted with terminally ill populations (Chochinov et al., 1994; Kelly et al., 1999).

Fifty-eight of the patients were male (87%). The mean age of the patients was 66 years (S.D. = 11.36, range = 40 to 85 years), and their spouses 64 years (S.D. = 11.29, range = 30 to 83 years). Most of the sample was Caucasian (98%), and the majority were pensioners (79%), with an annual combined income of $10,000 to $12,000. Seven percent of the sample held university degrees, and a further 22% held trade certificates. The majority of couples were married (63 couples or 94%), 3 were defacto couples (4%), including one same-sex female couple, and there was one couple who were divorced and had reunited in order to manage the illness.

Cancer diagnoses were varied. Frequencies for the primary tumour sites for the patient population were as follows: digestive organs 23 (34%), urinary organs 13 (19%), respiratory 13 (19%), melanoma 5 (8%), head and neck 3 (5%), breast 3 (5%), blood and
lymph 3 (5%), brain/central nervous system 2 (3%), and bone 2 (3%). In all patients palliative care had commenced, and curative treatment had ceased. Time since diagnosis of first occurrence of cancer varied considerably, ranging from two weeks to 10 years, with a mean of 25.95 months and standard deviation of 28.14 months. Twenty-five percent of patients were diagnosed no more than four months before the research interview, and 50% of patients no more than 16 months before the research interview.

2.6 Measures

As with all psychological research, it was important that measures be selected on the basis of their validity and reliability. However, also most important in this research was the need to keep the interviews brief, given the physical condition of the patients, and to minimise any risk of increasing emotional distress in participants. Thus in addition to psychometric concerns, it was also important that measures be selected on the basis of their brevity and emotional sensitivity.

The following description of measures first reviews the screening tool used to assess the mental state of the patients. It is followed by a description of the two focal measures of this chapter: (1) emotional support and (2) psychological adjustment. These descriptions are followed by the non-focal measures that may act as control variables in this study, and include disease variables, medical assessment of physical state and functioning, socio-economic status, general social support, stressful life events, and interest and participation in social and leisure activities. Copies of the questionnaires given to both patients and spouses are presented in Appendix A and B, respectively.
2.61 Mental State

Participants’ inclusion in the study was dependent on an adequate score on the Mini Mental State Examination (MMSE) (see Appendix C). This examination is important in this research context, as the possibility of cognitive deficits resulting from brain tumours and lesions, Organic Mental Syndrome, or the use of medications is moderately high. The MMSE is a measure widely used to assess the mental functioning of individuals across a range of contexts. It concentrates only on cognitive function, and excludes questions related to mood, abnormal mental experiences, or forms of thinking. Research has identified satisfactory discriminant validity. Scores on the MMSE separate a demented group from a depressed group with cognitive impairment, and a group with uncomplicated affective disorder (scores of 9.7, 19, and 25.1 respectively, out of a total of 30) (Folstein, Folstein, & McHugh 1975). These results were replicated when a depression group was match for age with the dementia group to control for the older age of the dementia group in the original study. Concurrent validity was also provided by correlating scores on the MMSE with the Wechsler Adult Intelligence Scale subscales of Verbal IQ and Performance IQ. Correlations were highly significant: Verbal IQ $r = .77$, $p < .001$; Performance IQ $r = .67$, $p < .001$.

Test-retest reliability of the MMSE is also satisfactory. A 24-hour test-retest period provided a Pearson coefficient of .88. This result changed little when a different examiners were used: $r = .83$. Similarly, when the MMSE was given to elderly patients chosen for their stable mental state, a 28-day test-retest period showed there were no significant differences in the scores (Folstein et al., 1975). These results, taken together, suggest the MMSE possesses adequate reliability and validity.
The MMSE assesses six aspects of cognitive function: Memory Registration, Attention and Concentration, Memory Recall, Language, Orientation, and Visuospatial Skills. The examination involves the following process: asking the patient to remember and repeat three words (Memory Registration), count out loud and spell a word out loud (Attention and Concentration), recall the three words they were asked to remember (Memory Recall), and identify a number of common objects, repeat a verbal sentence, perform a simple task on verbal direction, perform a simple task on written direction, and write a sentence (Language). Patients are then asked to state their address and the date (Orientation), and draw a copy of a figure (Visuospatial Skills).

The maximum total score on the MMSE is 30, and normative data suggests probable cognitive impairment is reflected in a score less than 24, and definite cognitive impairment in a score less than 17 (Folstein et al., 1975). Inclusion in this study required a score of 22 or above. This cut-off score was decided to be appropriate because, although a score of less than 24 suggests probable cognitive impairment, many patients could not recall the date, having little need for such information. Also, a cut-off score of 22 is much more conservative than the MMSE cut-off score of 17 used in other recent end-stage cancer research (Kelly et al., 1999; Kelly et al., 2002), and thus was considered a conservative cut-off score.

2.62 Emotional Support

Emotion support between cancer patient and his or her spouse was assessed using 4 measures. All these measures, with the exception of the affectionate touch measure, were taken from the work of Pistrang and Barker (1992, 1995), which investigated emotional support between cancer patients and their partners in the earlier stages of cancer. Two of
these 4 measures form the foundation of emotional support in this work. They are (1) benefit of self-disclosure and (2) perception of partner empathy. Both these measures are multi-item scales. All measures of emotional support were presented to both the patient and his or her spouse individually.

1. Benefit of self-disclosure. An eight-item scale asking respondents to rate the degree to which self-disclosure to their partner has benefited them. Pistrang and Barker developed these items from 20 pilot interviews asking open-ended questions about patient’s experiences with cancer (personal communication, 2000). Their purpose was to further the work of a range of studies investigating emotional support and coping with cancer (i.e., Meyerowitz, 1983, Taylor et al., 1985). As noted earlier, this scale operates as the primary measure of emotional support in the present research because an item analyses suggests it most fully taps participants’ subjective sense of benefit from supportive interactions with their partner. Table 2.1 lists the eight items that make up this scale. Respondents rated each item on a six-point scale from ‘Strongly true for me’ to ‘Strongly untrue for me’, and each item was scored from 1 (low benefit) to 6 (high benefit), giving a minimum possible score of 8 (low benefit) and a maximum score of 48 (high benefit). Items 2, 4, 6, and 8 are reverse scored. Coefficient alpha in the present research was 0.71.
Table 2.1

*Items for Benefit of Self-Disclosure Scale*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it gave me a feeling of relief or reassurance</td>
</tr>
<tr>
<td>2</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it made me feel more confused about things</td>
</tr>
<tr>
<td>3</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it helped me to think about things I could do to feel better</td>
</tr>
<tr>
<td>4</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it made me dwell more on my concerns and feelings</td>
</tr>
<tr>
<td>5</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it helped me to see things differently, more clearly, or in a new light</td>
</tr>
<tr>
<td>6</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it made me feel worse, more worried, more upset</td>
</tr>
<tr>
<td>7</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it helped me to get things off my mind</td>
</tr>
<tr>
<td>8</td>
<td>When I have talked with my partner about my concerns and feelings to do with my illness it left me thinking that there was nothing I could do to feel better</td>
</tr>
</tbody>
</table>

2. *Perception of partner empathy.* A ten-item subset of the Revised Barrett-Lennard Relationship Inventory was used to assess perception of empathy provided by the partner. This measure assessed the respondent’s perception of the degree to which they felt understood by their partner, and how sensitive they perceived their partner to be to their emotional state. The items used in this research are the same as those used by Pistrang and Barker (1992, 1995) in their previous cancer research, and were chosen on the basis of Cramer’s (1986) analysis of factor loadings from the empathy subscale of the Revised Barrett-Lannard Inventory.

All items are listed in Table 2.2. Respondents rated each item on a six-point scale, from ‘Strongly true for me’ to ‘Strongly untrue for me’, and each item was scored from 1 (low empathy) to 6 (high empathy), giving a minimum possible score of 10 (low
empathy) and a maximum score of 60 (high empathy). Items 2, 4, 5, 7, 8 are reverse scored. Coefficient alpha for this scale is 0.84 (Pistrang & Barker, 1995), and 0.82 in the present research.

Table 2.2

*The Ten-Item Subset of the Revised Barrett-Lennard Relationship Inventory*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>He or she nearly always knows exactly what I mean</td>
</tr>
<tr>
<td>2.</td>
<td>He or she may understand my words but he or she does not see the way I feel</td>
</tr>
<tr>
<td>3.</td>
<td>He or she usually senses or realises what I am feeling</td>
</tr>
<tr>
<td>4.</td>
<td>His or her own attitudes towards some of the things I do or say prevent him or her from understanding me</td>
</tr>
<tr>
<td>5.</td>
<td>His or her response to me is usually so fixed and automatic that I don’t really get through to him or her</td>
</tr>
<tr>
<td>6.</td>
<td>He or she appreciates exactly how the things I experience feel to me</td>
</tr>
<tr>
<td>7.</td>
<td>He or she just takes no notice of some of the things that I think or feel</td>
</tr>
<tr>
<td>8.</td>
<td>He or she does not realise how sensitive I am about some of the things we discuss</td>
</tr>
<tr>
<td>9.</td>
<td>He or she understands me</td>
</tr>
<tr>
<td>10.</td>
<td>He or she realises what I mean even when I have difficulty saying it</td>
</tr>
</tbody>
</table>

3. *Affectionate Touch*. The present research is interested in investigating whether levels of affectionate touch provided by the couple may be associated with psychological distress for patients and spouses. Two items asked participants: (1) ‘How much does your partner touch you in a physically affectionate way?’ and (2) ‘How much do you touch your partner in a physically affectionate way?’ Respondents answered on a seven-point scale from ‘Very little’ (scored as 1) to ‘A lot’ (scored as 7). Differences between scores from these two measures also provided a measure of reciprocity of affectionate touch.
4. Overall Emotional Support. In addition to reciprocity of affectionate touch, the present research was interested in reciprocity of emotional support generally. Two items asked participants: (1) ‘Overall, how much do you receive from your partner in comfort, understanding, and emotional support?’, and (2) ‘Overall, how much do you give from your partner in comfort, understanding, and emotional support?’. Respondents answered on a seven-point scale from ‘Very little’ (scored as 1) to ‘A lot’ (scored as 7). Differences between scores from these two measures provided a measure of reciprocity of overall emotional support.

2.63 Psychological Adjustment

The Positive and Negative Affect Schedule (PANAS-X) (Watson & Clark, 1994) was employed to measure psychological adjustment in the present research. The PANAS-X asks respondents to rate single words representing different forms of affect from 1 (very slightly or not at all) to 5 (extremely). Example of items are ‘sad’, ‘nervous’, ‘lonely’, and ‘at ease’, and in the present research participants were asked to rate their affect over the past week. The PANAS’s simplicity was attractive to this research, as high levels of emotional distress in this population required a measure that is easy to administer and straightforward to complete. It comprises two general scales and nine subscales that can be used independently, and thus allows the researcher to tailor the length of the instrument. In this research, patients was asked to complete less of the PANAS than spouses, because of ethical concerns for their emotional state, and in a desire to keep their questionnaires as brief as possible. Thus patients were administered
the general dimension scale of Negative Affect, in addition to the basic negative emotion subscales of Fear, Hostility, Guilt, and Sadness (total of 25 items, see Appendix A). The spouse was also administered these items, in addition to items tapping positive affect: the general dimension scale of Positive Affect, and the basic positive emotion scales of Joviality, Self-Assurance, Attentiveness (A total of 46 items, see Appendix B. Note some items overlap between general dimension scales and subscales. See Table 2.3 for full item composition of PANAS-X scales and subscales). Because the use of multiple scales as dependent variables is confusing, only the general dimension scale of Negative Affect is used as the dependant variable for both patient and spouse in the present research. The Positive Affect scale is also included as a dependent variable for the spouse. Nonetheless, for interest and explorative reasons all scales described above are included in analyses.

In addition to the benefits of the PANAS-X (Watson & Clark, 1994) outlined above, it is a widely used measure that possesses good levels of validity and reliability. Cronbach’s alpha for the two higher order scales (general dimension scales of Positive and Negative Affect) are high, ranging from .83 to .90, depending on sample (i.e., normal men, psychiatric inpatient, mixed clinical sample), with lower correlations for clinical samples. A similar pattern of results was obtained for the lower order scales, with Cronbach alpha scores ranging from .79 (Attentiveness) to .94 (Joviality). Furthermore, the correlation between the two higher order positive and negative affect scales is low, varying across studies from -.05 to -.35 (Watson & Clark, 1994). Interestingly, these differences on Cronbach alpha scores appear independent of the time over which participants are asked to report their affect (ranging over the following specified time-frames: the moment, today, past few days, past week, past few weeks, past month, past year, general). Convergent and discriminant analysis of these two scales provided
adequate validity: both scales are very highly correlated with their corresponding regression-based factor scores, with convergent correlations ranging from .89 to .95. In contrast, the discriminant correlations are quite low, ranging from only -.02 to -.18 (Watson & Clark, 1994).

Table 2.3

| Item Composition of PANAS-X Scales and Their Administration to Patients and Spouses |
|----------------------------------|----------------------------------|
| Scales                           | Items                            |
| **General Dimension Scales**     |                                  |
| Negative Affect (10)*            | afraid, scared, nervous, jittery, irritable, hostile, guilty, ashamed, upset, distressed (Patients and Spouses) |
| Positive Affect (10)*            | active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, strong (Spouses only) |
| **Basic Negative Emotion Scales**|                                  |
| Fear (6)                         | afraid, scared, frightened, nervous, jittery, shaky (Patients and Spouses) |
| Hostility (6)                    | angry, hostile, irritable, scornful, disgusted, loathing (Patients and Spouses) |
| Guilt (6)                        | guilty, ashamed, blameworthy, angry at self, disgusted with self, dissatisfied with self (Patients and Spouses) |
| Sadness (5)                      | sad, blue, downhearted, alone, lonely (Patients and Spouses) |
| **Basic Positive Emotion Scales**|                                  |
| Joviality (8)                    | happy, joyful, delighted, cheerful, excited, enthusiastic, lively, energetic (Spouses Only) |
| Self-Assurance (6)               | proud, strong, confident, bold, daring, fearless (Spouses Only) |
| Attentiveness (4)                | alert, attentive, concentrating, determined (Spouses Only) |
| **Affective State Scales**       |                                  |
| Serenity (3) (Not used)          | calm, relaxed, at ease (Not used) |
| Shyness (4) (Not used)           | shy, bashful, sheepish, timid (Not used) |
| Fatigue (4) (Not used)           | sleepy, tired, sluggish, drowsy (Not used) |
| Surprise (3) (Not used)          | amazed, surprised, astonished (Not used) |

* Note. For clarity only these scales function as dependent variables in this research. The subscales, which are largely made up of items from the general dimension scales, are nonetheless included for interest.
Test-retest reliability for the two higher order PANAS-X scales has also been found satisfactory. When respondents were asked to report their mood generally, over an 8-week retest interval a result of .68 was obtained for the Negative Affect scale, and .71 for the Positive Affect scale (Watson & Clark, 1994).

Further evidence of construct validity, in addition to external validity, was provided by comparison analysis with the Profile of Mood States (POMS). The PANAS-X subscale of Fear was highly correlated with the POMS subscale of Tension-Anxiety (.85), the PANAS-X subscale of Hostility with POMS subscale of Anger-Hostility (.91), and the PANAS-X subscale of Sadness with POMS subscale of Depression-Dejection (.85). Furthermore, the PANAS subscales show better discriminant validity than the POMS subscales, with a PANAS-X mean correlation of .45 compared with a POMS mean correlation of .60. Correlating the well-used Hopkins Symptoms Checklist (HSCL) with the PANAS-X general dimension scales provided further external validity. A correlation of .74 was obtained for the Negative Affect scale, and -.19 for the Positive Affect scale (Watson & Clark, 1994).

2.64 Non-Focal Measures

A large number of non-focal variables were measured in this study to act as possible control variables (see Table 2.4). It will be recalled that because of the large number of these variables, bivariate correlations will be conducted with the dependent variable of psychological adjustment (PANAS-X) to identify those to be included in later multivariate analyses that will control for their influence. Most important are likely to be measures of physical condition and functioning, completed by medical staff who were blind to the research (Karnofsky Performance Status and Quality of Life Index). Other
disease related variables were also included: type of cancer, pain during interview, and length of time since diagnosis.

Table 2.4

Non-focal Variables for Patients and Spouses

<table>
<thead>
<tr>
<th>Patient (8 variables)</th>
<th>Age of patient, type of cancer, length of time since diagnosis, Karnofsky Performance Status, Quality of Life Index, pain during interview, stressful life events, socio-economic status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse (9 variables)</td>
<td>Age of spouse, patient’s type of cancer, patient’s length of time since diagnosis, Karnofsky Performance Status, Quality of Life Index, patient’s pain during interview, stressful life events, general social support, socio-economic status</td>
</tr>
</tbody>
</table>

In addition to disease related control variables, three psychosocial variables that are typically considered important in understanding stress and coping were also included in this research. They are (1) socio-economic status, (2) general social support, (3) stressful life events. It is because they are considered of less importance than the focal variables of emotional support in the present sample that they are categorised as non-focal. No specific hypotheses are made for these variables. Because of the need to minimise the demands placed upon dying patients, and of the already long interview with patients examining the focal variables, the measures of general social support and interest and participation in social activities were administered to the patient’s spouses only, and pertain only to spouses. Spouses also completed the measure of stressful life events for the couple.

All of the non-focal variables are described only once in this thesis (i.e., in this method section below), and a number have already been described in the participants’ section (age and type of cancer). Any non-focal variables that are included in the
analyses of later chapters will be clearly identified, and the reader referred back to the pages immediately below if further perusal is necessary.

Assessment of physical state and functioning. At the time of referral to the palliative homecare service the medical team completed two measures tapping the patient’s physical condition and quality of life. This assessment was typically conducted one week before the research interview was conducted. The first was the Karnofsky Performance Status (KPS; Karnofsky & Burchenal, 1949; see Appendix D). The KPS is a ten-point scale, with increments of ten giving a score from 0 (dead) to 100 (fully functioning). It has been in continual use since 1948, and has adequate inter-rater reliability, construct validity and predictive validity (Sorensen, Klee, Palshof, & Hansen, 1993). The scale refers to work, self-care, and symptoms, and thus is a more global assessment of functioning than other scales (Donnelly & Walsh, 1996). There is a significant correlation between KPS scores on referral to palliative care and longevity of dying cancer patients (Yates, Chalmer, & McKegey, 1980). Karnofsky Performance Status scores are also associated with activities of daily living, significantly correlating with daily activities, ability to work, self-care, extent of disease (Morris, Suissa, & Sherwood, 1985), and illness symptoms (De Haes, van Knippenberg, & Nejit, 1990). Inter-rater reliability between nurse and social worker is moderate, (Schag, Heinrich, & Ganz, 1984), and between physicians it is high (Berry, Laszlo, & Cox, 1979). The correlation between physician and patient’s self-ratings is also high (Berry et al., 1979). Although the KPS should not be taken as a quality of life measure, as physical ability of dying patients need not reflect quality of life (Donnelly & Walsh, 1996), taken together these
findings suggest the KPS is a parsimonious measure that adequately captures the physical condition of the dying patient and his or her level of functioning.

The second measure completed by the medical team on referral to the palliative homecare service was the Quality of Life Index (QL-Index) (Spitzer, Dobson, Hall, & Chesterman, 1981; see Appendix E). This measure has five items ranked from 0 – 2, giving a total score from 0-10. Those items are (1) activity level, (2) daily living, (3) health, (4) social support, and (5) psychological outlook.

The QL-Index has adequate reliability. Internal consistency according to Cronbach’s coefficient is high (.77). Furthermore, employing Spearman rank correlation, high interrater reliability is reported between physicians (rho = .81, p < .001), and between physicians and the self-report of patients (rho = .61, p < .001) (Spitzer et al., 1981).

Convergent and discriminant validity for the QL-Index was found when scores from multiple raters (attending physician, health professional, close friend, lay person, patient) were correlated to statistically significant levels, and able to discriminate between healthy and ill persons (Spitzer et al., 1981). Together, these data suggest the QL-Index possesses adequate validity and reliability. It is considered an accurate measure of global functioning (Donnelly & Walsh, 1996).

A third measure tapping the physical state of patients’ was used in this research, and administered by the researcher at the time of interview. It was considered necessary to measure the patient’s pain level at the time of the interview, so as to take into account the possible influence pain in interview may have on reports of psychological adjustment. Nonetheless, it is recognised that pain is a complex phenomenon that involves the interaction of several dimensions at various cerebral levels, and includes both cognitive-
evaluative and motivational-affective dimensions, and not only sensory components (Melzack & Wall, 1965). Thus in reality patients’ pain may not only influence psychological adjustment, but to some degree be influenced by it.

In order to take the most conservative empirical position in the present research, the possible influence of pain on psychological adjustment was of primary concern. Thus pain scores were used as a control variable and considered independent of the other psychosocial variables used to predict psychological adjustment in the present research. With regard to the measurement of pain, a standard linear scale from 0 (no pain) to 10 (worse pain imaginable) was used to assess patients’ pain at the time of the interview.

General social support. The Multidimensional Scale of Perceived Social Support (MSPSS) is a simple 12-item measure, which, in addition to a total score of social support, comprises three subscales: support from Significant Other, Family, and Friends. Respondents rate items on a scale from 1 (strongly disagree) to 7 (strongly agree) (see Appendix B). Example items are ‘There is a special person with whom I can share my joys and sorrows’ and ‘I can talk about my problems with my family’.

Cronbach’s coefficient alpha indicates adequate internal reliability for the subscales and the measure in total. A value of .88 was obtained for the total scale, and values of .91, .87, and .85 were obtained for the Significant Other, Family, and Friends subscales respectively (Zimet, Dahlem, Zimet, & Farley, 1988). Similar values of between .85 and .94 have been reported more recently by others (Cecil, Stanley, Carrion, & Swann, 1995). Test-retest reliability over a three-month period was also satisfactory. The total scale received a test-retest value of .85, and values of .72, .85, and .75 were reported for the subscales of Significant Other, Family, and Friends respectively (Zimet et al., 1988).
In addition to adequate reliability, construct validity was provided for the MSPSS by correlating respondent’s scores with their scores on the Depression and Anxiety subscales of the Hopkins Symptoms Checklist (HSCL) (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). As expected, perceived support from family was negatively correlated with both depression, \( r = -.24, p < .01 \), and anxiety, \( r = -.18, p < .01 \). Perceived social support from friends was related to depression, \( r = -.24, p < .01 \), but not to anxiety. Likewise, the Significant Other subscale was negatively related to depression, \( r = -.13, p < .05 \), as was the scale in its entirety, \( r = -.25, p < .01 \) (Zimet et al., 1988). Taken together, these results suggest the MSPSS possesses good reliability and validity.

**Stressful life events.** The List of Threatening Experiences (LTE) comprises of 11 stressful life events (see Appendix A or B). It was derived from a semi-structured interview of a sample of the general population in Britain, which asked participants to identify stressful events (Brugha, Bebbington, Tennant, & Hurry, 1985). Convergent validity for the LTE is provided by comparing it with the Paykel Scale, another well-recognised list of life events (Paykel, Prusoff, & Uhlenhuth, 1971). The 6 most distressing events on the Paykel Scale are also represented on the LTE, and the remainder of the items on the LTE are also found on the Paykel Scale (Brugha et al., 1985). However, a major advantage of the LTE over other life events measures is its brevity, without a loss of power in predicting episodes of illness such as depression (Brugha et al., 1985). Interestingly, this seems to be because the life events most critical are those related to loss: serious illness or injuries to self, or serious illness, injury, or death of close others. Longer lists appear to have little added importance (Brugha et al., 1985).
The LTE requires participants to endorse yes or no for each type of adverse life event over the past 12 months. Items include personal injury or illness, death of close friend or family member, major accident, and legal proceedings amongst others. The 11\textsuperscript{th} item gives the participant the option of endorsing ‘other stressful event’, prior to rating their perception of overall stress on a 4-point scale from 1 (mild) to 4 (extreme). Participants are also asked to write a short description of each stressful life event item that they endorsed. An unweighted sum of endorsed items was used in this analysis.

\textit{Socio-economic status (SES).} The Australian Bureau of Statistics (ABS) provides socio-economic indexes for urban and rural areas around Australia. Based on data collected in the 1996 Census of Population and Housing, the Index of Relative Socio-Economic Disadvantage is derived from indices of low income, low educational attainment, high unemployment, and unskilled occupations. The ABS divides geographical areas into SES categories in numerous ways, including postal area designations. The Index of Relative Socio-Economic Disadvantage is used by matching participants’ postcodes with a SES index, which has been standardised by the ABS to have a mean of 1000 and a standard deviation of 100. Thus 95\% of index scores fall between scores of 800 and 1200.

The ABS recognises that Socio-Economic Status is not a simple or well-defined construct, and thus provides evidence for the validity of their Index of Relative Socio-Economic Disadvantage in a number of ways. Principle Component Analysis was used to check that the input variables and their weightings make sense. In all cases the final indexes were explaining approximately 30\% of the variability of the input variables. This
suggests that a common underlying factor was being identified and summarised (i.e., SES) (McLennan, 1998).

Further important validity for the index was provided by comparing it with local knowledge. Grading provided by individuals blind to the index were found to correspond closely with the index scores. Further convergent validity for the Index of Relative Socio-Economic Disadvantage was provided by its close similarity with SES indexes calculated from data collected in the 1991 Census, and with data from the 1993-94 ABS Household Expenditure Survey correlating with the Index Of Socio-Economic Disadvantage (McLennan, 1998).

2.7 Procedure

As required by Griffith University and Mount Olivet Hospital ethical committees, this study was conducted in close collaboration with the medical and nursing staff of the homecare service. At the time of initial medical assessment by doctor and nurse, patients with partners were told of the research and given a research information sheet. This sheet contained very general information about the research and assured potential participants of confidentiality and freedom to withdraw from the research at any stage (see Appendix F). After perusing the information sheet, potential participants were then asked if they were willing to have the researcher contact them by telephone within the following week.

Couples willing to be contacted by the researcher were contacted by telephone within a week of the initial palliative homecare team assessment. The researcher explained the general process of the interview, and a meeting time was arranged for those couples willing and able to participate. Most interviews were conducted in the couple’s
home. However, a small subset of participants became in-patients within the hospice shortly after their initial assessment by the home care team, and thus these participants were interviewed within the hospice.

Interviews began with obtaining informed consent from patients and their partners (see Appendix G for consent form). Patients’ mental state was then assessed, and although a cut off score of 22 was used in this study, no patients’ scores fell below 22, reflecting the tendency for patients or their spouses to decline participation if the patient’s condition was poor, or to withdraw from the study on the day of the interview if their condition deteriorated between recruitment and interview. The interview proper began by rating their present pain on a scale from 0 (no pain) to 10 (worse pain imaginable). This was followed by an open-ended verbal question asking patients about their construal of positive meaning in the context of cancer (detail regarding the meaning question will be given in Chapter 3). The answers to this question were audio taped. The remainder of the interview involved the patient and their partner each individually completing a battery of paper and pencil self-report measures. Interviews typically ran for between one and two hours, depending on the health of the patient and the length of the answers to the open verbal questions.
Results

2.8 Overview

This results section begins with descriptive data for the non-focal control variables, and is followed by descriptive data for the focal variables of emotional support. Correlational analyses of the focal variables of emotional support and the dependent variables of negative affect (and positive affect for spouse) will then be used to test the hypotheses that levels of emotional support will be associated with psychological adjustment. These focal analyses are then followed by a series of correlations performed to identify non-focal variables associated with the dependent variables of negative affect (and positive affect for spouse). Based on these analyses, hierarchical multiple regressions will be performed to examine the relationship between emotional support and negative affect for both patient and spouse, with the variance associated with significant control variables taken into account.

A number of comments need to be made at this point regarding these data and analyses. First with regards to missing data, it was not possible to collect full data sets for all participants, due either to participants’ exhaustion or unwillingness to complete all questionnaires. Nonetheless, missing data are minimal, and are spread randomly across all variables, minimising any threat to the parametric qualities of this data set.

Second, bivariate correlations (Pearson’s $r$) are used extensively in these analyses. Because the high number of bivariate correlations performed in the analyses is likely to inflate Type 1 error, an alpha level of .01 was used for all analyses involving bivariate correlations in this and following chapters. One set of bivariate correlations was an exception: correlations between the control variables and the dependent variables of
positive and negative affect. In these analyses an alpha level of .05 was used, making the selection criteria for non-focal control variables in later analyses less stringent, and thus making these analyses more conservative overall. SPSS Version 10 was used for all analyses. The raw data file and full SPSS output for all major analyses conducted in the present research are presented in Appendix H.

2.9 Descriptive Data for Non-Focal Variables

It will be recalled a number of non-focal control variables were included in this research. For patients the control variables were primarily disease related: type of primary cancer, length of time since diagnosis, medical assessment of physical state and quality of life, pain during interview, but also include age, socio-economic status, and life events. Non-focal control variables for spouses were greater in number: length of time since diagnosis, type of primary cancer, medical assessment of physical state and functioning of patient, patient’s pain during interview, spouse’s age, socio-economic status, life events, and spouse’s general social support. Descriptive data for age of patients and spouses, type of cancer, and length of time since diagnosis were described in the method section. The remaining non-focal control variables for patients and spouses are described below.

2.9.1 Physical State and Functioning

Table 2.5 presents descriptive data of the two measures completed by medical staff. The Karnofsky Performance Scale has a possible range of 0-100, and a mean of 59.70 suggests that, on average, patients were between ‘requiring occasional assistance but is able to care for most of his/her needs’ (a score of 60) and ‘requiring considerable
assistance and frequent medical care’ (a score of 50). A similar mid-range score is reflected in the Quality of Life Index mean of 5.40, which has a possible range of 0 (extremely poor quality of life) to 10 (excellent quality of life).

Table 2.5

Means, Range, and Standard Deviations of Physical State and Functioning Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Patients (n = 67)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Karnofsky</td>
<td>20-90</td>
<td>59.70</td>
<td>15.95</td>
<td></td>
</tr>
<tr>
<td>Quality of Life Index</td>
<td>3-10</td>
<td>5.40</td>
<td>1.59</td>
<td></td>
</tr>
</tbody>
</table>

2.92 Pain During Interview

Pain was measured at the beginning of the interview on a linear scale from 0 (no pain) to 10 (most severe pain you could imagine) for all patients. The overall mean score for pain was 2.54, with a standard deviation of 2.80, suggesting that on average patients’ pain was well managed during the interview. Thirty six percent of patients reported no pain, with 50% reporting a score of 2 or less, and 75% reporting a score of 4 or less (see Table 2.6 for frequencies and cumulative percentages).
Table 2.6

*Frequency of Pain at Interview Scores with Cumulative Percentage*

<table>
<thead>
<tr>
<th>Pain</th>
<th>Frequency</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>24</td>
<td>36</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>63</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>70</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>78</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>85</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>88</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>91</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>96</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>97</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>100</td>
</tr>
</tbody>
</table>

Total n = 67

2.93 Stressful Life Events

Few couples reported high levels of stressful life events (in addition to the illness with cancer). Table 2.7 shows that 43% reported no stressful event, and 33% reported only 1 stressful event. Only 15 out of the 61 participants (25%) reported 2 or more stressful events, with maximum 4 events reported.
Table 2.7

Stressful Life Events During Last 12 Months

<table>
<thead>
<tr>
<th>Number of Life Events</th>
<th>Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>26</td>
<td>43</td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td>75</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>85</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>95</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td></td>
</tr>
</tbody>
</table>

2.94 General Social Support

It will be recalled that spouses’ general social support was measured using the MSPSS, a 12-item scale with a maximum score of 84. Scores can also be calculated for 3 subscales, those being Family Support, Friends’ Support, and Significant Other Support, each with a maximum score of 28. Overall, spouses reported high levels of overall social support ($M = 70.15$, $S.D. = 14.62$, see Table 2.8).

Table 2.8

Descriptive Data for MSPSS for Spouses

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Family support</th>
<th>Friends support</th>
<th>Significant other support</th>
</tr>
</thead>
<tbody>
<tr>
<td>$n$</td>
<td>61</td>
<td>61</td>
<td>61</td>
<td>60</td>
</tr>
<tr>
<td>Mean</td>
<td>70.15</td>
<td>24.50</td>
<td>23.71</td>
<td>22.15</td>
</tr>
<tr>
<td>S.D.</td>
<td>14.62</td>
<td>5.87</td>
<td>6.14</td>
<td>6.60</td>
</tr>
</tbody>
</table>

2.95 Socio-Economic Status

The Index of Relative Socio-Economic Disadvantage has been standardised to have a mean of 1000 and a standard deviation of 100, with a minimum of 548, and a maximum of 1223 (McLennan, 1998). The mean index score in the present sample was
1003, with a standard deviation of 75.80, a minimum index score of 840, and a maximum of 1155. These descriptive data suggest that the present sample was, on average, close to average in Australian socio-economic status, and that there is a reasonably range in index scores in the present sample. A comparison of the quartile scores supports this assertion: the 25th percentile in the present sample was 967 (944 nationally), the 50th percentile was 1023 (1010 nationally), and the 75th percentile was 1044 (1069 nationally). Thus it appears that the present sample is fairly representative of middle-class Australia in socio-economic terms.

2.10 Descriptive Data for Focal Variables

2.101 Emotional Support

Table 2.9 presents descriptive data for the four groupings of emotional support variables for patients and their spouses (1. benefit of self-disclosure, 2. perception of partner empathy, 3. affectionate touch given and received, 4. overall perception of emotional support given and received). Generally speaking, both patients and spouses reported moderate to high levels of emotional support from their partner. Nonetheless, the data show a consistent pattern: that patients’ emotional support from their spouses was greater than the support spouses received from patients. Patients reported more benefit from self-disclosure than did spouses, and patients perceived their spouses to be more empathic than spouses perceived patients. The measures of affectionate touch, while reflecting a nonsignificant difference between patients and spouses, showed a similar trend. Patients reported receiving more affectionate touch from their spouses than did spouses from their partners (patients). Consistent with this, patients reported giving
less affectionate touch than their spouses did. Overall, patients report receiving more emotional support than spouses, and spouses report giving more emotional support than patients.

Paired samples t tests assessed the differences between patients and spouses on all measures of emotional support mentioned above. Four significant differences are identified on three of the four groupings (benefit of self disclosure, perception of partner empathy, and overall perception of emotional support given and received). Patients reported greater benefit from self-disclosure than spouses \( t (56) = 2.16, p < .05 \), and perception of partner empathy was found to be significantly higher for patients than spouses \( t (56) = 2.91, p < .01 \). Patients’ overall perception of partner support received was higher than spouses \( t (57) = 2.88, p < .01 \), and spouses perceived giving more partner support than patients \( t (57) = 2.99, p < .01 \). Differences in touch were not significant.

Two cross-tabulations, one for patient and one for spouse, were conducted to assess the degree to which all measures of emotional support were correlated with one another (see Table 2.10). A number of general observations are made at this point. First, the single item question asking about overall emotional support from partner was significantly correlated with the two main measures of emotion support, those being benefit of self-disclosure (.59 for patient and .39 for spouse) and perception of partner empathy (.43 for patient and .38 for spouse). In this way this data set is consistent and coherent. It is also apparent that perception of affectionate touch from partner is highly correlated with overall emotional support for patients and spouses (.73 and .51, respectively). It is also noted at this early point that benefit of self-disclosure and perception of empathy are associated (.65 for patients and .55 for spouses) supporting the
hypothesis concerned with process that asserted that benefit of self-disclosure would be associated with perception of empathy.

Table 2.9

*Means and Standard Deviations for Emotional Support Variables for Patients and Spouses*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Patients (n = 60)</th>
<th>Spouses (n = 64)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
<td>M</td>
<td>S.D.</td>
<td>t</td>
</tr>
<tr>
<td>Benefit of Self-Disclosure(^a)</td>
<td>36.52</td>
<td>7.40</td>
<td>33.92</td>
<td>7.96</td>
<td>2.16*</td>
</tr>
<tr>
<td>Perception of Partner Empathy(^b)</td>
<td>47.97</td>
<td>8.32</td>
<td>44.60</td>
<td>9.34</td>
<td>2.91**</td>
</tr>
<tr>
<td>Overall Affectionate Touch Received(^c)</td>
<td>5.38</td>
<td>1.41</td>
<td>5.11</td>
<td>1.71</td>
<td>1.81</td>
</tr>
<tr>
<td>Overall Affectionate Touch Given(^c)</td>
<td>5.25</td>
<td>1.45</td>
<td>5.38</td>
<td>1.50</td>
<td>0.08</td>
</tr>
<tr>
<td>Overall Emotional Support Received(^d)</td>
<td>6.12</td>
<td>1.02</td>
<td>5.67</td>
<td>1.59</td>
<td>2.88**</td>
</tr>
<tr>
<td>Overall Emotional Support Given(^d)</td>
<td>5.77</td>
<td>1.22</td>
<td>6.39</td>
<td>0.94</td>
<td>2.99**</td>
</tr>
</tbody>
</table>

\(^*\) p < .05 \(^**\) p < .01

\(^a\) Benefit of Self Disclosure scale ranges from 8 (low benefit) to 48 (high benefit)

\(^b\) Perception of Partner Empathy scale ranges from 10 (low empathy) to 60 (high empathy)

\(^c\) Affectionate Touch scale ranges from 1 (low touch) to 7 (high touch)

\(^d\) Overall Emotional Support ranges from 1 (low support) to 7 (high support)
Table 2.10

*Intercorrelations Between Emotional Support Variables for Patients and Spouses*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>(n = 59)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Benefit of Self-Disclosure</td>
<td>.56*</td>
<td>.36</td>
<td>.41*</td>
<td>.44*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.65*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Partner Empathy</td>
<td>.40*</td>
<td>.19</td>
<td>.41*</td>
<td>.45*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Overall Perception of Emotional Support from Partner</td>
<td>.60*</td>
<td>.63*</td>
<td>.73*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Overall Perception of Emotional Support to Partner</td>
<td></td>
<td></td>
<td></td>
<td>.49*</td>
<td>.52*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Overall Touch to Partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.77*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Overall Touch From Partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouses</td>
<td>(n = 60)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Benefit of Self-Disclosure</td>
<td>.34*</td>
<td>.29</td>
<td>.24</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.55*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Partner Empathy</td>
<td>.35*</td>
<td>.16</td>
<td>.19</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Overall Perception of Emotional Support from Partner</td>
<td>.53*</td>
<td>.49*</td>
<td>.52*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Overall Perception of Emotional Support to Partner</td>
<td></td>
<td></td>
<td></td>
<td>.45*</td>
<td>42*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Overall Touch to Partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.73*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Overall Touch From Partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

* p < .01
At this point it is of interest to examine the distribution of scores across the main variable reflecting the physical condition of the patients, in this study the Karnofsky Performance Status, completed by expert medical staff blind to the research, and patients’ and spouses’ reports of emotional support. As can be seen in Figures 2.1 – 2.4, there appears to be a reasonably wide distribution of scores across these variables. Exploring this descriptive pattern is important because it indicates that there is no relationship between the patients’ physical condition and emotional support. In other words, higher levels of emotional support do not appear to be limited to those couples in which the patient is comparatively well.

**Figures 2.1. and 2.2.**
Scatter Plots of Patients’ Performance Status and Patients’ Emotional Support from Spouse

**Figures 2.3. and 2.4.**
Scatter Plots of Patients’ Performance Status and Spouses’ Emotional Support from Patient
A series of bivariate correlations were conducted to further assess the association between the patients’ physical condition and patients’ and spouses’ reports of emotional support. No significant patterns were observed (see Table 2.11).

Table 2.11
*Bivariate Correlations Between Patients’ Performance Status and Emotion Support of Patients and Spouses*

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th></th>
<th>Spouses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perception of Empathy (n = 60)</td>
<td>Benefit of Self-Disclosure (n = 62)</td>
<td>Perception of Empathy (n = 62)</td>
<td>Benefit of Self-Disclosure (n = 60)</td>
</tr>
<tr>
<td>Karnofsky Performance Status</td>
<td>.05</td>
<td>.12</td>
<td>.19</td>
<td>.22</td>
</tr>
</tbody>
</table>

2.102 Psychological Adjustment

Table 2.12 shows PANAS results for patients and spouses. Overall, as a group, spouses reported higher levels of negative affect than patients, as evidenced by higher scores on the general dimension scale of Negative Affect, \(t(63) = 3.28, p < .01\).

A cross-tabulation of PANAS results for patient and spouse was conducted to examine correlations between scales. It should be recalled at this point that only the general dimension scales of Negative Affect and Positive Affect function as dependent variables in the present research, the subscales included for interest and exploratory purposes. Table 2.13 shows that, as would be expected, scores on the general dimension scale of Negative Affect and negative affect subscales are strongly associated with one another, as is the general dimension scale of Positive Affect and positive affect subscales.
It is interesting to note that positive affect scores are relatively independent of negative affect scores, and research shows this is typically the case (Watson & Clark, 1994). The psychological adjustment of the patient and his or her spouse was not correlated to significant levels on the general dimension scale of Negative Affect, $r = .20$, n.s.

Table 2.12

*Means and Standard Deviations for Patients and Spouses on the Measure of Positive and Negative Affect (PANAS)*

<table>
<thead>
<tr>
<th>Scales</th>
<th>Patients ($n = 66$)</th>
<th>Spouses ($n = 64$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$S.D.$</td>
</tr>
<tr>
<td><strong>Negative Affect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>11.36</td>
<td>5.36</td>
</tr>
<tr>
<td>Hostility</td>
<td>10.05</td>
<td>4.77</td>
</tr>
<tr>
<td>Guilt</td>
<td>9.29</td>
<td>5.00</td>
</tr>
<tr>
<td>Sadness</td>
<td>9.99</td>
<td>3.40</td>
</tr>
<tr>
<td><strong>Positive Affect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joviality</td>
<td>20.13</td>
<td>7.41</td>
</tr>
<tr>
<td>Self Assurance</td>
<td>15.00</td>
<td>5.20</td>
</tr>
<tr>
<td>Attentiveness</td>
<td>13.83</td>
<td>3.26</td>
</tr>
</tbody>
</table>

Note. Figures in bold type function as the dependent variables in this research (The General Dimension Scales of Negative Affect and Positive Affect (PANAS))
Table 2.13

*Inter Correlations on Scores of Positive and Negative Affect (PANAS) for Patients and Spouses*

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Negative Affect</td>
<td>.93*</td>
<td>.88*</td>
<td>.83*</td>
<td>.82*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Fear</td>
<td>.78*</td>
<td>.78*</td>
<td>.78*</td>
<td>.76*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Hostility</td>
<td>.73*</td>
<td>.71*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Guilt</td>
<td></td>
<td>.67*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Sadness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Patients (n = 65)**

| 1. Negative Affect | .92* | .65* | .41* | .75* | -.08 | -.22 | -.17 | -.03 |
| 2. Fear | .45* | .21  | .71  | -.10 | -.25 | -.15 | .07  | .01  |
| 3. Hostility | .60* | .40* | .02  | .06  | -.07 | .02  |     |     |
| 4. Guilt | .12  | -.06 | -.46*| -.30*| -.06 | .68* | .80* | .80* |
| 5. Sadness | -.15 | -.46*| -.30*| -.06 |     | .70* | .34* |     |
| 6. Positive Affect |     |     |     | .68* | .80* | .80* |     |     |
| 7. Joviality |     |     |     |     | .70* | .34* |     |     |
| 8 Self-Assurance |     |     |     |     |     |     | .58* |     |
| 9 Attentiveness |     |     |     |     |     |     |     |     |

* p < .01
When PANAS means are contrasted with normative data for the PANAS on the general dimension scales of Positive Affect and Negative Affect, it appears that the present sample is, on average, not as highly distressed as might be expected (see Table 2.14). The patient mean of 18.26 on the general dimension scale of Negative Affect is lower than psychiatric inpatients (\(M = 25.5\)) and a mixed clinical sample of psychiatric patients (\(M = 26.3\)). The patients’ average score is also lower than a sample of 328 normal Dallas area men (\(M = 20.4\)). However, it is markedly higher than a sample of normal Australian men (\(M = 14.2\)), and given that 85% of patients were male (and Australian), this is perhaps the most valid comparison for the present sample of patients, and suggests that this sample of cancer patients are markedly more distressed than would normally be expected of Australian men (Watson & Clark, 1994).

Table 2.14

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Positive Affect</th>
<th>Negative Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Present Sample Patients</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present Sample Spouses</td>
<td>64</td>
<td>30.88</td>
<td>8.55</td>
</tr>
<tr>
<td>Dallas area men</td>
<td>328</td>
<td>32.4</td>
<td>7.3</td>
</tr>
<tr>
<td>Detroit area men</td>
<td>815</td>
<td>36</td>
<td>6.0</td>
</tr>
<tr>
<td>Australian men</td>
<td>114</td>
<td>33.5</td>
<td>5.9</td>
</tr>
<tr>
<td>Psychiatric inpatients</td>
<td>117</td>
<td>32.4</td>
<td>8.1</td>
</tr>
<tr>
<td>Mixed clinical sample</td>
<td>107</td>
<td>30.2</td>
<td>6.6</td>
</tr>
</tbody>
</table>
With regards to spouses, a mean of 22.15 on the general dimension scale of Negative Affect is also lower than psychiatric inpatients (\(M = 25.5\)) and a mixed clinical sample of psychiatric patients (\(M = 26.3\)). To a certain extent, it is positive affect rather than negative affect that appears to identify this sample of spouses with other clinical samples, as the low scores on the general dimension scale of Positive Affect in the present sample of spouses is similar to the low scores of mixed clinical sample, although slightly higher than the sample of psychiatric inpatients (see Table 2.14).

2.11 Focal Variable Results of Emotional Support and Psychological Adjustment

It was hypothesised that benefit of self-disclosure and perceived partner empathy would be associated with the psychological adjustment of patients and spouses. As displayed in Table 2.15, self-disclosure and empathy scores are negatively correlated with scores on the PANAS general dimension scale of Negative Affect to significant levels for patients and spouses, providing support for the above hypotheses. It is also worthy of note at this point that for both patients’ and spouses’ scores, the association between benefit of self-disclosure and negative affect is stronger than the association between empathy and negative affect. The stronger association between benefit of self-disclosure scores and negative affect scores supports the notion that the benefit of self-disclosure measure is a more global measure of emotional support, and thus is rightly the primary measure of emotional support in the present research.

It was also hypothesised that levels of perceived partner empathy and benefit of self-disclosure would be associated with general dimension scale of Positive Affect for spouses. However, scores on these variables are not correlated significantly with each other, and thus no support for this hypothesis was detected. Nonetheless, it is interesting
Table 2.15

Correlations Between Measures of Emotional Support and Psychological Adjustment (PANAS) for Patients and Spouses.

<table>
<thead>
<tr>
<th></th>
<th>Negative Affect</th>
<th>Fear</th>
<th>Hostility</th>
<th>Guilt</th>
<th>Sadness</th>
<th>Positive Affect</th>
<th>Joviality</th>
<th>Self-Assurance</th>
<th>Attentiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit of Self-Disclosure</td>
<td>-.61*</td>
<td>-.46*</td>
<td>-.62*</td>
<td>-.43*</td>
<td></td>
<td>-.50*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner Empathy</td>
<td>-.48*</td>
<td>-.38*</td>
<td>-.52*</td>
<td>-.31*</td>
<td>-.40*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Perception of Emotional Support from Partner</td>
<td>-.17</td>
<td>-.10</td>
<td>-.28</td>
<td>-.05</td>
<td>-.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Perception of Emotional Support to Partner</td>
<td>-.01</td>
<td>-.02</td>
<td>-.11</td>
<td>-.02</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Touch to Partner</td>
<td>-.05</td>
<td>-.01</td>
<td>-.10</td>
<td>-.04</td>
<td>-.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Touch From Partner</td>
<td>-.09</td>
<td>-.03</td>
<td>-.17</td>
<td>.07</td>
<td>-.05</td>
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</table>

Spouses (n = 58)

<table>
<thead>
<tr>
<th></th>
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<th>Fear</th>
<th>Hostility</th>
<th>Guilt</th>
<th>Sadness</th>
<th>Positive Affect</th>
<th>Joviality</th>
<th>Self-Assurance</th>
<th>Attentiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit of Self-Disclosure</td>
<td>-.42*</td>
<td>-.37*</td>
<td>-.33</td>
<td>-.21</td>
<td>-.46*</td>
<td>.22</td>
<td>.32</td>
<td>.39*</td>
<td>.15</td>
</tr>
<tr>
<td>Partner Empathy</td>
<td>-.38*</td>
<td>-.38*</td>
<td>-.28</td>
<td>-.27</td>
<td>-.34*</td>
<td>.16</td>
<td>.14</td>
<td>.19</td>
<td>.12</td>
</tr>
<tr>
<td>Overall Perception of Emotional Support from Partner</td>
<td>-.12</td>
<td>-.13</td>
<td>.02</td>
<td>-.11</td>
<td>-.25</td>
<td>-.05</td>
<td>.24</td>
<td>.20</td>
<td>.01</td>
</tr>
<tr>
<td>Overall Perception of Emotional Support to Partner</td>
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<td>-.02</td>
<td>-.06</td>
<td>-.01</td>
<td>-.05</td>
<td>.10</td>
<td>.22</td>
<td>.19</td>
<td>.03</td>
</tr>
<tr>
<td>Overall Touch to Partner</td>
<td>-.10</td>
<td>.09</td>
<td>.07</td>
<td>.04</td>
<td>-.04</td>
<td>.10</td>
<td>.15</td>
<td>.11</td>
<td>.05</td>
</tr>
<tr>
<td>Overall Touch From Partner</td>
<td>.05</td>
<td>.03</td>
<td>-.10</td>
<td>.12</td>
<td>.08</td>
<td>.09</td>
<td>.25</td>
<td>.10</td>
<td>.01</td>
</tr>
</tbody>
</table>

* p < .01 Note. Figures in bold type function as the dependent variables in this research.
to note that spouses’ benefit of self-disclosure scores are positively correlated to a significant level with the PANAS positive affect subscale scores of joviality and self-assurance.

Scores on the measures of affectionate touch and overall emotional support were not significantly associated with the general dimension scale of Negative Affect scores for patients, or general dimension scales of Negative or Positive Affect scores for spouses.

It will be recalled that one aim of the present research was to examine the issue of reciprocity of emotional support between the couple. It was hypothesised that higher levels of reciprocity would be associated with lower levels of psychological distress. Reciprocity was analysed in two ways. First, and most generally at the level of the couple, reciprocity was investigated by examining the support provided by patient to his or her spouse. In addition, reciprocity at the level of the individual was assessed by calculating difference scores on the items asking patients and spouses about their perception of general support to and from each other, and affectionate touch to and from each other. Differences in scores of giving and receiving could range form +6 to −6, with a score of 0 indicating perfect reciprocity.

Table 2.16 shows the distribution of difference scores on emotional support and touch for patients and spouses. It will be observed that large proportion of patients and spouses reported high reciprocity (little or no difference in scores of giving and receiving support). Nonetheless, 40% of patients and 31% of spouses did report a difference on emotional support, and 25% of patients and 22% of spouses did report a difference on touch.
Table 2.16

<table>
<thead>
<tr>
<th>Count</th>
<th>Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (High Reciprocity)</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td>1</td>
<td>13</td>
<td>82</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>95</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>4 (Low Reciprocity)</td>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

| Touch   |  |
|---------| |
| 0 (High Reciprocity) | 45 | 75 |
| 1       | 9         | 90 |
| 2       | 3         | 95 |
| 3       | 2         | 98 |
| 4 (Low Reciprocity)  | 1         | 100 |

<table>
<thead>
<tr>
<th>Spouses (n = 64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Support</td>
</tr>
<tr>
<td>0 (High Reciprocity)</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4 (Low Reciprocity)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (High Reciprocity)</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6 (Low Reciprocity)</td>
</tr>
</tbody>
</table>

Bivariate correlations were conducted to examine whether the degree of difference was associated with positive and negative affect scores. Table 2.17 displays these results. Neither reciprocity of emotional support or touch were correlated to significant levels with negative affect for either group and no relationship between reciprocity and positive affect was evident for spouses. Hypotheses that reciprocity would be associated with
psychological adjustment have therefore not been supported. Furthermore, only one significant subscale correlation appears: spouses’ scores of sadness are positively correlated with their reciprocity score on overall emotional support, indicating that lower levels of reciprocity were associated with higher levels of sadness for spouses.

Table 2.17

*Correlations for Patients’ and Spouses’ Reciprocity and Psychological Adjustment (PANAS)*

<table>
<thead>
<tr>
<th></th>
<th>Reciprocity Overall Emotional Support</th>
<th>Reciprocity Affectionate Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patient</td>
<td>Spouse</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.05</td>
<td>.15</td>
</tr>
<tr>
<td>Fear</td>
<td>.00</td>
<td>.21</td>
</tr>
<tr>
<td>Hostility</td>
<td>-.08</td>
<td>-.09</td>
</tr>
<tr>
<td>Guilt</td>
<td>.10</td>
<td>-.13</td>
</tr>
<tr>
<td>Sadness</td>
<td>-.08</td>
<td>.37*</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>-.26</td>
<td></td>
</tr>
<tr>
<td>Joviality</td>
<td>-.30</td>
<td></td>
</tr>
<tr>
<td>Self-Assurance</td>
<td>-.29</td>
<td></td>
</tr>
<tr>
<td>Attentiveness</td>
<td>-.26</td>
<td></td>
</tr>
</tbody>
</table>

* *p < .01 Note. Figures in bold type function as the dependent variables in this research.
2.12 Non-Focal Variable Results

Non-focal analyses began by examining the categorical variable of patients’ type of cancer and psychological adjustment. There were nine different groups of cancer patients (see page 30). Two separate one-way analyses of variance (ANOVA’s) revealed no significant differences between groups on negative affect for patients $F(8, 57) = .53$, n.s., or for spouses $F(8, 56) = .76$, n.s.

Next, bivariate correlations were performed between the remaining 7 non-focal control variables and the patients’ dependent variable of negative affect. The negative affect subscales are included for interest. It may also be recalled that a more inclusive alpha level of .05 was set for these analyses to include a larger number of possible control variables. As can be observed in Table 2.18, performance status scores, quality of life scores, and pain during interview scores correlate significantly with scores on the PANAS general dimensional scale of Negative Affect for patients.

To test whether emotional support remains associated with negative affect after controlling for the significant non-focal variables, a hierarchical regression was conducted. Analysis was performed using SPSS REGRESSION, and SPSS FREQUENCIES for evaluation of assumptions. Using a criterion of $p < .001$, the data met analytic assumptions of multivariate normalcy, homogeneity of variance, and linearity, and there were no outliers. Table 2.19 displays the unstandardised regression coefficients ($B$), the standardised regression coefficients ($\beta$), the increment of $R$ squared provided at each step, and the overall $R$ squared. $R$ was significantly different from zero at the end of each step. After step one, with performance status, quality of life, and pain in interview scores entered in the equation, $R$ squared = .22, $F(3, 54) = 5.21$, $p < .01$. 
After step two, with perception of spouse empathy and benefit of self-disclosure scores added to the prediction of negative affect scores, $R^2 = .48$, $F_{\text{change}} (2, 52) = 12.60$, $p < .001$. The addition of the perception of spouse empathy and benefit of self-disclosure scores at step two resulted in a significant increment in $R^2$, indicating that the association between the predictor variables of emotional support and the criterion of negative affect remained significant after the control variables of performance status, quality of life, and pain in interview were taken into account.

Table 2.18

*Control Variables and Negative Affect for Patients*

<table>
<thead>
<tr>
<th></th>
<th>Negative Affect</th>
<th>Fear</th>
<th>Hostility</th>
<th>Guilt</th>
<th>Sadness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karnofsky Performance Status</td>
<td>-.28*</td>
<td>-.31*</td>
<td>-.19</td>
<td>-.31*</td>
<td>-.18</td>
</tr>
<tr>
<td>Quality of Life Index</td>
<td>-.25*</td>
<td>-.30*</td>
<td>-.16</td>
<td>-.22</td>
<td>-.20</td>
</tr>
<tr>
<td>Pain during interview</td>
<td>.40**</td>
<td>.38**</td>
<td>.41**</td>
<td>.27*</td>
<td>.29*</td>
</tr>
<tr>
<td>Patients’ time since diagnosis</td>
<td>-.10</td>
<td>-.11</td>
<td>-.06</td>
<td>-.12</td>
<td>-.03</td>
</tr>
<tr>
<td>Age</td>
<td>-.18</td>
<td>-.28*</td>
<td>-.08</td>
<td>-.24</td>
<td>-.11</td>
</tr>
<tr>
<td>Life Events</td>
<td>.18</td>
<td>.19</td>
<td>.08</td>
<td>.21</td>
<td>-.05</td>
</tr>
<tr>
<td>SES</td>
<td>.18</td>
<td>.13</td>
<td>.12</td>
<td>.08</td>
<td>.23</td>
</tr>
</tbody>
</table>

* $p < .05$ ** $p < .01$ Note. Figures in bold type function as the dependent variable in this research

Following analysis of non-focal control variables for patient, non-focal control variables for spouses were also analysed. It will be recalled that this set of variables were larger than for patient, due to the spouses increased ability to complete a larger questionnaire. As can be observed in Table 2.20, none of the non-focal variables were
significantly correlated with the General Dimensional Scale of Negative Affect. Consequently, no analysis involving control variables was conducted for spouses.

Table 2.19

*Multiple Regression of Negative Affect on Emotional Support and Control Variables for Patients*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>R</th>
<th>R² Increment</th>
<th>R² Adj</th>
<th>Overall R²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control</strong></td>
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<td>Pain During Interview</td>
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<td>.412</td>
<td>.474</td>
<td>.224**</td>
<td>.181</td>
<td>.224</td>
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<tr>
<td>Performance Status</td>
<td>-.078</td>
<td>-.159</td>
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<tr>
<td>Quality of Life</td>
<td>-.304</td>
<td>-.062</td>
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<tr>
<td><strong>Emotional Support</strong></td>
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<td></td>
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</tr>
<tr>
<td>Benefit of Self-Disclosure</td>
<td>-.481</td>
<td>-.462</td>
<td>.691</td>
<td>.253***</td>
<td>.427</td>
<td>.478</td>
</tr>
<tr>
<td>Perception of Empathy</td>
<td>-.089</td>
<td>-.095</td>
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</tr>
</tbody>
</table>

**p < .01 ***p < .001
Table 2.20

Correlations Between Non-Focal Variables and Psychological Adjustment For Spouses

<table>
<thead>
<tr>
<th></th>
<th>Negative Affect</th>
<th>Fear</th>
<th>Hostility</th>
<th>Guilt</th>
<th>Sadness</th>
<th>Positive Affect</th>
<th>Joviality</th>
<th>Self-Assurance</th>
<th>Attentiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient's Karnofsky</strong></td>
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<td>Performance Status</td>
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<td><strong>Patient's Quality of Life</strong></td>
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<td>-.05</td>
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<td>.12</td>
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<td>-.19</td>
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<tr>
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<td>-.04</td>
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<td>-.05</td>
<td>-.09</td>
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<td><strong>General Social Support</strong></td>
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<td>-.03</td>
<td>-.26*</td>
<td>-.09</td>
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<td>.19</td>
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<td>-.25*</td>
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<td><strong>Family</strong></td>
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<tr>
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<td>-.20</td>
<td>.03</td>
<td>-.05</td>
<td>-.26*</td>
<td>-.16</td>
<td>.23</td>
<td>.03</td>
<td>-.28*</td>
</tr>
<tr>
<td><strong>Friends</strong></td>
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<td></td>
<td>.08</td>
<td>.01</td>
<td>.03</td>
<td>-.28*</td>
<td>.02</td>
<td>-.15</td>
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<td>.00</td>
<td>-.13</td>
</tr>
<tr>
<td><strong>Significant Other</strong></td>
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<td>-.01</td>
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<td>-.09</td>
<td>-.29*</td>
<td>-.02</td>
<td>-.00</td>
<td>.16</td>
<td>-.10</td>
<td>-.24</td>
</tr>
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<td><strong>Life Events</strong></td>
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<td></td>
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<td>.11</td>
<td>.16</td>
<td>.00</td>
<td>.05</td>
<td>-.07</td>
<td>-.11</td>
</tr>
</tbody>
</table>

* p < .05  **p < .01 Note. Figures in bold type function as the dependent variables in this research
Discussion

The findings of this chapter suggest that emotional support within the spousal sub-system is critical to the psychological adjustment of both the end-stage cancer patient and his or her spouse. Few other non-focal variables, including age, socio-economic status and adverse life events (patient and spouse), social support from family, friends, or a significant other (spouse only) were significantly related to psychological adjustment. And when the significant non-focal variables for patients of pain in interview, performance status, and quality of life were controlled for, emotional support remained significantly associated with psychological adjustment for patients.

The finding that neither socio-economic status nor age was related to psychological adjustment is interesting and worthy of brief exploration here. First regarding age, mixed results are reported from research either in the earlier stages of cancer or with survivors, with some studies finding that older participants are more poorly adjusted psychosocially (e.g., Andrykowski, Bruel, Brady, & Henslee-Downee, 1995), some studies finding younger participants more poorly adjusted psychosocially (e.g., Cassileth et al., 1984; Schover et al., 1995; Vinokur, Threet, Caplan, & Zimmerman, 1989), and other studies finding no link between age and psychosocial adjustment (e.g., Glasdam et al., 1996; Rodrigue, Behen, & Tumlin, 1994; Schnoll, Knowles, & Harlow, 2002). The present study found no significant link between age and psychological adjustment, although there was a trend for both patients’ and spouses’ age to be negatively and weakly correlated with psychological distress (-.18 and -.19 respectively), perhaps suggesting a trend for older participants to be better prepared for the end-stage cancer context. This is
consistent with another end-stage cancer study that found younger age was associated with significantly higher levels of distress (Higginson & Priest, 1996).

Also interesting is the finding that socio-economic status was unrelated to psychological adjustment. While studies of cancer survivors have found that socio-economic status is associated with better adjustment (Kornblith, 1998; Schnoll et al., 2002), research in the earlier stages of cancer report no such association (Rodrigue et al., 1994). Our findings are consistent with Rodrigue et al., suggesting that greater economic resources offer little protection from the distress involved in coping with cancer, whether in the earlier stages of the disease or in end-stage.

A series of five hypotheses were made regarding emotional support and psychological adjustment for end-stage cancer patients and their spouses. This discussion will review each hypothesis in order, and will be concluded with a summary of findings and implications.

2.13 Emotional Support From Spouses to Patients

Is emotional support provided by the spouse to the dying patient important to the psychological adjustment of the dying patient? Although studies of couples in the earlier stages of cancer would suggest so, little quantitative evidence exists for dying cancer patients. Indeed, it could be suggested that the distress associated with dying may be so intense that any emotional support provided to the patient would have a weak effect at best.

The review of the literature of the earlier stages of cancer suggested that this would not be the case. And although quantitative data collected in the context of end-stage cancer are limited, it was hypothesised here that emotional support would be strongly
associated with the psychological adjustment of the dying. The first hypothesis stated that patients who perceived higher levels of empathy from their spouses, and who reported greater benefit from self-disclosure to their spouses, would also report better psychological adjustment. Furthermore, it was hypothesised that the association between emotional support and psychological adjustment would stand after significant control variables were taken into account. This hypothesis was confirmed. Both primary measures of emotional support were positively and significantly correlated with psychological adjustment for patients. Furthermore, this association remained significant after the three significant control variables (pain during interview, the physical condition of the patient, and their overall quality of life), identified as having a significant association with psychological adjustment, were taken into account.

This finding is consistent with the majority of studies investigating emotional support in the earlier stages of cancer. Cancer patients in the earlier stages of the disease report the critical importance of emotional support to their wellbeing (e.g., Dakof & Taylor, 1990; Dunkel-Schetter, 1984; Neuling & Winefield, 1988; Rose, 1990), and research has repeatedly shown an association between emotional support and psychological adjustment (e.g., Bloom & Spiegel, 1984; Jamison et al., 1978; Pistrang & Barker, 1995; Taylor et al., 1985). Similarly, in the few studies that have asked dying cancer patients about their needs, patients have reported that emotional support is very important to them, and that this need is often unmet (Grande et al., 1997; Greisinger et al., 1997; Higgenson et al., 1990). And although only one recent study appears to have examined the association between emotional support and psychological distress in dying end-stage patients, it was found that emotional support was significantly and negatively correlated with psychological adjustment (Morasso et al., 1999). The results of the
present research add to the very limited pool of data that show emotional support is critically important to the psychological adjustment of the dying.

That emotional support remained significant after the variance associated with the control variables was taken into account is particularly important in this study. We found that higher levels of pain and lower levels of physical functioning were associated with poorer psychological adjustment in the patients. This finding is not surprising, and is consistent with end-stage research showing that needs for support increase as disease advances (Blank et al., 1989). Regardless of the influence the physical state of the patient was having upon psychological adjustment, high levels of emotional support remained significantly associated with lower levels of psychological distress. Thus it appears that the beneficial influence of emotional support is independent of the toll advanced disease takes on patients.

Furthermore, the wide distribution of patients’ scores across the main emotional support variables and performance status indicates that there was not an association between these variables. In other words, emotional support was not only protective for those patients who were comparatively well. Exploring this issue was important, because a reoccurring theme emphasised in the cancer support literature is that communication and emotional support often breaks down as prognosis worsens (Kastenbaum & Aisenberg, 1972; Kübler-Ross, 1969; Licter, 1987; Wortman & Dunkel-Schetter, 1979).

No systematic evidence of the phenomenon of emotional support breakdown was detected. The wide distribution of scores on performance status in association with emotional support, and hence the lack of correlation between these variables, suggests that even patients who were suffering more advanced disease report no less emotional support than those who were in better physical condition. This pattern of findings is
consistent with Zemore and Shepel (1989) who explored this issue by examining the emotional support reported by breast cancer patients in the earlier stages in comparison with non-cancer controls, and found no evidence of withdrawal of emotional support provided to the cancer patients. It is interesting to wonder whether changes in social attitudes to cancer may explain the present result, as it is noted that many of the authors concerned about the break down of support to dying cancer patients wrote of their clinical observations over thirty years ago (e.g., Kastenbaum & Aisenberg, 1972; Kübler-Ross, 1969).

2.14 Emotional Support from Patients to Spouses

Is emotional support from dying cancer patients important to the psychological adjustment of their spouses? The answer to this question also appears to be yes. The second hypothesis asserted that the spouses’ perception of empathy from patient and benefit of self-disclosure to patient would be associated with better psychological adjustment in the spouse. This hypothesis was confirmed in part: spouses’ negative affect was strongly associated with the emotional support they received from their dying partner. However, because psychological adjustment for spouses was measured using both negative affect and positive affect, this hypothesis was only confirmed in part: emotional support from the patient was not associated with positive affect.

Although positive affect was not significantly associated with emotional support, the finding that spouses’ negative affect is associated with emotional support from patient to spouse is important because it suggests that if patients are able to provide emotional support to their spouses, this support is likely to have significant impact in protecting spouses from psychological distress. Few studies have explored the effects of emotional
support from patient to spouse. This is surprising, because prior work suggests that spouses are often more psychologically distressed than patients (Gotay, 1985), and that support provided outside the couple cannot fully compensate for a lack of support within the couple (Brown & Harris, 1978; Pistrang & Barker, 1995). These findings are consistent with the present data: spouses were more distressed than patients on average, and support provided to spouses from family, friends, and a significant other was weakly correlated with psychological adjustment (see Table 2.20), suggesting its lack of importance in comparison with the relationship of the couple.

It is important to note that the physical condition of the patient was not associated with spouses’ perception of the emotional support patients were able to provide to them. This suggests that the physical condition of dying cancer patients does not adequately explain the variance in emotional support patients provide to their spouses. It seems likely that pre-existing variables related to personality and relationship dynamics may be much more influential. It is these types of variables that cancer support research needs to explore in order to better inform interventions designed for cancer patients and their families (Helgeson & Cohen, 1996), and which this research will explore employing attachment theory in the later chapters.

2.15 Affectionate Touch

A number of leading clinicians have suggested that affectionate touch can be of critical importance to the comfort of the dying (Kübler-Ross, 1969; Lichter, 1987). Emotional support may be provided non-verbally through affectionate touch, and this can encourage a sense of acceptance and aid a peaceful death. Consequently, the present research was interested in examining the effects of affectionate touch between patient and spouse on their psychological adjustment.
It was hypothesised that higher levels of affectionate touch would be associated with better psychological adjustment for patients and spouses. This hypothesis was not confirmed. The affectionate touch the patient received from their spouse was not significantly associated with the patient’s negative affect. Similarly, the affectionate touch the spouse received from their dying partner was not associated with the spouse’s negative affect, or positive affect.

One explanation for this null result may be worth brief discussion. Patients with extensive disease often found heavy touch to their bodies painful. Also, many end-stage patients have difficulty with movement and are unable to easily touch their spouses. Consequently, many patients and spouses mentioned during the interview that they were unable to touch one another a great deal, and particularly in comparison to the degree they once had prior to the end-stage of the disease. It seems likely that in reporting levels of touch, patients and their spouses were making a comparison with previous levels of touch. It also seems likely that, with the benefit of hindsight, many participants were unsure of how to interpret the question asking about ‘affectionate touch’. It seems most likely that further research is required to investigate the influence of touch before it can be dismissed as inconsequential to the psychological adjustment of dying cancer patients and their spouses.

2.16 Reciprocity

The review of the social support literature shows that reciprocity has been operationalised in two ways. First, specific to the cancer literature, reciprocity has been defined simply as support given by patient to spouse (Primomo et al., 1990). No doubt
defining reciprocity at the level of the couple is perfectly valid, given the lack of theory and research examining the bi-directional nature of emotional support within couples coping with cancer.

The present research defined and investigated reciprocity at the level of the individual. Thus we operationalised reciprocity in terms of the difference between the individuals’ perception of what is given and received in their social exchanges, similar to the work of Rook (1987). Low reciprocity reflects inequality in give and take, regardless of how much is given or received, and in which direction the imbalance lies. In contrast, high reciprocity reflects equality in give and take, once again regardless of how much is given and received. Specifically, it was hypothesised that higher levels of reciprocity of overall emotional support and affectionate touch would be associated with better psychological adjustment for patients and their spouses.

No support for the hypotheses regarding reciprocity of emotional support or touch was found. It should also be noted in conclusion to this section that the measurement of reciprocity at the individual level was somewhat limited in the present sample. This was because there was little variation in the pattern of exchange between patients and their spouses, with most couples reporting complete reciprocity on both emotional support and touch (see Table 2.16). When differences in give and take were apparent, a consistent pattern was evident: the majority of patients reported receiving more emotional support and touch than they gave, and the majority of spouses reported giving more emotional support and touch than they received. Thus the variability in the reciprocity scores was limited: few patients had a deficit in emotional support or touch, and few spouses a surplus in emotional support or touch. Given the context of end-stage cancer, this is perhaps not surprising. Thus it appears the examination of reciprocity in future end-stage
cancer studies may be more usefully conducted by examining reciprocity not between patient and spouse, but between family members more generally.

2.17 Process: The Relationship between Empathy and Self-Disclosure

The fifth and final hypothesis related to emotional support stated that empathy would be associated with benefit of self-disclosure for all participants. This hypothesis was confirmed. For both patients and spouses perception of empathy was correlated with the participant’s sense of benefit of self-disclosure to their partner. This simple finding is important because, although limited by the correlational nature of these data, which of course cannot show direction of cause, may suggest that the provision of empathy encourages a greater sense of benefit from self-disclosure. These data taps into the issue of process in emotional support, and suggests the critical importance of an empathic response in providing emotional support in the context of end-stage cancer. This finding also supports the emphasis placed on empathy by Pistrang and Barker in their research of emotional support and cancer patients in the earlier stages of the disease (1992, 1995), and is consistent with the well-recognised therapeutic conditions described by Rogers (1957).

Given the important clinical ramifications of research examining process issues in relation to emotional support in couples coping with cancer, an important extension of the present research may be to conduct observational studies of the provision of emotional support between couples. Research examining the subtle processes of empathy provision in situ may be most useful for future interventions designed to educate and support couples coping with cancer.
The findings of this chapter suggest that emotional support within the spousal sub-system is most important to the psychological adjustment of both the end-stage cancer patient and his or her spouse. Few other non-focal variables, including social support from family, friends, or a significant other, socio-economic status, age, or other adverse life events were strongly related to psychological adjustment. And when the control variables of the patients’ physical condition were taken into account, emotional support remained significantly associated with psychological adjustment.

Why does emotional support appear to be so critical to the psychological adjustment of patients and their spouses in the context of end-stage cancer? It was suggested in the overview of this thesis that the answer to this question is multi-faceted, and it is worthwhile to discuss this issue again here briefly. First, it would seem likely the practical benefits of emotional support, and the high levels of communication involved, allows for practical decisions and plans to be made co-jointly, increasing clarity about the likely future and expectant roles, and reducing fear and worry. Second, emotional support often involves the expression of love and respect, and a general valuing of the person, influencing self-worth at a time when perceptions of self-worth are likely to be tested for both patients and spouses. For patients, self-worth may often be challenged due to a decreasing ability to maintain long-held roles. For spouses, self-worth may often be challenged due to insecurities that develop as a consequence of being thrown into the role of primary carer.

But perhaps the most essential reason why emotional support is critical to the psychological adjustment of both the dying cancer patient and their spouse is that it
facilitates the existential explorations that experts report are common to cancer patients (Barkwell, 1991; Ersek & Ferrell, 1994; Linn et al., 1982; Spiegel & Yalom, 1978; Weisman & Worden, 1976). At a time when life may appear unjust and meaningless, emotional support allows couples to review their lives together, and in doing so find worth, purpose, and satisfaction in their bond together, and perhaps in their relationships with others. Through this process a sense of purpose in the past and present is maintained, and a sense of isolation and meaninglessness warded against. Thus emotional support facilitates the processing of existential issues that are often important in the context of dying (Spiegel, 1993). If it is true that emotional support is influential in the processing of existential issues, then it should follow that the measures of emotional support in the present research will be associated with a measure of positive meaning. The next chapter of this thesis will explore this very issue, amongst others related to existential issues in the context of end-stage cancer.
Chapter 3

The Construal of Positive Meaning

Introduction

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The second variable of focal interest in the present research was positive meaning. Can dying cancer patients construe positive meaning in their illness? If so, can patients’ ability to construe positive meaning attenuate their psychological distress? And to what degree is any ability to construe positive meaning associated with emotional support? It is only relatively recently that the empirical investigation of such existential questions has been sought, as early work suggesting that meaning is critical to coping with adverse life advents tended to be based on personal experience and theory (e.g., Antonovosky, 1980; Frankl, 1959/1984a, 1984b; Marris, 1974). However, researchers now have begun to empirically examine the construct of meaning in various contexts of trauma and loss. Because few studies have focused specifically on the context of cancer, the introduction to this chapter will begin with a review of the meaning literature in general, after which it will review research specific to cancer, and conclude with the current research interest.

3.1 The General Literature

According to Ulmer, Range and Smith (1991), meaning is defined as “an intrinsic, implicit, fluid clarity about the usefulness of life and can be derived from different sources (beauty, truth, love of another) at almost any time” (Ulmer, Range, & Smith, 1991, p. 279). The meaning individuals ascribe to events influences their appraisal of the events, and thus influences behavioural responses and emotional adjustment to adversity, including life-threatening illness (Cassel, 1982). Because these definitions are broad, as were the original constructs developed by pioneering theorists, researchers have conceptualised meaning in various ways. However, reviewers of this literature suggest that two general frameworks encompass this variation (Davis, Nolen-Hoeksema, &
Larson, 1998; Janoff-Bullman & Frantz, 1997). The first has been referred to as meaning-as-significance (Janoff-Bulman & Frantz, 1997) or as the benefit-finding construal of meaning (Davis et al., 1998), and for simplicity will henceforth be referred to as positive meaning. Positive meaning involves focusing on the individual’s perception of the significance of the event in relation to life goals and purpose (e.g., Thompson & Janigian, 1988), and often involves people considering the positive implications of negative life events (Taylor, 1983, 1989). Positive implications often include prioritization of life values and goals, closer interpersonal relationships, and greater emphasis placed on enjoying the present moment.

The second meaning framework is referred to as meaning-as-comprehensibility (Janoff-Bulman & Frantz, 1997) or meaning as sense making (Davis et al., 1998), and for simplicity will henceforth be referred to as sense-making meaning. This framework explores the individual’s ability to fit their trauma and or loss within their existing worldviews or fundamental schemas (e.g., Horowitz, 1976; Janoff-Bulman, 1992; Parkes & Weiss, 1983; Wortman, Silver, & Kessler, 1993). In western culture this process often involves construing events so that they appear just, controllable, and non-random, and thus encouraging the perception that the environment is predictable, ordered and benign (Janoff-Bulman, 1992; Kelley, 1972). Not surprisingly, this process can be extremely challenging for individuals who have experienced unexpected trauma such as a rape, or the violent death of a loved one. Examples of sense-making meaning include attributing loss to God’s will or, in the case of a loss to cancer, to the health behaviours or actions of the deceased.
The present research was concerned only with positive meaning. This was determined primarily by ethical considerations, as clinical judgement suggested that asking dying patients why they were dying of cancer was likely to cause considerable distress, particularly in cases where lifestyle factors may have contributed to their disease (e.g., lung cancer or gynaecological cancer). A careful literature review also supported this decision: a Belgian study that investigated locus of control in lung cancer patients began asking their participants questions regarding the cause of the illness, but stopped because of the distress that resulted (de Valck & Vinck, 1996). It appears this question invoked considerable guilt because many participants had a history of smoking. While a sense-making meaning question could be developed for dying cancer patients (e.g., “Do you feel you have been able to make sense of your terminal illness?”), a cost-benefit analysis suggested that the likely distress from such a question would outweigh the probable benefit of asking it, and thus sense-making meaning was not explored in the present research. Consequently, the review of the general literature will be concerned primarily with the positive meaning literature.

Much of the research into positive meaning has involved coding participants’ responses to open questions. (This is also true for sense-making meaning, and Davis et al.’s question reported above is a good example). The development of the coding categories originally emerged from post hoc thematic analyses of participant’s responses (e.g., Affleck, Tennen, & Gershman, 1985), and more recent work has tended to use codes developed in this way as priori categorisations (as is the case in the present research). Considerable agreement in the categories has been observed between independent studies (Davis, 2001), and interrater reliability scores for such coding is generally high (Cohen, Hettler, & Pane, 1998).
A review of this literature indicates that positive meaning has been conceptualised in two ways: (1) as an adjustment outcome in and of itself (e.g., Affleck, Tennen, Croog, & Levine, 1987; Collins, Taylor, & Skokan, 1990), or (2) as a form of coping, and thus as a predictor of adjustment. In such studies positive meaning is typically related to paper and pencil measures of psychological adjustment (e.g., Davis et al., 1998; McMillen, Zuravin, & Rideout, 1995). It is in the second category that the present research belongs.

A good example of early work that conceptualised positive meaning as an outcome is the research of Affleck and colleagues. This group of researchers asked approximately 40 mothers of infants with serious medical conditions if they had experienced any benefits, gains, or advantages from the situation (Affleck, Tennen, & Gershman, 1985). Responses were then classified into the following categories: better perspective on life, closer family relations, special appreciation for the child, emotional growth, or spiritual growth. Affleck et al. (1985) found that approximately 20% of mothers reported positive meaning among the first four categories (better perspective on life, closer family relations, special appreciation for the child, and emotional growth), and 7% found meaning in the fifth category of spiritual growth.

Affleck and colleagues followed this work with a study of 300 men who had experienced heart attacks (Affleck, Tennen, Croog, & Levine, 1987). The men were interviewed 7 weeks after their heart attack, and followed up 8 years later. The question asked of participants was virtually identical to that asked by Affleck et al. (1985), and participant’s responses were classified into the following categories: learned the value of health behaviour, changed life to increase enjoyment, changed philosophy of life, gained insight into how to avoid stress and conflict, and improved family relations. Affleck et al.
(1987) found that the first two domains (learned the value of health behaviour and changed life to increase enjoyment) were described by 30% of participants, whereas the other categories were mentioned by 12% or less of the participants. At 8 years’ follow-up, the first two categories were still frequently mentioned (25% and 17% respectively), but the category of changed philosophy of life had increased to 25%. The number of participants who reported the remaining categories remained low (13% or less of participants).

In contrast to research that has conceptualised positive meaning as an outcome, research that has conceptualised positive meaning as a coping construct that predicts adjustment are few in number, and findings regarding the association between positive meaning and psychological adjustment are mixed. Before beginning a review of this research, it is important to note that a number of studies finding a link between positive meaning and psychological adjustment are unconvincing because psychological adjustment was assessed using a composite of poorly recognised and validated measures (e.g., Michela, 1987; Thompson, 1985, 1991). Consequently, these studies have been excluded from this review.

Regarding studies that are methodologically sound and have found a link between positive meaning and psychological adjustment, McMillen, Zuravin, and Rideout, (1995) interviewed a sample of low-income women who had been sexually abused as children. Participants were asked, “Even though some people think that the unwanted sexual contact has had no effect or a negative effect on their lives, some people have found some ways that they feel they have benefited from the unwanted sexual contact”. Responses were coded into five major categories: (1) protective of children, (2)
protective of self, (3) increased knowledge of sex abuse, (4) stronger in oneself, and (5) other. Psychological adjustment was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965), in addition to a scale assessing views of others as benevolent (Benevolent World Scale; Janoff-Bulman, 1989), and a measure of adult attachment style (Bartholomew & Horowitz, 1991) that, in this study, was interpreted as a measure of relationship adjustment. The degree to which these women could find positive meaning in their past abuse was positively and significantly associated with both self-esteem and relationship adjustment, but not with their perception of others as benevolent. Despite the difficulty determining the direction of cause between positive meaning and psychological adjustment from such cross-sectional data, this study indicates an association between these two constructs.

Given the limitation of cross-sectional methodology, perhaps the strongest evidence to date regarding the link between positive meaning and psychological adjustment is found in Davis et al.’s (1998) prospective study of 205 bereaved individuals. Similar to the question asked in earlier research by Affleck and colleague (reviewed above), Davis et al. asked participants, “Sometimes people who lose a loved one find some positive aspect in the experience. For example, some people feel they learn something about themselves or others. Have you found anything positive in this experience?” Participants responses were coded into seven categories: (1) growth in character, (2) gained perspective, (3) brought family together, (4) support from others is positive, (5) others will benefit, (6) better that it is over, and (7) other. In addition to positive meaning, participants were also asked about meaning-as-comprehensibility (recall that this is sense-making meaning): “Do you feel you have been able to make sense of this death?” Adjustment was measured using a composite of the Inventory to Diagnose Depression
(Zimmerman & Coryell, 1987), positive affect items from the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970), and items developed by Davis et al. (1998) assessing Post Traumatic Stress Disorder symptomatology.

Davis et al. (1998) found that positive meaning was significantly related to adjustment over time, with 73% of the sample finding positive meaning at 6-months postloss, and 80% at 12-months postloss. Of the two types of meaning measured (each statistically independent of the other), it emerged that meaning-as-comprehensibility (sense-making meaning) was associated with less distress than positive meaning, but only in the first year postloss. The importance of positive meaning became apparent in the second year postloss, when the ability to find benefit in the experience was significantly and, in comparison with sense-making meaning, more strongly associated with adjustment. Dispositional optimism was associated with positive meaning, and strengthened with positive meaning over time. Interestingly, the number of positive meanings people reported was not very important: what was most essential was that participants were able to report at least one positive meaning. Also interesting from a prospective viewpoint, the effect of positive meaning on adjustment strengthened over time, whereas the effect of sense-making meaning on adjustment weakened with time (Davis et al., 1998). This prospective research provides compelling evidence that the ability to construe positive meaning predicts better psychological adjustment in bereavement.

Moving now to mixed findings regarding the association between positive meaning and psychological adjustment, Yalom and Lieberman (1991) interviewed thirty-six recently bereaved widows and widowers (27 women, 9 men). Participants’ responses
during the interview were coded for positive meaning in the following categories: developing new interests, willing to explore new relationships, engaging in new or renewed forms of creative expression, a sense of purpose, and increased awareness of own mortality. Depression and anxiety subscales from the Hopkin’s Symptoms Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) were used to measure adjustment. Few significant results were reported, with the exception that a sense of purpose was inversely related to depression (Yalom & Lieberman, 1991).

Another good example of mixed findings between positive meaning and psychological adjustment is a study of 65 women with impaired fertility (Mendola, Tennen, Affleck, McCann, and Fitzgerald, 1990). Participants were asked, “As difficult as this situation may be, do you believe that anything positive has come from this, some benefit or gain that has occurred that wouldn’t have occurred if you were able to conceive?” Responses were coded for a strengthened marriage, personal growth, and or a greater appreciation of life. Only believing the fertility difficulties had strengthened the marriage were significantly associated with psychological adjustment, as measured by the Symptoms Check List – 90 (Derogatis, 1977). The other two categories, those being personal growth and greater appreciation for life, were unrelated to psychological adjustment.

In addition to studies that have found either positive results or mixed results for the relationship between positive meaning and psychological adjustment, a small number of cross-sectional studies have failed to find any significant association between positive meaning and psychological adjustment at all. Employing the Profile of Mood States (Lorr & McNair, 1982) as a measure of adjustment, researchers found no significant
association between perceived benefit of arthritis pain and adjustment (Tennen, Affleck, Urrows, Higgins, & Mendola, 1992). Likewise, Lehman et al. (1993) found that participants responses to a question asking about positive meaning following the loss of a spouse or child in a car accident 4 to 7 years previously was unrelated to psychological adjustment, assessed using the Symptoms Check List – 90 (Derogatis, 1977) and the Bradburn Affects Balance Scale (Bradburn, 1969).

As well as the mixed results reported above regarding positive meaning as a predictor of psychological adjustment, there is a small body of psychoneuroimmunological data attesting to the importance of positive meaning that is worthy of review here. Taylor and colleagues conducted an intensive interview study with 40 HIV-seropositive men who had recently lost a significant other to AIDS (Bower, Kemeny, Taylor, & Fahey, 1998). Interviews were coded for cognitive processing (thinking about the loss) and positive meaning (a positive shift in values, priorities, or perspective). Sixty-five percent of the sample was identified as engaging in cognitive processing, and primarily of those, 40% of the total sample found positive meaning. Only the men who were identified as finding positive meaning maintained their CD4 T helper cells over the follow up period (2-3 years). Importantly, this effect remained significant after controlling for health behaviours (e.g., sleep, sex, smoking, alcohol) and affective states (depression and loneliness).

Contrary to Davis et al.’s (1998) prospective data reported above that showed a significant association between positive meaning and psychological adjustment, this study found no such association to significant levels over 2-3 years, as measured by depressive symptomatology via the Centre for Epidemiological Studies Depression Scale.
(Ranlof, 1977), and negative affect via the Bendig (1956) short form of the Taylor Manifest Anxiety Scale. Nonetheless, although not significant, a trend between positive meaning and lower levels of depressive symptoms was observed: for participants reporting positive meaning a mean depressive score of 7 was recorded (S.D. = 6), whereas for participants without positive meaning a mean depressive score of 10 was recorded (S.D. = 9). However, most striking was the 4-9 year follow up of participants, which revealed a significant relationship between mortality and finding meaning. Of the 16 men who found positive meaning, three died. In contrast, half of the men who failed to find meaning died over the follow up period. These data suggest that finding positive meaning is biologically protective, and is consistent with the clinical observations made by Frankl (1959/1984a) that the physical deterioration of fellow concentration camp inmates was related to their inability to find meaning in their desperate circumstances.

### 3.2 Meaning Specific to Cancer

Given that meaning is considered important in coping with trauma and loss of various kinds, it is not surprisingly that the context of cancer is relevant to such research. Cancer often involves the trauma of symptoms and treatments that can be painful and distressing, and the separation from loved ones during treatment. By the end-stage of the disease patients have often experienced multiple losses – the loss of strength, weight, hair, appetite, bowel control, and mobility to name a few. Anticipatory grief is also often strong, further explaining why positive meaning may be relevant to coping with dying. Clearly individuals have a need to find meaning in anticipation of increasing pain and death (Rando, 1986, Doka, 2000).
There is also another reason why research into positive meaning in the context of cancer is important, and particularly end-stage cancer. The options for active forms of coping that attempt to change external stressors (often referred to as *problem-focused coping* in the literature, see Lazarus & Folkman, 1984) become increasingly limited as the disease progresses, because the primary stressor, the disease itself, cannot be changed. This reality increasingly leaves internal coping that may be described as *intrapsychic* (Lazarus & Launier, 1978), *cognitive* (Folkman & Greer, 2000) or *emotion-focused* (Lazarus & Folkman, 1984) as the only option for mitigating psychological distress. Given this fact, and that the construal of positive meaning is likely to be an important form of internal coping in the context of end-stage cancer, it is surprising that no well-designed published empirical work investigating positive meaning has occurred in the end-stage cancer context.

Because internal coping is likely to be critical in end-stage cancer, it seems likely that both sense-making meaning and positive meaning will be important. First, and briefly with regard to the importance of sense-making meaning, research indicates there is a natural tendency for cancer patients and family to make causal attributions (Ersek & Ferrell, 1994; Gotay, 1985; Taylor, 1983). This can help patients and family to explain why cancer has struck, but unfortunately may lead some to feel considerable guilt about behaviours that may have contributed to the aetiology of their disease (e.g., lung and cervical cancer patients). Also important to patients is placing the illness experience within the perspective of a larger scheme (Ersek & Ferrell, 1994; Steves, 1992). This may involve understanding the illness simply in terms of statistical chance or a manifestation of a higher order or force. Religious and spiritual beliefs are salient to this category, and the dying have frequently identified meaning thus derived as important to
their sense of transcending suffering and pain (for a review see Mytko & Knight, 1999). Early work indicates sense-making meaning is particularly important in becoming reconciled with approaching death (Carey, 1974). Despite this importance, sense-making meaning was not measured in the present research for the ethical reasons outlined in the earlier section of this chapter, and thus the remainder of this review will again focus on research examining positive meaning and cancer.

As noted above, few studies have explored the effects of positive meaning on adjustment in the cancer context, and none in end-stage cancer. More common are studies investigating spiritually across the various stages of cancer (e.g., Brady, Peterman, Fitchett, Mo, & Cella, 1999; Byrne, 2002; Carr & Morris, 1996; Cotton, Levine, Fitzpatrick, Dold, & Targ, 1999; Feher & Maly, 1999; Jenkins & Pargament, 1995; Marrone, 1999; Moadel et al., 1999; Mytko & Knight, 1999). Some of these studies report spiritual meanings similar to the construct of positive meaning used in this research, but these meanings are usually tied with belief in God and afterlife, and thus, for reasons of theoretical clarity, are not considered here.

While a larger number of studies have explored spiritual meanings and beliefs, a few cancer studies have also examined types of positive meanings without including a spiritual framework. For example, both Ersek and Ferrell (1994) and Taylor (1983) have shown that cancer patients and their families in the early stages of the disease report a number of benefits from the disease experience: increased personal strength, closer family ties, identification of life priorities, and greater insight into life and human nature. Likewise, O’Connor, Wicker, and Germino (1990) reported that recently diagnosed cancer patients describe a number of themes within which they were seeking positive
meaning, including reviewing life, and a change in the valuing of self, others, and life. The search for such positive meaning appears widespread in cancer patients, with 40% of patients in the mid-stages of the disease report wanting help in finding meaning in life (Moadel et al., 1999).

Only three cancer studies have explored positive meaning as a predictor of psychological adjustment. In a cross-sectional study of 78 women with early-stage breast cancer, Taylor, Lichtman and Wood (1984) asked about the changes that had occurred in a number of key life domains, including stress management, work, and religion. Most women (70%) reported that the cancer had made them think differently about life, and 60% said that this change was positive. Positive change was significantly associated with psychological adjustment, as measured primarily by the Profile of Mood States (Lorr & McNair, 1982), and Index of Well-Being Questionnaires (Campbell, Converse, & Rogers, 1976). Taylor (1983) concluded:

When positive meaning can be construed from the cancer experience, it produces significantly better psychological adjustment. The cancer threat is perceived by many to have been the catalytic agent for restructuring their lives along more meaningful lines with an overall beneficial effect. (p. 1163)

Consistent with Taylor et al.’s (1983) conclusion are the findings of Carver et al. (1993). In a study of 59 breast cancer patients, ‘positive reframing’ was measured by an inventory of coping responses that measures coping along multiple dimensions (the COPE; Carver, Scheier, & Weintraub, 1989). Along with acceptance and use of humour, participants who reported being able to reframe positively (and hence it is assumed find some positive meaning) were significantly less distressed across a 12-month period,
measured cross-sectionally and using the Profile of Mood States (Lorr & McNair, 1982). Despite this, levels of positive reframing failed to prospectively predict levels of distress. The ability to engage in positive reframing was also associated with dispositional optimism, as measured by the Life Orientation Test (Scheier & Carver, 1985), providing further evidence that the individuals’ ability to find positive meaning may be influenced by pre-existing personality traits.

The third study involving cancer patients’ positive meaning as a predictor of psychological adjustment involves 135 long-term survivors of bone marrow transplantation, of whom 80% were cancer survivors (Curbow, Somerfield, Baker, Wingard, & Legro, 1993). At 6 to 149 months post transplant, participants were asked to report positive and negative changes in four life domains: activities, relationships, physical ability, and existential/psychological. Depression was assessed using an abbreviated form of the Profile of Mood States (Shacham, 1983), and by self-ratings of life satisfaction. Also measured were a number of control variables, including marital status, gender, current illness, perceived health, and optimism.

Curbow et al. (1993) found that in bivariate analyses, positive change (i.e., positive meaning) was associated with life satisfaction, but not depression. This effect disappeared, however, when the control variables were entered first into a hierarchical regression analyses. Despite these null results, given the limited research with cancer patients and positive meaning, it is most probably premature to conclude that positive meaning will always be redundant after controlling for potentially confounding contextual and disease related variables, particularly in light of Bower et al.’s (1998) findings regarding HIV patients reported above. Furthermore, the degree to which
personality constructs such as dispositional optimism invalidate the construct of positive meaning remains a theoretically contentious issue (Tennen & Affleck, 1998).

The issue of the degree to which positive meaning will be influenced by personality and contextual variables remains an intriguing research question. With regards to contextual predictors of meaning, worthy of brief review here is work by Fife (1995). Although not a study of positive meaning per se (Fife’s Constructed Meaning Scale appears to primarily measure optimism about the future course of the illness, rather than positive meaning per se), Fife (1995) studied 422 cancer patients, primarily in the early stages of their illness, and found that meaning, as measured by her scale, was positively associated with psychological adjustment, as measured by the Profile of Mood States (Lorr & McNair, 1982). Fife also employed social support scales developed by Procidano and Heller (1983), leading to perhaps the most interesting result of this work: higher levels of perceived social support were associated with higher levels of meaning. This suggests that patients’ perceptions of their circumstances, including their various constructions of meaning, are influenced by the social support that they receive from loved ones and friends.

3.3 The Present Research

Research identifying meaning as important in the cancer context may add to the growing body of literature suggesting that the meaning construct is important in explaining the successful progression through life in the face of trauma, adversity, and loss. The present research plans to examine the degree to which end-stage cancer patients are able to construe positive meaning in their circumstances, and the degree to which patients’ positive meaning is associated with their psychological adjustment.
At this point it is useful to expand on an interesting finding briefly reported earlier in the literature review. Davis et al. (1998) found that the number of positive meanings bereaved participants reported was less important to their psychological adjustment than whether they had found at least one positive meaning. Davis et al wrote in their discussion,

One telling finding that has emerged from this research, however, is that it is not the number of benefits that one reports that is informative, but rather whether any benefit has accrued (see Affleck et al., 1991; Davis et al., 1997). And this makes sense theoretically: if people seek benefit following loss or trauma in an effort to assuage threats to their sense of self, or to restore a sense of purpose to their life, then one benefit should be sufficient. There is no theoretical reason why four benefits should be preferable to three, or three preferable to two. (p. 572)

Given this finding, the present research will test Davis et al.’s finding by formulating two hypothesis regarding positive meaning and psychological adjustment. First, it is hypothesised that a higher number of positive meanings will be associated with better psychological adjustment for patients. This first hypothesis would seem intuitively correct, and thus this research will examine this possibility, although Davis et al. found no such association. Given Davis et al.’s finding, we also hypothesise that one or more positive meanings will be associated with better psychological adjustment. Furthermore, whether any significant association between positive meaning and psychological adjustment remain after controlling for significant disease related variables will also be examined.
This research will also examine the association between positive meaning and emotional support. It seems likely that as patients progress through end-stage, the relationship between social support and meaning will become increasingly important. When one looks at the categories of positive meaning reported in the literature (e.g. Davis et al., 1998), it becomes apparent that many categories are related to finding positive meaning in close relationships (e.g., brought family together, support form others is positive, others will benefit). It seems likely that as other types of positive meanings, perhaps related to activities no longer available to the patient, become less salient, positive meaning related to close relationships would become primary, and be protective against the intense distress sometimes observed in the dying. Such data would also seem consistent with Frankl (1959/1984a), who suggested that meaning was not invented but discovered as a consequence of experience in the world. In the case of end-stage cancer, past and present relationship experience is likely to be a primary source of discovery.

3.31 Hypotheses

Specifically, the following two sets of hypotheses are made:

Positive meaning and psychological adjustment

(1a) A higher number of patient’s positive meanings will be associated with better psychological adjustment for patients. This association will remain significant after significant control variables are taken into account

(1b) Consistent with the findings of David et al. (1998), one or more positive meanings will be associated with better psychological adjustment for patients. This
association will remain significant after significant control variables are taken into account.

*Positive meaning and emotional support*

(2a) Patients’ positive meaning will be associated with their perception of higher levels of emotional support from their spouse.

(2b) Patients’ positive meaning will be associated with spouses’ perception of emotional support from the patient.

It is interesting to consider the effects of patients’ positive meaning on their spouses’ psychological adjustment. There is no theoretical reason to hypothesise that patients’ positive meaning will influence spouses psychological state, as meaning is considered a highly personal construct specific to the individual. Nonetheless, exploring any effects that the patient’s positive meaning may have on the psychological adjustment of his or her spouses is interesting, and for this reason exploratory analyses will be conducted investigating this association.

**Method**

3.4 *Participants and Procedure*

The sample and procedure used in each of the chapters is the same (except for slightly different numbers due to missing data), and thus a description of the participants and procedure will not be repeated here. For a review of the participants and procedure description, see Method section Chapter Two, page 33 and 50 respectively.
3.5 Measures

The majority of measures used in this chapter were also used in Chapter Two. The only new addition here is the focal measure of positive meaning. Thus it is the only measure described in this method section. Nonetheless, a list of all measures included in this analysis is made below, and the page number for the description of that measure in the Chapter Two Method section is also provided below.

3.5.1 Positive Meaning

As described in the procedure section of Chapter Two (see page 50), the research interview began with an open-ended question, which asked patients about positive meaning. Patients were asked to respond to the following question asked verbally: “Sometimes people who are coping with illness find some positive aspect in the experience. For example, some people feel they learn something about themselves, others, or the world. Have you found anything positive in this experience?” This question was adapted with little change from the question used by Davis et al. (1998) in their bereavement study, and is also very similar to questions asked by other researchers investigating positive meaning (e.g., Affleck et al., 1987; Affleck et al., 1991; Thompson, 1985).

Originally it was planned to ask the patient and spouse the positive meaning question simultaneously, and indeed this occurred in the early interviews. Because the patient’s response was considered of primary importance, he or she was asked to respond first. However, it became evident that the spouse’s response to the question was influenced by
the patient’s response. It appeared that if patients reported positive meaning, spouses would also do so, sometimes in a fairly unconvincing fashion, and then later report to the interviewer (usually while seeing him out of the home) that their response was not genuine, but rather to please the patient. Alternatively, in cases where patients’ reported no positive meaning, spouses were sometimes reluctant to do so, but later reported in confidence that they were able to construe positive meaning. Because it was not feasible to separate the couple during the interview, as it was clear couples preferred to be together while interviewed in their own home, it was not possible to remedy this problem by asking the participants separately. Thus, because of the lack of independence between patients’ and spouses’ reports of positive meaning, it was decided that only a measure of patients’ positive meaning would be used in the present research.

 Responses to the meaning question were categorised into specific forms of positive meaning. The coding scheme employed was developed by Davis et al. (1998) on the basis of the thematic analysis of their data. These categories were (1) growth in character, (2) gained perspective, (3) brought family together, (4) support from others is positive, (5) others have/will benefit, and (6) other. These codes were found to capture patient’s responses adequately. Each type of positive meaning reported received a score of 1.

 Patient’s descriptions of positive meaning were tape-recorded, which allowed an independent rater to code a random sample of 22 responses in order to establish interrater reliability. He obtained Kappa of .85 suggested satisfactory agreement between raters.

3.52 Psychological Adjustment

 As mentioned in the previous chapter, the Positive and Negative Affect Schedule (PANAS-X) was employed to measure psychological distress over the week prior to the
interview. For a full description of the PANAS-X see Method Section Chapter Two, page 40.

3.53 Non-Focal Variables

The three non-focal variables identified in earlier analyses as having a significant association with the dependent variable of the general dimension scale of Negative Affect (for patients) were included in analyses in this chapter.

*Medical assessment of physical state and functioning.*

1. The Karnofsky Performance Status (KPS; Karnofsky & Burchenal, 1949). See Method section Chapter Two (page 44) for description.

2. The Quality of Life Index (QL-Index) (Spitzer, Dobson, Hall, & Chesterman, 1981). See Method section Chapter Two (page 45) for description.

*Pain in interview.*

Pain Scale. See Method section Chapter Two (page 46) for description.
Results

3.6 Overview of Results Section

This results section begins with descriptive data for positive meaning. It will then report analyses that test the hypotheses that positive meaning will be associated with lower levels of psychological distress in patients. Multivariate analyses will then used to test whether any significant associations between positive meaning and psychological distress remain significant after controlling for the non-focal variables previously identified as significantly correlated with psychological distress (i.e., performance status, quality of life, and pain in interview). Analyses are concluded by testing the hypothesis that patients’ positive meaning will be associated with higher levels of patients’ emotional support.

3.7 Descriptive Data for Positive Meaning

Two positive meaning variables are used in these analyses. First, positive meaning was used as a continuous variable with scores ranging from 0 (no positive meaning) to 4 (the maximum number of positive meanings reported). Second, positive meaning was coded as a dichotomous variable: no positive meaning, and one or more positive meanings. Table 1 shows the frequencies of patients’ total positive meanings. As can be observed in Table 3.1, 30% of patients reported no positive meaning, thus leaving 70% of patients who reported one or more positive meaning. Thus it appears that the majority of dying cancer patients are able to construe positive meaning in the circumstances.
Table 3.1

<table>
<thead>
<tr>
<th>Number of Meanings</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No positive meaning</td>
<td>20</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>One positive meaning</td>
<td>24</td>
<td>36</td>
<td>66</td>
</tr>
<tr>
<td>Two positive meanings</td>
<td>8</td>
<td>12</td>
<td>78</td>
</tr>
<tr>
<td>Three positive meanings</td>
<td>12</td>
<td>18</td>
<td>96</td>
</tr>
<tr>
<td>Four positive meanings</td>
<td>3</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3.2 shows the 6 categories of positive meaning in the present research. The third category, *brought family together*, was reported most frequently by patients (36% of the sample). The next most frequently described category was *growth in character* (31%), closely followed by *support from others is positive* (30%). Only 2 patients reported the fifth and sixth categories of *others will/have benefit*, and *other*.

Table 3.2

<table>
<thead>
<tr>
<th>Meaning Category</th>
<th>Frequency</th>
<th>Percent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Growth in character</td>
<td>21</td>
<td>31</td>
</tr>
<tr>
<td>2. Gained perspective</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td>3. Brought family together</td>
<td>24</td>
<td>36</td>
</tr>
<tr>
<td>4. Support from other is positive</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>5. Others have/will benefit</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Other</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
3.8 Focal Variable Results

3.81 Positive Meaning and Psychological Adjustment

It was hypothesised that a higher number of positive meanings reported by the patient would be associated with lower levels of psychological distress for that patient. As can be observed in Table 3.3, there is a trend for positive meaning to be associated with lower mean levels of negative affect for patient, and this is also generally true for his or her spouse. However, this pattern appears to be independent of the number of positive meanings patients report.

Analysis of the association between the total number positive meanings reported by patients and psychological distress began by correlating the number of positive meanings with negative affect for patient and spouse (see Table 3.4). No significant correlations to an alpha level of .01 were detected for patient or spouse, and thus no support was found for the first hypothesis that a higher number of positive meanings would be associated with lower levels of psychological distress for patients.

Table 3.3
Total number of Patients’ Positive Meanings and Mean Levels of Affect for Patient and Spouse

<table>
<thead>
<tr>
<th>Number of Patient’s Meanings</th>
<th>Patient ($n = 66$)</th>
<th>Spouse ($n = 65$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative Affect</td>
<td>Negative Affect</td>
</tr>
<tr>
<td>No positive meaning</td>
<td>22.40</td>
<td>24.05</td>
</tr>
<tr>
<td>One positive meaning</td>
<td>16.43</td>
<td>22.70</td>
</tr>
<tr>
<td>Two positive meanings</td>
<td>17.38</td>
<td>17.18</td>
</tr>
<tr>
<td>Three positive meanings</td>
<td>16.67</td>
<td>25.33</td>
</tr>
<tr>
<td>Four positive meanings</td>
<td>17.00</td>
<td>17.33</td>
</tr>
</tbody>
</table>
### Table 3.4

*Correlations Between Patient’s Total Number of Positive Meanings and Patient’s and Spouse’s Psychological Adjustment*

<table>
<thead>
<tr>
<th>Patient’s Number of Positive Meanings</th>
<th>Patients (n = 66)</th>
<th>Spouses (n = 65)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative Affect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>-.14</td>
<td>-.07</td>
</tr>
<tr>
<td>Hostility</td>
<td>-.30</td>
<td>-.06</td>
</tr>
<tr>
<td>Guilt</td>
<td>-.10</td>
<td>-.09</td>
</tr>
<tr>
<td>Sadness</td>
<td>-.16</td>
<td>-.18</td>
</tr>
<tr>
<td><strong>Positive Affect</strong></td>
<td></td>
<td>.17</td>
</tr>
<tr>
<td>Joviality</td>
<td>.21</td>
<td></td>
</tr>
<tr>
<td>Self-Assurance</td>
<td>.24</td>
<td></td>
</tr>
<tr>
<td>Attentiveness</td>
<td>.13</td>
<td></td>
</tr>
</tbody>
</table>

Note. Figures in bold represent dependent variables in the present research

Following these bivariate correlations, a one-way ANOVA was conducted to further test the hypothesis that the patient’s total number of positive meanings would be associated with lower psychological distress scores for that patient and their spouse. Patients’ scores on the general dimension scale of negative affect (PANAS) was entered as dependent variable, with patients’ number of positive meanings (0-4) entered as independent variable. The result revealed no significant differences between the total number of meanings reported by patients and negative affect, $F(4, 61) = 1.97$, n.s. Once
again, no support was found for the hypothesis that a higher number of patients’ positive meanings would be associated with lower levels of negative distress.

Although no hypothesis were made for spouses, the same analyses for spouses for exploratory purposes, with spouses’ scores on the general dimensional scales of Negative Affect and Positive Affect (PANAS) entered as dependent variable, and patients number of positive meanings (0-4) entered as independent variable. Like patients, results were not significant, $F (4, 60) = 1.72$ and $F (5, 59) = 0.58$ for negative affect and positive affect, respectively.

The second hypothesis in this chapter predicted that one or more positive meanings would be associated with lower levels of psychological distress for patients. Table 3.5 displays negative affect means for patients with and without positive meaning (spouses are included for exploratory purposes).

Table 3.5

*Mean Scores of Psychological Adjustment for Patients with or without Positive Meaning and the Spouses of Patients with or without Positive Meaning*

<table>
<thead>
<tr>
<th></th>
<th>Patients ($n = 66$)</th>
<th></th>
<th>Spouses ($n = 65$)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative Affect</td>
<td>Positive Affect</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$M$</td>
<td>$S.D.$</td>
<td>$M$</td>
<td>$S.D.$</td>
</tr>
<tr>
<td>No Positive Meaning</td>
<td>22.40</td>
<td>10.71</td>
<td>24.05</td>
<td>8.51</td>
</tr>
<tr>
<td>$\geq$ 1 Positive Meaning</td>
<td>16.70</td>
<td>5.53</td>
<td>22.22</td>
<td>7.23</td>
</tr>
</tbody>
</table>
A one-way ANOVA was conducted to test the hypothesis that one or more meanings would be associated with lower levels of psychological distress for patients, with scores on the general scale of Negative Affect (PANAS) entered as the dependent variable, and the dichotomised variable of patients’ positive meaning (no positive meaning; ≥1 positive meanings) entered as the independent variable. The results revealed a significant difference, $F(1, 64) = 8.16, p < .01$. This result indicates that, for patients, being able to construe one or more positive meanings is associated with significantly lower levels of negative affect in contrast with patients who report no positive meaning, and confirms the hypothesis that this would be so.

Once again exploratory analyses were conducted between patients’ positive meaning and spouses psychological state. First, a one-way ANOVA was conducted with spouses scores on the general scale of Negative Affect (PANAS) entered as the dependent variable, and the dichotomised variable of patients’ positive meaning (no positive meaning; ≥1 positive meanings) entered as the independent variable. Unlike patients, however, a significant result was not observed for spouses, $F(1, 63) = 0.78$, n.s. This analysis was repeated with spouses’ scores on the general dimensional scale of Positive Affect (PANAS) entered as dependent variable, $F(1, 62) = .18$, n.s. In brief, the construal of positive meaning by patients was unrelated to the level of either negative affect or positive affect reported by their spouses.

3.82 Analyses Controlling for Non-Focal Variables

It will be recalled that analyses of the control variables in the previous chapter revealed three non-focal variables that were significantly associated with psychological distress for patients (performance status, quality of life, and pain in interview). In this
chapter these three variables were included in an analyses of covariance (ANCOVA) to assess whether the dichotomised variable of positive meaning (no positive meaning; ≥ 1 positive meanings) remained significantly associated with negative affect scores for patients, after controlling for performance status scores, quality of life scores, and pain in interview scores.

A one-way between-subjects ANCOVA was performed on the general dimension scale of negative affect. Using SPSS GENERAL LINEAR MODEL and UNIVARIATE, two levels of the independent variable were no positive meaning and one or more positive meaning, and the covariates were performance status, quality of life, and pain in interview. As with all variables included in the analyses of this research, evaluation of the assumptions of the normality of sampling, linearity, homogeneity of variance, and reliability of covariates were satisfactory. No outliers were observed, and to adjust for unequal \( n \), cells were weighted equally, regardless of sample sizes (see Tabachnick & Fidell, 2001).

Table 3.6

*Analysis of Covariance of Psychological Distress*

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>MS</th>
<th>( F )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain in Interview</td>
<td>534.736</td>
<td>1</td>
<td>534.736</td>
<td>11.25**</td>
</tr>
<tr>
<td>Performance Status</td>
<td>44.011</td>
<td>1</td>
<td>44.011</td>
<td>0.93</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>.531</td>
<td>1</td>
<td>.531</td>
<td>0.01</td>
</tr>
<tr>
<td>Patient Meaning</td>
<td>218.078</td>
<td>1</td>
<td>218.078</td>
<td>4.59*</td>
</tr>
<tr>
<td>Error</td>
<td>2900.215</td>
<td>61</td>
<td>47.545</td>
<td></td>
</tr>
</tbody>
</table>

\( R^2 = .277 \quad R^2_{\text{Adj}} = .230 \)

* p < .05  ** p < .01
As can be observed in Table 3.6, after controlling for performance status, quality of life, and pain in interview, patients’ positive meaning remained significantly associated with negative affect scores, $F(1, 61) = 4.59, p < .05$. This result supports the hypothesis that the patient’s positive meaning would be significantly associated with patient’s psychological distress, after control variables were taken into account.

### 3.83 Emotional Support and Positive Meaning

The fourth and final hypothesis related to this chapter concerned the association between positive meaning and emotional support. Specifically, it was hypothesised that patients’ positive meaning would be associated with (1) patients’ higher levels of emotional support from their spouses (benefit of self-disclosure and perception of spouses’ empathy), and (2) spouses’ emotional support from patients (benefit of self-disclosure and perception of patients’ empathy). First, in order to test this hypothesis, bivariate correlations were conducted to examine the association between total number of patients’ positive meanings and emotional support scores for patient and spouse. As can be observed in Table 3.7, patients’ total number of positive meanings was significantly associated with their benefit of self-disclosure scores and their perception of spouse empathy scores.
Table 3.7

*Correlations Between Patient’s Total Number of Positive Meanings and Emotional Support*

<table>
<thead>
<tr>
<th>Patients’ Number of Positive Meanings</th>
<th>Patient Benefit of Self Disclosure</th>
<th>Patient Perception of Spouse Empathy</th>
<th>Spouse Benefit of Self Disclosure</th>
<th>Spouse Perception of Patient Empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.47*</td>
<td>.33*</td>
<td>.49*</td>
<td>.31</td>
</tr>
</tbody>
</table>

* * p < .01

The bivariate correlations displayed in Table 3.7 support the hypothesis that the patient’s positive meaning will be associated with their perception of higher levels of emotional support from their spouse (both measures of emotional support significant), and partly confirm the hypothesis concerning emotional support to their spouse (only benefit of self-disclosure significant). However, while the correlation of .31 between spouses perception of patient empathy and patients’ number of positive meanings is not significant, it should perhaps be noted that this non-significant result is only marginally so (p = .015). To further test this hypothesis, we examined the association between the dichotomised meaning variable (no positive meaning; ≥ 1 positive meanings) and emotional support. Table 3.8 shows that the mean scores for both patients’ benefit of self-disclosure and patients’ perception of spouse empathy were higher for patients who reported one or more positive meaning.
Table 3.8

*Mean Scores for Emotional Support Variables Varied Between Patients with No positive Meaning and Patients with One or More Positive Meaning*

<table>
<thead>
<tr>
<th></th>
<th>Patient</th>
<th>Spouse</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Benefit of Self Disclosure</td>
<td>Perception of Spouse Empathy</td>
</tr>
<tr>
<td>No Positive Meanings</td>
<td>32.47</td>
<td>43.79</td>
</tr>
<tr>
<td>≥ 1 Positive Meanings</td>
<td>38.04</td>
<td>49.24</td>
</tr>
</tbody>
</table>

Two independent-samples *t* tests were then conducted to test whether patients’ (1) benefit of self-disclosure scores, and (2) perception of spouses’ empathy scores were significantly higher for patients with one or more positive meanings, in contrast to patients reporting no positive meaning. Results revealed that patients with one or more positive meaning reported significantly higher levels of benefit of self-disclosure, *t* (60) = 2.79, *p* < .01, and significantly higher levels of perceived spouse empathy, *t* (58) = 2.22, *p* < .05, and. Thus consistent with the finding reported above that the total number of positive meanings reported by the patient was positively correlated with that patient’s emotional support scores, these *t* tests show that, as a group, patients who reported one or more positive meanings also reported significantly higher levels of emotional support from their spouses.

The same series of analyses were then conducted to examine whether spouses emotional support provided to them by the patient was also associated with higher positive meaning for patients. Patients with one or more positive meaning had spouse who reported higher levels of benefit of self-disclosure to the patient, *t* (58) = 2.31, *p* < .05. However, no significant difference was detected for spouses perception of patients’
empathy, $t(60) = 1.69$, n.s. Thus the hypothesis that spouses’ perception of emotional support from patients would be associated with patients’ positive meaning was only partly confirmed. In summary, it appears that the emotional support patients give to spouses is partly associated with the patients’ ability to construe positive meaning. However, stronger is the finding that the emotional support patients receive from spouses is associated with the patients’ construal of positive meaning.

Discussion

A number of questions opened this chapter. The first question, fundamental to all the hypotheses, was whether dying cancer patients can indeed find any positive meaning in their circumstances? And if so, would such meaning be associated with lower levels of distress? Also of particular interest was the question of whether positive meaning might be associated with emotional support. It was found that end-stage cancer patients can find positive meaning and, similar to the findings of Davis et al. (1998) who asked a similar question of bereaved participants, 70% of the present sample of patients reported at least one category of positive meaning. The most common categories of positive meaning concerned increased family closeness, followed by growth in character, and a realisation that support from others was positive. In addition, results revealed that positive meaning was associated with better psychological adjustment and with emotional support. This discussion will first explore the findings concerning positive meaning and psychological adjustment, and will follow with an examination of the link between positive meaning and emotional support.
3.9 Positive Meaning and Psychological Adjustment

Two hypotheses were made regarding patients’ positive meaning and their psychological adjustment. First, it seemed intuitively correct to hypothesise that a higher number of positive meanings would be associated with lower levels of distress for patients. However it was also apparent from the work of Davis et al. (1998) that the number of positive meanings their participants reported was not predictive of distress levels. Rather, what was predictive of distress was whether at least one category of positive meaning was reported. Thus it was decided to test Davis et al.’s findings by making a second hypothesis: that patient’s reporting one or more positive meanings would also report lower levels of distress.

Results confirmed the second hypothesis, but not the first, and thus are consistent with the results of Davis et al. (1998). A higher number of positive meanings was not significantly associated with lower levels of distress for patients: what was critical was whether patients were able to find any positive meaning. Furthermore, this association remained significant after the control variables related to the patients physical condition were taken into account, suggesting that the association between positive meaning and psychological adjustment is not simply a reflection of patients’ physical state. Overall, this result is important because it adds to a growing body of literature indicating that positive meaning is associated with psychological adjustment following trauma and loss (e.g., Affleck et al., 1985; Carver et al., 1993; Davis et al., 1998; McMillen et al., 1995; Taylor et al., 1984).

This research is the first to explore and find an association between positive meaning and psychological adjustment in end-stage cancer patients, and it clearly suggests that the
ability to take a philosophical stance is helpful to the dying. It may also be useful to consider this finding from Lazarus and Folkman’s (1984) perspective on coping. While limitations in the length of interviews with patients prevented this research from formally comparing the emotion-focused coping with other forms of active problem-focused coping, this result does suggest the importance of emotion-focused coping in the end-stage cancer context, because the construal of positive meaning clearly overlaps with the concept of emotion-focused coping, defined as internal coping that does not attempt to change external stressors. Given that in end-stage cancer the primary stressor cannot be changed, it is likely that emotion-focused coping will become increasingly important to patients as their disease progresses. Future research may usefully compare the utility of these different forms of coping in the context of end-stage cancer.

The present finding that positive meaning is associated with psychological adjustment in end-stage cancer patients is consistent with the findings from the few studies that have explored this issues in the earlier stages of cancer (e.g., Carver et al., 1983; Curbow et al., 1993; Taylor et al., 1984). Together, these findings strongly suggests that psychosocial interventions developed for cancer patients should involve an existential component that allows patients and their families to explore issues related to meaning. It also lends support for the validity of existing interventions that involve an existential component (e.g., the work in Australia by Kissane and colleagues. For a review see Kissane et al., 1997). Such interventions require high levels of clinical skill, probably requiring clinical experience across the stages of cancer, and a keen awareness of therapeutic process issues. This is because the construal of positive meaning is a deeply personal process that cannot be taught as skills may be taught. Nonetheless, these
data suggest that the inclusion of meaning issues in psychosocial interventions is valid and important.

The question of whether an existential component should be included in a wide range of psychosocial cancer interventions, regardless of type or stage, is worthy of further brief discussion here. It seems likely that most interventions should include an existential component, regardless of the type of cancer or prognosis of patients. This viewpoint is guided by a number of factors. First, although survival rates are improving for many types of cancer, existential issues related to a cancer diagnosis are common, regardless of expected survival rates (Kissane, 1997). Why has this happened to me? What is important in life? Am I going to die? As with other severe traumas, a cancer diagnosis often disrupts worldviews, challenges values, and confronts the reality of mortality. Many of the psychological symptoms of a cancer diagnosis reflect an increased anxiety in relation to the threat of death (Spiegel, Bloom, & Yalom, 1981; Spiegel & Yalom, 1979). Given that such issues are common to a diagnosis of cancer, interventions in the early stages of cancer should include an existential component, regardless of survival rates. Doing so has the potential to address many underlying anxieties and reduce psychological distress. Thus the inclusion of existential issues in psychosocial interventions may ensure a better quality of life for cancer patients and their families, regardless of longevity.

A second reason why the inclusion of an existential component in psychosocial interventions in the earlier stages of cancer is important is that the construal of positive meaning may require some time. Although no data were collected from patients regarding the time span over which they developed positive meaning, it seems likely that providing patients with the opportunity to begin this process in the earlier stages of the
disease might be helpful for those patients who progress to end-stage. This may be particularly true if Frankl (1959/1984a) was correct in stating that meaning is not invented, but discovered as a consequence of experience in the world. The more time patients have to discover positive meaning in their experience, both past and ongoing, may be helpful in preparing for their final months of life.

3.10 Positive Meaning and Emotional Support

Two hypotheses asserted that positive meaning would be associated with emotional support. The first hypothesis stated that the emotional support that the patient received from their spouse would be associated with higher levels of positive meaning for that patient. This hypothesis was confirmed: both the patients’ perception of spouse empathy and the patients’ benefit of self-disclosure to spouse was strongly associated with their ability to construe positive meaning, measured both dichotomously (no positive meaning versus one or more positive meanings), and continuously (total number of positive meanings).

The second hypothesis stated that the emotional support spouses received from patients would also be associated with patients’ positive meaning. This hypothesis was confirmed in part. Spouses’ sense of benefit in self-disclosure was significantly associated with the patients’ positive meaning, but their perception of empathy from the patient was not. (Nonetheless, the correlation between spouse perception of patient empathy and the continuous measure of patients’ positive meaning was only marginally insignificant \( p = .015 \), using the stringent alpha level of .01 used for bivariate correlations in the present research.)
Taken together, these findings support the notion that emotional support, both received and given, is an important factor involved in the dying cancer patients’ ability to construe positive meaning in their circumstances. While little comparable research is found in the literature, these findings parallel the work of Fife (1995), who found that cancer patients meaning and hope for a good outcome was associated with social support from family and friends.

Why is emotional support associated with positive meaning? It seems likely that the common theme of relationship may help to explain this link. Two commonly reported categories of positive meaning were specifically related to relationships (brought family together and support from others is positive), and other common categories were often reported to have occurred in the context of changed relationships (growth in character and gained perspective). Clearly positive meaning in the context of end-stage cancer is closely tied to interpersonal relationships. Emotional support is also a reflection of the interpersonal relationship between patient and spouse, and thus the link between positive meaning and emotional support is not surprising.

This is not to say that the association between positive meaning and emotional support is simply explained by the overlap of the two constructs: that both simply reflect harmonious loving intimate relationships. It seems quite likely that emotional support also facilitates (i.e., causes) the construal of positive meaning. The communication of love and respect is clearly likely to foster many of the types of positive meanings patients reported. A developmental process commonly referred to as the life review (Butler, 1963) may also help us to understand this process. Patients commonly appear to engage in a review of their lives by talking with others about their life experience. Butler (1963) suggests this normal process helps the individual find meaning, purpose, order, and
perhaps satisfaction in their life as it draws to a close. It seems likely that spouses who are able to provide high levels of emotional support to patients will also participate with patients in their life review, and in doing so be invaluable in reminding patients of accomplishments and achievements perhaps overlooked or dismissed by the patient as inconsequential. The spouse is also likely to be primary amongst those who have benefited from the patient’s achievements, and thus is in a position to confirm the patient life as worthy and meaningful.

Thus the process of the life review may help to explain why emotional support is strongly linked with positive meaning in dying cancer patients, and further suggests that emotional support is predictive of positive meaning. While determining the direction of cause between these variables is not possible from this cross-sectional data, we suspect that emotional support is *more fully* predictive of positive meaning than positive meaning is predictive of emotional support. We are, though, aware that in reality it is likely these variables influence each other reciprocally to some degree (the data showing that spouse perception of emotional support from patient is partly associated with the patients’ positive meaning could suggest that patients positive meaning is causing them to provide emotional support to their spouses).

Nonetheless, we think that there is little evidence within the present data set for the interpretation that positive meaning *primarily* predicts emotional support. If patients’ positive meaning primarily predicted emotional support that they give to spouses, then we would expect that the patients’ reports of positive meanings would reflect a motivation for initiating and engaging in emotional support to spouse. However, very few patients reported this type of positive meaning, best reflected in the category of *others will benefit*. Much more common were positive meaning reflecting the importance
of the receipt of support (i.e. support from others is positive). Thus there appears little
evidence in these present data to suggest positive meaning caused patients to provide
higher levels of emotional support to their spouses. This argument does not, however,
address the possibility that higher levels of patients’ positive meaning cause spouses to
provide higher levels of emotional support to patient. Although path analyses in the final
chapter will address this issue further, future prospective research is required to fully
tease out the direction of cause between these variables.

The finding that emotional support is associated with positive meaning is also
important because it suggests that psychosocial interventions that focus on emotional
support will also help participants find meaning. The present data show that such
interventions can usefully occur with the patient’s spouse and, given findings indicating
the critical importance of the spousal relationship as a source of support (Coyne & Smith,
1994; Pistrang & Barker, 1995), interventions with couples may be most effective.
Couples groups, in which interventions involve semi-structured sessions that both focus
on emotional support techniques, and allow participants to practice these techniques, may
be most effective. Such interventions may be similar to the work of Spiegel and Spira
(1993), who advocate semi-structured supportive-expressive group therapy sessions for
breast cancer patients.

The final reason discussed here concerning why the present finding that emotional
support is associated with positive meaning is important is perhaps more theoretical, but
quite possibly also of significant practical clinical importance. Our finding suggests that
patients’ ability to construe positive meaning may be, at least to some degree, dependent
on environmental conditions that include relationships with others. Put simply, many
patients may not be free to construe positive meaning independent of others. In addition
to emotional support, the literature suggests other factors may also limit patients’ freedom to construe positive meaning. As has been reviewed above, dispositional optimism has also been associated with positive meaning in a number of studies (Carver et al., 1993; Curbow et al., 1993; Davis et al., 1998). Like emotional support, the patients’ capacity to construe positive meaning may depend, to some degree, on pre-existing personality factors.

That environmental and personality variables may influence patients’ ability to construe positive meaning does not endorse a strictly deterministic view of human beings. Rather, these data indicate that current environmental conditions and past learning may limit human beings. This should not make clinicians pessimistic in their hope that cancer patients may be able to construe positive meaning, but rather serve as a reminder that some individuals may be limited in their ability to find positive meaning. Thirty percent of the present sample was not able to report any type of positive meaning. Any intervention that ignores the possible limitations of individuals to construe positive meaning in their illness has the potential to be counter-therapeutic for those participants who have difficulty doing so.

3.11 Summary

The present findings indicate that the majority of end-stage cancer patients were able to find positive meaning in their illness experience, and that this meaning was associated with better psychological adjustment. Furthermore, emotional support from and to their spouse was associated with positive meaning, and it seems likely that emotional support predicts positive meaning. These findings are important because of the implications they
hold for psychosocial interventions for cancer patients. They also address issues related to human freedom, itself an important clinical issue.

The next chapter of this thesis will, in many ways, explore the issue of human freedom further. It has been asserted that attachment theory will help explain individual differences in this research. While attachment theory is not fully deterministic, it does suggest that prior attachment experience is important in understanding individuals’ patterns of coping with stressful events. For many people end-stage cancer is clearly such an event.
Chapter 4

Attachment Theory

Introduction

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4.13 Summary 210
The literature reviewed in Chapter Two of this thesis indicated that there is variation in the quality of emotional support between cancer patients and their families, even though emotional support is widely desired by patients, and is significant to the adjustment of cancer patients and their families. It also emerged in the literature review of Chapter Three that there are considerable differences in trauma survivors’ capacity to construe adaptive meaning in their experience, but that survivors who are able to construe such meaning often report better psychological adjustment. The findings of the present research are consistent with these literatures, both in supporting the notion that these two variables (emotional support and positive meaning) are important to psychological adjustment, and that there is considerable variation between individuals on these variables.

Given these well-recognised differences between individuals on variables that clearly are important in coping with adversity such as cancer, it is therefore remarkable that there appears to have been little effort by researchers to identify frameworks helpful in explaining why these individual differences exist. Clearly, attempting to address the question of why these individual differences exist is important to our professional understanding; it also has implications for clinical intervention. Experts in the field of psychosocial interventions for cancer patients have called for research investigating individual differences because such understanding will likely improve the effectiveness of interventions (Helgeson & Cohen, 1996). Similarly, experts in trauma and meaning have called for research to investigate the influence of personality on the ability to construe positive meaning (Calhoun & Tedeschi, 2001).

One framework that may be useful in answering the question of why people vary is attachment theory. Why should attachment theory be relevant in this context? Because
one major concern of attachment theory is with maladaptive patterns of coping with stressful events. Attachment theory is relevant to coping with stressful events because (1) many stressful events are attachment related in that they are associated with the threat or experience of separation and loss of significant others, and (2) because working models of attachment influence coping self-efficacy and expectations of care from others (Bowlby, 1969, 1972, 1980). It is clear that the end-stage of cancer is a context marked by distress in association with multiple losses and the threat and experience of separation; attachment theory should therefore be very relevant to the present research. That attachment theory is an influential theory of grief and loss (Middleton, Raphael, Martinek, & Misso, 1993), and that the context of end-stage cancer is recognised as a context of anticipatory grief (Rando, 1993) adds support to this proposal.

Proposed by Bowlby (1969, 1973, 1980), attachment theory interweaves evolutionary, ethological, cognitive, psychodynamic, and systems theory perspectives, and can be meaningfully divided into two interrelated components: the normative component of the theory, and the component of individual difference (Simpson & Rholes, 1998). This review will begin with a description of the normative base of the theory, which will lay the foundation upon which a description of individual difference can be understood from an attachment theory perspective.

4.1 The Normative Component of Attachment Theory

Attachment theory was originally developed to explain the intense distress exhibited by children when separated from their caregivers. Drawing on evolutionary theory and ethology, Bowlby (1969) concluded that attachment behaviour serves the purpose of ensuring that infants remain within safe proximity to their caregivers, which increases the
likelihood of survival. This is considered particularly true for species such as Homo sapiens, because of our immaturity at birth. Natural selection explains why the bond to a caregiver has become a normative aspect of human nature, as infants weak in the attachment instinct did not survive to reproductive age.

Although the normative component of attachment theory is largely concerned with theoretical evolutionary and ethological explanations, the theory is based upon, and consistent with, observable behaviour. In particular, Bowlby (1973) noted that children’s behaviour after separation from a primary caregiver tended to be marked by a series of stages. The first stage he described as protest, which generally involves crying, active searching, and a stubborn refusal to be placated. The stage of despair follows, involving inactivity, depression, and a lack of interest in the environment. The third stage, emotional detachment, involves a gradual lifting of passive behaviours associated with depression, and an increase in activity and interest in the environment. However, although a subsequent return of the caregiver tends to be met with an initial defensive disregard, the child’s desire for attachment to the caregiver is usually evident after a short period of time, and thus the term detachment is not intended to suggest a permanent state (Bowlby, 1973).

Bowlby’s observations of separation behaviour led to interest in attachment behaviour, defined as “any form of behaviour that results in a person attaining or retaining proximity to some other differentiated and preferred individual, usually conceived as stronger and/or wiser” (Bowlby, 1973, p.292). Bowlby proposed that attachment behaviour was regulated by an innate motivational system, referred to as the attachment behavioural system. Three behavioural features define this system and also explain its role. They are (1) proximity maintenance: the desire for close physical
proximity to the caregiver and protest upon separation, (2) safe haven: the comfort and reassurance that close proximity to the caregiver offers in times of stress, and (3) secure base: the confidence and security provided by the caregiver, enabling the infant to explore and in interact with the environment with assurance (see Figure 4.1). Thus the attachment system is seen as a homeostatic safety control system, regulating the balance between proximity-seeking and exploratory behaviour.

Bowlby conceptualised the attachment system as one of a number of related behavioural systems. Other important systems include the caregiving system and the sexual system, all of which have evolved to ensure the survival and procreation of the species. In the case of the attachment system, any real or imagined threat to proximity triggers anxiety and the attachment system which, in turn, activates attachment behaviours such as calling, pleading, and clinging, designed to re-establish close proximity to caregivers. This behaviour persists until the set goal of proximity has been experienced. Thus the attachment system functions like physiological systems that maintain a state of homeostasis; in this case, proximity with caregivers.

The degree to which proximity must be maintained in order to alleviate separation anxiety depends on a range of endogenous and exogenous factors, including the child’s age, physical and emotional state, and the environmental threat. Thus environmental circumstances, in addition to the state of the individual, interact to trigger or release the attachment system. While the child has a sense of security, the attachment system is quiescent (See Figure 4.2) (Hazan & Shaver, 1994).
It is important to note that attachment may occur with more than one figure. Attachment theory suggests attachments are ordered hierarchically, although Bowlby believed that the infant has a bias to attach to one figure, that being the primary caregiver. He referred to this bias as monotrophy (Bowlby, 1969). Research, including cross-cultural research in polymatric settings, suggests that Bowlby was essentially correct. Normal human infants do show clear and consistent preference for their primary caregiver (usually mother in most cultures) when stressed (and hence the attachment system is released) (Ainsworth, 1967, 1982; Cummings, 1980; Farran & Ramey, 1977; Ricciuti, 1974; Schaffer & Emerson, 1964; Shill, Solyom, & Biven, 1984). Despite this bias in attachment, Bowlby recognised that relationships that meet criteria for attachment
(involving proximity maintenance, safe haven, and secure base) also develop with siblings and other adults, and indeed to innate objects. Thus attachment theory and research suggests that it is normal for multiple attachments to occur, and further suggests that attachments are ordered hierarchically (Ainsworth, 1967, 1982; Cummings, 1980; Farran & Ramey, 1977; Ricciuti, 1974; Schaffer & Emerson, 1964; Shill, Solyom, & Biven, 1984). Those figures that most consistently provide care and respond to distress signals are higher in the order (Hazan & Shaver, 1994).

Figure 4.2. The Attachment Behavioural System. In the diamond is the test question, the circle and ellipse represent emotions triggered by appraisals that answer the test question, and the boxes represent behaviours that follow from the appraisals and the emotions. Taken from Hazan and Shaver (1994).

While the attachment system is predominant early in life, it is also considered to operate across the entire lifespan or, as Bowlby wrote, “from the cradle to the grave”
(Bowlby, 1979, p. 129). The enactment of attachment behaviour to peers in adulthood, as infants and children to adult caregivers, occurs at a time when one is in need, or when separation or threat of separation from attachment figures activates an innate sense of anxiety designed to maintain proximity to attachment figures (Weiss, 1991).

Despite a basic similarity, there are some important differences between infant and adult attachment (Weiss, 1982). First, the care provided in infant-adult attachment relationships is one-sided, whereas care in adult-adult attachment relationships is usually reciprocal. Second, adult attachment dynamics are more influenced by internal psychological factors (Main, Kaplan, & Cassidy, 1985). In early childhood, external, observable interactions that involve physical contact are required to ensure security. As cognitive development unfolds, older children and adults derive comfort from the mere knowledge that attachment figures can be contacted if needed, although the need for comfort derived from physical contact probably never disappears in most people. This knowledge represents *felt security* (Sroufe & Waters, 1977) and, because of their cognitive abilities, adults have more options for attaining security than young children.

Another difference between infant and adult attachment is that adult attachment is usually to a peer, often a sexual partner. Thus adult relationships are considered to involve not only the attachment system, but also the caregiving system and the sexual system (Shaver, Hazan, & Bradshaw, 1988; Weiss, 1982). These systems are integrated, and thus the motivation for closeness can be complex. Proximity seeking can be motivated by anxiety and distress (attachment system), the desire to provide protection and comfort (caregiving system), or to engage in sexual activity (sexual system), or presumably a combination of these motives. Thus attachment theory recognises that adult
relationships are complex. Nonetheless, intimate adult relationships are considered to involve attachment behaviour, consistent with Bowlby’s notion.

In addition to outlining the normative differences between infant and adult attachment, theory and research suggest that the transfer of attachment from parent figures to peers can be understood systematically (Furman & Buhmester, 1985; Gottman, 1983; Hazan & Shaver, 1994; Rubin, 1980). The three attachment functions are gradually transferred one by one over childhood and adolescent years. First, transfer of attachment to peers begins with proximity seeking behaviour (Proximity Maintenance), in which children meet needs for affiliation with one another. In adolescence close proximity eventually provides opportunity for support seeking behaviour (Safe Haven). Repeated interactions later in adolescence, in which peers provide comfort and relieve anxiety, leads to peers providing a base of security (Secure Base). Although parents also remain as attachment figures, peers, usually involving a sexual partner, dominate the attachment hierarchy by early adulthood.

4.2 The Individual Difference Component of Attachment Theory

As described above, attachment theory suggests it is normative for all normal human beings to desire close proximity to other select human beings. The way in which this instinct is expressed over time depends, however, on the individual’s ongoing interactions with caregivers, beginning with the earliest attachment relationships. Bowlby (1973) suggested that differences in the organisation of the individual’s attachment system are based on three propositions. First, as described above, is that when an individual is confident of the availability of the attachment figure, fear and anxiety are reduced. Second, such confidence (or lack thereof) develops slowly during infancy,
childhood, and adolescence, but tends to be resistant to change throughout the rest of life. The third proposition is that the level of confidence an individual develops represents a reasonably accurate reflection of the experiences that the individual has had.

The defining features of the attachment system explain how caregiver behaviour influences the organisation of attachment behaviour (see Figure 4.1). Satisfactory maintenance of proximity (Proximity Maintenance) and the experience of reliable, consistent, and responsive caregiving (the provision of Safe Haven) influence the development of a basic trust in the caregiver (the Secure Base). With time this trust, or lack thereof, generalises to influence the perception of others, and also of oneself and life more generally. This general sense of security is referred to as felt security (Sroufe & Waters, 1977) and reflects a belief that others are caring and oneself is worthy of care (Safe Haven is available), and attenuates the person’s sense of anxiety of separation and loss across the life cycle (Proximity Maintenance to others is possible).

Cognitive principles explain how the sense of security continues over time. Bowlby (1973) suggests that individuals develop working models that involve beliefs and expectations concerning their attachment figures’ responsiveness and accessibility. These working models are considered to be largely unconscious, and originally result from the repeated interactions between the infant and her or his caregiver. Bowlby (1973) states that two working models develop: model of the caregiver and model of the self:

Confidence that an attachment figure is, apart from being accessible, likely to be responsive can be seen to turn on at least two variables: (a) whether or not the attachment figure is judged to be the sort of person who in general responds to calls for support and protection; (b) whether or not the self is judged to be the sort of
person towards whom anyone, and the attachment figure in particular, is likely to respond in a helpful way. (p.238)

Thus individuals develop relatively stable working models of the responsiveness of others, and also of the extent to which they themselves are deserving of care.

Bowlby considered working models of attachment more resistant to change after adolescence, and although they may be revised by ongoing experience, attachment style is largely considered a trait type characteristic of the individual. This proposition is supported by cognitive principles indicating that individuals tend to assimilate incoming information to existing schemas, rather than modify schemas to accommodate new information. It is also thought that individuals tend to select partners and environments that support their working models. The defensive motivation involved in the insecure attachment models is also thought to contribute to stability of insecure working models (Hazan & Shaver, 1994). For an interesting review and meta-analysis that suggests attachment patterns are reasonably stable over the first 19 years of life, see Fraley (in press).

Although attachment theory suggests that working models that underlie the sense of the secure base are the most adaptive, even those with a strong sense of security find stressful experiences distressing and requiring effort. This is, of course, consistent with the normative aspect of the theory which suggests separation will trigger innate anxiety. Despite this, secure people acknowledge their distress and perceive it as manageable (Bowlby, 1988; Kobak & Sceery, 1988; Shaver & Hazan, 1993), partly due to a positive sense of self-efficacy and self-confidence in seeking and receiving support in times of need (Bartholomew & Horowitz, 1991; Collins & Read, 1990). In contrast, insecure
individuals do not cope well with stress. They fail to seek support because they believe none will be forthcoming, or because they believe help will compromise their independence. They may also alienate potential sources of support through possessive, dependant, or controlling behaviour or, alternatively, help may be rejected because helpers are mistakenly perceived as critical or malicious (Bowlby, 1973).

4.3 Research of Attachment in Infancy and Childhood

Research investigating attachment theory was pioneered by Canadian developmental psychologist Mary Ainsworth. Guided by Bowlby’s clinical observations and theoretical work, in combination with her own naturalistic observation of infants and caregivers in Africa, Ainsworth developed a procedure now commonly referred to as the strange situation, which was designed to activate the infant’s attachment system by separating the infant from their caregiver in an unfamiliar environment (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth and colleagues observed three general patterns of behaviour in response to separation, which may be understood as three possible responses to the question Can I depend on my attachment figure to be available and responsive when I need them?, where those responses are yes, no, or maybe (Hazan & Shaver, 1994). The yes response represents the secure attachment style. Ainsworth’s research shows that the secure pattern is associated with consistent, sensitive and reliable caregiving, and is marked by an ability to derive comfort and support from caregivers in times of stress (Ainsworth et al., 1978). For these infants, the caregiver’s presence signals safety.

Both the second and third styles of attachment are considered insecure attachment styles. The maybe response reflects the anxious-ambivalent attachment style. It is
associated with inconsistent caregiving in which comfort has been provided intermittently. This results in a confused pattern of seeking comfort from caregivers but not trusting in their ability to reliably provide comfort, and results in high levels of subjective anger, distress, and ambivalence for caregivers (Ainsworth et al., 1978). Because attempts to find comfort are often unsuccessful, the infant’s behaviour appears to reflect uncertainty as to the caregiver’s response.

Avoidant attachment style is associated with the no response to the question, Can I depend on my attachment figure to be available and responsive when I need them? Research has identified the avoidant attachment style with unresponsive caregiving in which the infant’s need for comfort has been consistently ignored, which in turn leads to the development of independent coping strategies marked by a defensive pattern of not seeking comfort and support from caregivers in times of stress (Ainsworth et al., 1978). These infants appear to develop internal coping patterns, and their behaviour indicates that they wish to remain independent of their caregivers (see Figure 4.3).

The early work by Ainsworth and colleagues was followed by longitudinal research that has observed patterns of interpersonal behaviour in childhood and adolescence predicted by earlier patterns of attachment behaviour. A rating of secure attachment typically predicts better adjustment and higher levels of interpersonal skill across childhood. Typical of this literature is the study by Matas, Arendt, and Sroufe (1978) who reported that 2-year-olds, who had been rated as secure six months previously, accepted their mother’s help in a problem-solving task. In comparison, children of either anxious or avoidant attachment style neither asked for help nor accepted it, and in fact
were more likely to engage the experimenter’s help. They also gave up more easily, often in distress.

Figure 4.3. The Three Major Patterns of Attachment as They Relate to the Organisation of the Attachment System. Taken from Hazan and Shaver (1994).

Observing the same participants when older, Arendt, Gove, and Sroufe (1979) found that the 5-year-olds who had earlier been classified as secure were more adaptable to changes in the environment at kindergarten, including changes to staff. Walters, Wippman, and Sroufe (1979) also found that two years after attachment classification, toddlers aged 3-and-one-half were more self-directed, more curious, less withdrawn,
more popular with peers, and empathic to the distress of their peers. More recently, Grossman and Grossman (1991) found attachment patterns at one year of age accounted for 87% of the variance in attachment behaviour at age 6. They also found that participants rated as secure at one year handled conflict with peers more skillfully, showed higher levels of concentration in play, and were more positive in their social perceptions. Similar results were found over a 14-year period (Weinfield, Ogawa, & Sroufe, 1997). Secure attachment at 12 months of age was associated with increased social competence with peers at 15.5 years.

Also of interest is the effect of differing attachment patterns with multiple caregivers. As described above, attachment theory proposes a hierarchy of attachment figures, and thus the influence of multiple attachment figures upon the child is an interesting and important issue. Addressing this question, Main and Weston (1981) found no correlation between infant attachment patterns with mother and father. Nonetheless, a pattern of results emerged that is consistent with attachment theory: infants who had secure pattern of attachment with both parents were the most confident and competent in their relationships with peers. In contrast, infants with insecure attachment patterns with both parents were the least confident and competent, and infants with one secure attachment pattern and one insecure attachment pattern with their parents fell in between.

In addition to social functioning, childhood research has also been concerned with the contentious issue of stability of attachment style. It will be recalled that the cognitive aspect of attachment theory suggests that the working models that underlie attachment style should be resistant to change over time. However, attachment theory does not assert absolute stability, as changes in the environment may influence attachment experience and thus working models (Hazan & Shaver, 1994). Early prospective research found
stability rates of 62% from 12 months to 18 months (Vaughn, Egeland, Sroufe, & Waters, 1979) and change in attachment style was associated with change in the mothers’ caretaking skills and the child’s social environment (Egeland & Farber, 1984; Vaughn et al., 1979).

Recent North American research has found similar results regarding stability of attachment style from infancy to early adulthood. Attachment styles from 12 months of age to 21 years of age were stable at the rate of .64, and .72 using a secure-insecure dichotomy (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Similarly, Hamilton (2000) reported an attachment style stability rate from 12 months to 17.5 years of age of .63, and .77 using a secure-insecure dichotomy. A third sample was followed from 12 months of age to 19 years of age, with lower stability rates of .38 for attachment style and .5 using a secure-insecure dichotomy (Weinfield, Sroufe, & Egeland, 2000). In all three studies stability of attachment style and change of attachment style was predicted by life events. In general, these data provide important evidence for attachment theory’s proposition that early attachment experience may have lasting effects upon the individual, and that ongoing environmental influences will influence stability of attachment style.

4.4 Research of Adult Attachment

A large body of research has developed into adult attachment, and a theoretically consistent pattern of results has emerged supporting Bowlby’s proposition that the attachment system continues to operate across the lifecycle. Given the size of this literature, this review will be limited to a general overview of the development of adult
attachment research, followed by an examination of adult attachment findings that are most relevant to the present research.

4.4.1 The Development of Adult Attachment Research

Two traditions of adult attachment research developed in the 1980s (Bartholomew & Shaver, 1998). In the first, Main and her colleagues focused on parents’ recollections of their childhood relationships with their parents, the effect that these recollections have on parenting behaviour, and the attachment classifications of the parents’ young children. Parents were interviewed, and their interviews coded in an attempt to find some association with their children’s attachment classifications in the Strange Situation. It was found that both the content of parents’ reports, and also the degree to which their recollections were coherent and integrated, was associated with their children’s attachment classification. This work led to the development of the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985), and AAI scores have been associated with meaningful outcome variables repeatedly (see van Ijzendoorn, 1995, for a review).

The second tradition of adult attachment research is completely independent of the first. It began in 1987 when Hazan and Shaver, researching adolescent and adult loneliness, decided to investigate this phenomenon from an attachment theory perspective. Hazan and Shaver developed a simple self-report measure involving three paragraphs, each of which was a translation of Ainsworth’s three infant classifications into prototypical descriptions of adult love relationships. Like Ainsworth, Hazan and Shaver labelled these prototypical categories, called attachment styles, as secure, anxious/ambivalent, and avoidant (Hazan & Shaver, 1987). Participants were asked to think which style was the most descriptive of their past romantic relationships.
Participants’ endorsements of these paragraphs were associated with self-report of interpersonal functioning, and will be reviewed in more detail in the next section.

These two streams of research - one investigating parenting and the other adult romantic relationships - stem from different disciplinary subcultures (Bartholomew & Shaver, 1998). The development of the AAI reflects a psychodynamic orientation by child clinical and developmental psychologists, and is thus clinically minded, and prefers interview methods with smaller samples. The second stream, initiated by Hazan and Shaver, reflects the orientation of personality/social psychologists who have tended to be interested in the interplay between personality and social interaction in normal subject populations, use questionnaire methods and large samples. It has become a significant body of work within research psychology, and is increasingly taking a clinical orientation (cf., Brennan & Shaver, 1998; Mikulincer, Florian & Weller, 1993; Roberts & Noller, 1998), perhaps reflecting the clinical origins of attachment theory, and the growing recognition of the important clinical implications of Bowlby’s theory. Because the present research has used the methodology of the personality/social adult attachment stream, it will add to studies in this category of adult attachment research that have a clinical orientation. This review will now be limited to that body of work.

Hazan and Shaver’s three-group methodology has been used extensively since 1987, and since that time two further major developments have occurred in the conceptualisation and measurement of adult attachment. The first occurred in 1990, when Bartholomew developed a 4-group modification of Hazan and Shaver’s 3-group measure. This conceptual model is based on Bowlby’s (1969, 1973) proposition that attachment behaviour is the expression of cognitive working models of self and other. Bartholomew
(1990; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994) suggests that working models of self and of other can be a combination of either positive or negative views, producing a 2 x 2 typology and thus the 4 adult attachment styles. Bartholomew’s model divides Hazan and Shaver’s avoidant attachment style description into two avoidant attachment styles (dismissing avoidant and fearful avoidant), thus forming the 4-group measure. In order to distinguish the anxious/ambivalent style from the fearful avoidant style, as both involve anxiety, the anxious-ambivalent style was renamed preoccupied.

The secure style represents a positive model of self and other, the preoccupied style a negative model of self and positive model of other; the dismissing avoidant style a positive model of self and negative model of other, and the fearful avoidant style a negative model of self and other. According to Bartholomew, model of self taps attachment anxiety that reflects the individual’s level of dependence on others for approval and acceptance, whereas model of other taps attachment avoidance, and hence the individual’s tendency to avoid closeness with others (see Table 4.1).

A second major development in the research of adult attachment has been the development of a number of continuous multi-item measures. These measures provide scores on underlying dimensions that are thought to reflect adult attachment. These dimensions have been derived by breaking the categorical prototype paragraphs up into multiple single items, and using procedures such as factor analysis to examine underlying structure to responses to these items (e.g., Collin & Read, 1990; Feeney, Noller, & Hanrahan, 1994; Fraley, Waller, & Brennan, 2000; Simpson, 1990). Typically, two dimensions are identified. One is variously labelled comfort with closeness (Feeney et al., 1994; Simpson, 1990) or avoidance (Fraley et al., 2000), and the other anxiety over
relationships (Feeney et al., 1994; Simpson, 1990) or simply anxiety (Fraley et al., 2000). Scores on these dimensions of adult attachment are associated with participants’ endorsement of the prototype categories (Bartholomew & Shaver, 1998). However, multi-item measurement provides detail in terms of describing individuals’ pattern of adult attachment, and is considered to afford researchers a more sensitive instrument, in comparison with categorical measures. Nonetheless, the categorical measures are parsimonious, quick to administer, and leading attachment researchers have suggest they add predictive power above the dimensions (Griffin & Bartholomew, 1994). Thus both forms of measurement are considered valid and useful methods of tapping the underlying working models of attachment proposed by Bowlby (Brennan, Clark, & Shaver, 1998; Simpson & Rholes, 1998).

Table 4.1.

**Bartholomew’s Four-Group Model of Attachment**

<table>
<thead>
<tr>
<th>Model of Other (Avoidance)</th>
<th>Model of Self (Anxiety)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive (Low Avoidance)</td>
<td>Preoccupied (High Anxiety)</td>
</tr>
<tr>
<td>Secure</td>
<td>It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I do not worry about being alone or not being accepted by others.</td>
</tr>
<tr>
<td>Dismissing</td>
<td>I am comfortable without close relationships. It is very important to me to feel independent and self sufficient, and I prefer not to depend on others or have others depend on me.</td>
</tr>
<tr>
<td>Fearful</td>
<td>I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.</td>
</tr>
<tr>
<td>Fearful</td>
<td>It is easy for me to become emotionally close to others, but I often find that others are reluctant to get as close to me as I would like. I am uncomfortable without close relationships, but I sometimes worry that others don’t value me as much as I value them.</td>
</tr>
<tr>
<td>Secure</td>
<td>I want to be completely emotionally intimate with others, but I am uncomfortable getting close to others. I worry that I will be hurt if I allow myself to become too close to others.</td>
</tr>
</tbody>
</table>
While the development of improved self-report measures has facilitated research in adult attachment, there has also been an awareness of the need for a broader methodological base in addition to self-report (Hazan & Shaver, 1994; Mikulincer & Nachshon, 1991). In response to this need, a number of other methodologies have been employed. These include interviews and diaries (Feeney, Noller, & Callan, 1994), behavioural observation (Fraley & Shaver, 1998; Mikulincer & Nachshon, 1991; Rholes, Simpson, & Stevens, 1998), experiments on cognitive processing and affective reactions (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993; Fraley, Garner, & Shaver, 2000; Mikulincer & Florian, 1998; Mikulincer, Gillath, Halevy, Avidan, & Eshkoli, 2001), and the use of corroborative reports by partners (Bartholomew & Horowitz, 1991) and friends (Kobak & Hazan, 1991).

4.42 Adult Attachment Findings

Hazan and Shaver’s (1987) seminal work investigated adult romantic relationships from an attachment theory perspective. Consistent with attachment theory, these researchers found that securely attached adults report positive working models of both themselves and significant others. They consider themselves worthy of others’ concern and care, and perceive significant others as being dependable, available, faithful, and well-intentioned. They are comfortable with intimacy, and are comparatively free of worries about being abandoned (Hazan & Shaver, 1987). Following Hazan and Shaver’s original work, other research has found that the secure style is associated with high levels of relationship satisfaction, trust in partners, commitment to their relationship, and low in game playing and obsessive dependency (Collins & Read, 1990; Keelan, Dion, & Dion, 1994; Simpson, 1990).
In contrast to the secure style, individuals of the anxious-ambivalent (preoccupied in the four-group model) style report low levels of relationship satisfaction, low levels of trust in partner, and are high in obsessive dependency and commitment (Hazan & Shaver, 1987). They fall in love more easily (Feeney & Noller, 1990), and tend to report feelings of extreme jealousy in their relationships (Collins & Read, 1990).

Investigating the avoidant attachment style, research using the three-group model has found the avoidant style low in relationship satisfaction, low in trust in partner, and high in game playing and deception (Collins & Read, 1990; Keelan et al., 1994; Simpson, 1990). When Bartholomew’s four-group model is used, differences consistent with Bartholomew’s two types of avoidance have been reported. The fearful avoidant style is associated with low levels of self-confidence, intimacy, trust, level of romantic involvement, control of social relations, and reliance on others. In comparison, the dismissing avoidant type reports high self-confidence and control in social relations, and low emotional expressiveness, caregiving, and warmth (Bartholomew & Horowitz, 1991).

In addition to the theoretically meaningful differences reported above, a large body of additional data have been reported in the literature. For example, anxious/ambivalent individuals remember their fathers as being unfair (Hazan & Shaver, 1987), have low self-esteem (Collins & Read, 1990), and report more physical and psychological illness symptoms (Hazan & Shaver, 1990). Avoidant individuals tend to report their mothers as cold and rejecting (Hazan & Shaver, 1987), may become abruptly involved in religious conversion (Kirkpatrick & Shaver, 1990), are judged by peers as aggressive (Kobak & Sceery, 1988), and engage in casual sexual activity and use of drugs and alcohol to induce relaxation (Brennan & Shaver, 1995). In contrast, secure individuals have a more
complex, balanced and integrated sense of self (Mikulincer, 1995), have higher self-esteem and are more positive and assured in their interactions with others (Feeney & Noller, 1990), and exhibit better communication (Feeney, 1994).

A full review of all adult attachment findings is beyond the scope of this thesis. Thus the remaining review is limited to attachment studies most relevant to the present research: those that investigate support and coping in relation to attachment-related stress. These studies typically consider security in attachment as an inner resource that helps individuals cope with adverse life events (Mikulincer & Florian, 1998). And indeed, research has found that security in attachment is associated with adaptive coping. Secure individuals have an optimistic view of themselves as worthy of care and of others as providers of care, have high levels of self-efficacy, and have social networks in place to draw upon in times of stress.

In contrast, insecure attachment is associated in adulthood with predictable patterns of cognition and behaviour that reflect anxiety, poorer coping, and maladjustment. Findings that insecure attachment is associated with poor coping are consistent with Bowlby’s theory, which suggests insecurity will undermine resilience in times of stress (Bowlby, 1973; Shaver & Hazan, 1993). The working models that underlie insecurity lead insecure individuals to believe little support will be forthcoming from others, or that they themselves are unworthy of support. For anxious individuals, poor affect regulation reflects a history of caregivers who themselves have been unstable in affect, and working models that exaggerate a sense of helplessness and the perception of adversity as threatening, uncontrollable, and irreparable (Mikulincer & Florian, 1998). In individuals high in avoidance, defensive strategies may influence the perception of adverse events as
manageable and self-efficacy as unrealistically high. However, in reality, stressful events overwhelm avoidant persons, covert distress may be high, and effective coping is compromised because others are seen as untrustworthy. Thus a critical component of adaptive coping, namely, the support of others, is avoided.

While adult attachment research has not looked specifically at the cancer context, there is strong evidence to suggest that adult attachment style will predict coping and support giving in the cancer context. Individual differences in attachment are associated with coping with divorce (Birnbaum, Orr, Mikulincer, & Florian, 1997), separation behaviour (Fraley & Shaver, 1998), coping with stressful events (Mikulincer & Florian, 1995), support between couples in stressful contexts (Feeney & Collins, 2001; Rholes, Simpson, & Stevens, 1998), a sense of empathy for others (Mikulincer et al., 2001), self-disclosure (Mikulincer & Nachshon, 1991), and fear of death (Mikulincer, Florian, & Tolmacz, 1990; Mikulincer & Florian, 1998). Most of these studies involve the observation of behaviour under experimental or naturalistic conditions, and find that individual differences in attachment are associated with outcome. These studies will now be reviewed in turn.

Coping with end-stage cancer and coping with divorce hold some similarity, in that both involve attachment related stress because of issues of separation and loss. Adult attachment research on divorce, using the three-group categorical measure, examined the relationship between attachment style and coping and adaptation in 123 recently divorced individuals (Birnbaum et al., 1997). Participants were matched with a married control group using a measure of mental health. Secure individuals appraised themselves to be more capable of coping, appraised their divorce as less threatening, employed more
adaptive coping strategies, and experienced less distress than the insecure divorcees. Both anxious-ambivalent and avoidant persons perceived divorce as more threatening, although anxious-ambivalent individuals were higher in threat perception, and both groups were more highly distressed than secure individuals. Both insecure groups engaged in ineffective emotion focused type coping strategies.

The divorce findings of Birnbaum et al. (1997) support an attachment theory perspective on the effects of attachment security and insecurity on coping with a stressful event. Divorce is, of course, particularly relevant to attachment as, in addition to the multiple stresses of divorce (e.g., financial stress and child custody issues), separation from an attachment figure is considered to involve some level of distress and the activation of the attachment system (although it should be remembered that some partners may no longer function as an attachment figure). While separation behaviour is observed in the strange situation to categorise infant attachment style, little adult research has explored separation behaviour in adults.

One important example of research investigating adult attachment separation behaviour using observational methods is Fraley and Shaver’s (1998) study of couples separating at airports. These researchers measured attachment using the four-group model of attachment and a continuous measure of attachment on dimensions of attachment anxiety and attachment avoidance. Participants were observed unobtrusively, and it was found that attachment anxiety was positively associated with levels of observable distress, and attachment avoidant women were found to pull away from prematurely their partners when separation was impending. Both avoidant men and women maintained lower levels of proximity to their partners while waiting to separate.
Although the observation of behaviour in a public setting was limiting, this study does support the notion that attachment behaviour in adulthood is similar to that in childhood: that it is activated under circumstances in which proximity to the attachment figure is threatened, and that predictable patterns of behaviour will be observed in response to that threat (Fraley & Shaver, 1998).

With regard to stress more generally, a number of studies have found that attachment style is associated with coping with a range of stressful situations (see Mikulincer & Florian, 1998). A good example of this work is one study that followed ninety-two young Israeli army recruits through four months of basic training (Mikulincer & Florian, 1995). Multiple stressors are experienced in this environment, including the stripping of personal identity, interpersonal conflict with fellow recruits and superiors, receiving orders, combat training, little sleep, and long periods of physical exercise. The three-group measure of attachment style was used at the beginning of training, and was found to predict differences in coping strategies. Although there were no differences in coping that attempted to address the stressor directly (i.e., problem-focused coping), anxious-ambivalent individuals reported using more strategies that involved internal coping (emotion-focused coping), and avoidant individuals reported more coping strategies that involved trying to distance themselves from stressors. In contrast, secure individuals reported seeking more support from others.

Research has also observed the supportive behaviour of couples when placed under stress in an experimental setting. Rholes et al. (1998) observed couples that were placed in a waiting room after one member was told that they would soon be exposed to an experiment that people find anxiety provoking and distressing. The couples’s verbal
communication was coded for the seeking and giving of emotional support, in addition to their physical ‘approach’ behaviours. Although attachment related anxiety was not strongly related to support, couples higher in attachment avoidance sought and provided less support. Similar results were recently reported by Feeney and Collins (2001). Self-report data collected from caregiver and care recipients showed that caregivers who were high in attachment avoidance were less responsive in their caregiving behaviour, and caregivers high in attachment anxiety were more compulsive (over-involved) and controlling. In phase 2 of the study, couples behaviour was coded for responsive caregiving when one member was asked to prepare and give a speech under controlled experimental conditions. As the need for caregiving increased, avoidant partners decreased their level of support. Taken together, the results of both Rholes et al. and Feeney and Collins’ research indicate that avoidance is most predictive of support between couples: higher attachment avoidance predicts a compromised ability to seek and provide caregiving support.

These attachment findings speak to the construct of emotional social support as defined in the second chapter of this thesis where, it will be recalled, it was defined in terms of love, empathy, care, and concern (Helgeson & Cohen, 1996; House, 1981). Recently, a series of five intriguing attachment studies examined the influence of security of attachment on the provision of empathy. Mikulincer and colleagues (2001) assessed attachment security using a multi-item measure that provides scores on the dimensions of attachment avoidance and attachment anxiety. In addition, they contextually primed attachment security by asking participants to read a story, or recollect personal memories, or by asking them to look at a picture of supportive others, or by subliminally exposing them to proximity-related words. This procedure was followed by asking participants to
report their empathy and personal distress, or recall empathic memories and memories of personal distress.

Mikulincer and colleagues hypothesised that both the habitual or ‘chronic’ level of attachment security (that normally measured in the majority of studies), and also the contextual priming of the sense of attachment security, would reduce personal distress in response to the needs of others and enhance the participants sense of empathy for a victim. These hypotheses are based on the concept that the secure and positive working models of self, whether chronic or boosted temporarily, would promote feelings of control and self-efficacy, thus reducing personal distress and enhancing empathy. Similarly, the positive model of other that reflects security would also enhance the sense of valuing of the other, and hence an empathic response.

The results supported the hypotheses outlined above. Attachment-security priming across the five studies, using the various priming techniques previously described, strengthened empathic reactions and was associated with lower levels of personal distress. Also, ‘chronic’ attachment anxiety and avoidance were negatively correlated with empathy, and attachment anxiety was positively correlated with personal distress in reaction to the plight of others. Interestingly, there was no significant interaction between primed and chronic scores of attachment security, suggesting that each made unique and independent contributions to the emotional reactions of the participants to the victim.

Furthermore, recalling that the present research primarily operationalises emotional support in terms of the degree to which self-disclosure is beneficial, it is of interest to note that when discussing intimate topics, secure individuals self-disclose more than avoidant individuals, and display more disclosure flexibility and topical reciprocity than
both avoidant and ambivalent individuals (Mikulincer & Nachshon, 1991). These results seem particularly pertinent to the present research, and suggest that patterns of attachment in the present participants may influence their ability to experience benefit in self-disclose. Furthermore, the attachment results reported above related to empathy suggest that patterns of attachment in participants will influence their ability to provide empathy to their partners.

One further body of attachment research seems particularly relevant to the present work. End-stage cancer is a context of death and dying. It seems reasonable to suggest that coping and support in this context will be influenced by a fear of death. Recalling that emotional support between cancer patient and family is sometimes observed to decline in the end-stage of cancer, the issue of the fear of death may be particularly relevant. There is evidence to suggest that attachment style predicts fear of death (Mikulincer & Florian, 1998; Mikulincer et al., 1990). Secure persons report less fear than insecure persons. Consistent with attachment theory, anxious-ambivalent people display greater fear both consciously and unconsciously (unconscious fear assessed via physiological arousal), whereas avoidant persons only exhibited an unconscious fear of death (Mikulincer & Florian, 1998). One interpretation of these results is that insecurity influences fear of death because death involves attachment loss. It would also seem reasonable to suggest that such fear may influence the person’s ability to engage in the communication required to give and receive emotional social support in the context of death and dying.
4.5 The Present Research

The present research will examine the association between each patients’ and spouses’ working models of attachment and their psychological adjustment in the context of end-stage cancer. Furthermore, this research will also examine whether working models of attachment are associated with the other two key predictor variables of distress in this study, those being emotional support and positive meaning, and whether the effect of attachment on distress may be mediated by these variables (to be explored in the final chapter involving path analyses).

The proposition that attachment patterns will be associated with emotional support is consistent with attachment theory and research reviewed above, although no attachment research has looked specifically at the cancer context. That this research should find such an association will not be surprising, given the review above, but nonetheless is of great clinical importance. More groundbreaking may be the finding that working models of attachment are associated with the construal of meaning, a finding that has the potential to also be of clinical importance. Why should working models of attachment predict the patient’s ability to find positive meaning in the context of end-stage cancer?

It appears that no research has investigated the association between working models of attachment and meaning, regardless of context. Nonetheless, support for this proposal may be deduced indirectly from research findings. The capacity to construe positive meaning may be associated with secure working models of attachment because of the associated higher basic trust and optimism, an adaptive and positive interpersonal style, and a valuing of relationships. Given that many of the positive meanings reported by patients in the present research reflected a valuing of interpersonal relationships, and
given that secure working models of attachment are associated with positive relationship experience, it follows that secure attachment patterns should be associated with a capacity to construe positive meaning. In contrast, working models of attachment associated with anxiety should have difficulty construing positive meaning because their working models of attachment will highlight a negative perception of threat and loss.

Attachment avoidance reflected in the dismissing-avoidant style should also make positive meaning particularly difficult to construe because relationships are dismissed as unimportant. Presumably this will make finding positive meaning in relationships more difficult because (1) many of the most frequently reported positive meanings were associated with a valuing of relationships, and (2) dismissing avoidant attachment involves the dismissal of the importance of relations. Thus avoidant attachment should also be associated with difficulty in construing positive meaning.

4.5.1 Hypotheses

Because working models of attachment are measured both categorically and continuously in the present research (described in Method section below), clarity is improved if specific hypotheses are made for each type of attachment measure.

1. Attachment and psychological adjustment. Overall, it is hypothesised that attachment anxiety will be associated with psychological adjustment:

(1a) That patients and spouses with a categorical attachment style marked by high levels of attachment anxiety (the preoccupied and fearful-avoidant attachment
styles), will report poorer psychological adjustment in comparison with those patients and spouses with the secure attachment style

(1b) That patients and spouses with higher levels of attachment anxiety (measured continuously) will also report poorer levels of psychological adjustment

(1c) That the associations between attachment anxiety (whether measured categorically or continuously) and psychological adjustment will remain significant after significant control variables are taken into account

Note that there are no hypotheses related to attachment avoidance here. This is because there is no theoretical reason to expect high levels of psychological morbidity in individuals high in attachment avoidance, because this pattern of attachment is marked by a tendency to downplay threat and distress.

2. Attachment and emotional support. Overall, it is hypothesised that attachment security will be associated with higher levels of emotional support. For reasons of parsimony, and with a desire to keep these analyses as clear as possible, it was decided to use the two main measures of emotional support in different ways: each participants’ measure of the benefit of self-disclosure measure will be analysed in association with their own self-report of attachment, whereas each participant’s measure of empathy will analysed in association with their partners’ self-report of attachment.

Our rationale for using these measures in this way is as follows. Item analyses of the benefit of self-disclosure measure, and of the empathy measure, reveals that the first more fully taps the characteristics of the individual completing the measure, and the second the characteristics of the partner: the items of the benefit of self-disclosure items are directed at the self (e.g., When I have talked with my partner about my concerns and
feelings to do with my illness it made me feel worse, more worries, more upset), whereas
the empathy measure asks about their partner’s behaviour (e.g., He or she usually senses
or realises what I am feeling). Although it is acknowledged that the empathy measure is,
strictly speaking, no more than an accurate perception of the individual’s subjective
experience of empathy from partner (and thus likely to tap their working models of
attachment to some degree), it is suggested that in most cases empathy scores are likely
to reflect a reasonably accurate perception of the partner’s empathic behaviour (and thus
tap the partners’ working models of attachment to a large degree). In contrast, while the
measure of benefit of self-disclosure also reflects the interaction between the couple
(indeed we have asserted empathy scores predict benefit of self-disclosure scores, and we
have shown they are associated), we believe this measure is likely to more fully reflect
characteristics within the individual (i.e. individual’s working models of attachment).

It is for this reason that we have chosen to analyse participant’s benefit of self-
disclosure scores with their own attachment data, and participants’ empathy scores with
their partners’ attachment data. Pairing empathy scores with partners self-reported
attachment data will allow for further interesting analyses involving data from the level
of the couple. Thus, it is hypothesised:

(2a) That patients and spouses endorsing a categorical attachment style marked by
high levels of attachment anxiety and attachment avoidance (the dismissing-avoidant,
preoccupied, and fearful-avoidant attachment styles) will report lower levels of
benefit of self-disclosure than the secure attachment style

(2b) That patients and spouses with higher scores on the dimension of attachment
anxiety and attachment avoidance will also report lower levels of benefit of self-
disclosure
(2c) That participants who report lower levels of empathy from partner will have partners who more frequently endorse a categorical attachment style marked by high levels of attachment anxiety and attachment avoidance (the dismissing-avoidant, preoccupied, and fearful-avoidant attachment styles)

(2d) That participants who report lower levels of empathy from partner will have partners with higher scores on the dimensions of attachment anxiety and attachment avoidance

3. Attachment and positive meaning. It is recalled that one or more positive meanings was associated with higher levels of psychological adjustment. Therefore, it is hypothesised that security of attachment will be associated with one or more positive meanings:

(3a) Patients endorsing the insecure attachment styles will be more likely to report no positive meanings in comparison to the secure attachment styles, because the insecure styles are marked by either high anxiety (preoccupied and fearful-avoidant styles) or by a dismissal of the importance of relationships (the dismissing-avoidant style).

(3b) Patients reporting one or more positive meanings will also report lower scores on the dimension of attachment anxiety and attachment avoidance (measured continuously)
Method

4.6 Participants

The sample used in each of the chapters is the same (except for slightly different numbers due to missing data), and thus a description of the participants will not be repeated here. For a review of the participants’ description, see Method Section Chapter Two, page 33.

4.7 Measures

The majority of measures used in this chapter were also used in Chapters Two and Three. The only new addition here is the focal measure of attachment, and thus it is the only measure described in this method section. Nonetheless, a list of all measures included in the analyses of this chapter is made below, and the page number is provided for the description of that measure in the Chapter Two method section.

4.71 Adult Attachment

As will be recalled, two types of self-report measures have been developed to assess adult attachment. They are: (1) the categorical measures in which participants endorse paragraph descriptions of different prototypical attachment styles, and (2) the continuous multi-item measures that provide scores on underlying attachment dimension scales. Originally it was planned that this research would use both a categorical adult attachment measure, and the most recent multi-item measure. And indeed, this research did begin by using both – the categorical Relationship Questionnaire (Bartholomew & Horowitz, 1991), and the most recent and methodologically sound multi-item measure of adult
attachment, the 36-item Experiences in Close Relationships – Revised (ECR-R) (Fraley, Waller, & Brennan, 2000). However, it quickly became evident that the ECR-R contained items that some participants, particularly those patients closer to death, were finding emotionally distressing. Examples are I’m afraid that I will lose my partner’s love, I often worry my partner doesn’t really love me and When my partner is out of sight, I worry that he or she might become interested in someone else. For ethical reasons it was decided to drop the ECR-R from this research, and instead a continuous score on the attachment dimensions was calculated using the Likert scales from the Relationship Questionnaire. The Relationship Questionnaire, although typically used categorically, may also be used continuously by employing the Likert scales from each of the prototypical categorical descriptions (see Cozzarelli, Sumer, & Major, 1998; Feeney & Collins, 2001; Griffin and Bartholomew, 1994).

The Relationship Questionnaire has been widely employed by researchers, and was most suitable for this work because of its brevity and relative simplicity. As has been described previously, the Relationship Questionnaire is a 4-group modification of Hazan and Shaver’s 3-group measure in that it divides Hazan and Shaver’s prototypical avoidant attachment style description into two avoidant styles (dismissing avoidant and fearful avoidant), and the anxious-ambivalent style is renamed ‘preoccupied’, forming the 4-group measure. Table 4.2 displays each prototypical paragraph description. Participants are asked to rate each of the prototypical adult attachment style descriptions on a Likert scale from 1 (not at all like me) to 7 (a lot like me). The category endorsed most highly, or, if two are endorsed equally highly, the one chosen by the participant as most like himself or herself, was deemed the participant’s prototypical attachment style.
Construct validity for the Relationship Questionnaire is provided by a large number of studies that have found both it, and Hazan and Shaver’s 3-group measure of attachment, to be associated with other self-report measures in patterns that are theoretically consistent with attachment theory. For example, with regard to the 3-group measure, the secure style has been found to be associated with high levels of relationship satisfaction, trust in partners, commitment to their relationship, and low in game playing and obsessive dependency. Individuals of the anxious-ambivalent (preoccupied) style report low levels of relationship satisfaction, low levels of trust in partner, and are high in obsessive dependency and commitment. The avoidant style has been found to be low in relationship satisfaction, low in trust in partner, and high in game playing and deception (e.g., Collins & Read, 1990; Keelan et al., 1994; Simpson, 1990).

Table 4.2

Four-Group Measure of Adult Attachment

<table>
<thead>
<tr>
<th>Attachment Categories</th>
<th>Paragraph Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I do not worry about being alone or not being accepted by others.</td>
</tr>
<tr>
<td>Dismissing Avoidant</td>
<td>I am comfortable without close relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.</td>
</tr>
<tr>
<td>Preoccupied Avoidant</td>
<td>I want to be completely emotionally intimate with others, but I often find that others are reluctant to get close to me as I would like. I am uncomfortable without close relationships, but I sometimes worry that others don’t value me as much as I value them.</td>
</tr>
<tr>
<td>Fearful Avoidant</td>
<td>I am uncomfortable getting close to others. I want emotionally close relationships, but find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.</td>
</tr>
</tbody>
</table>
Similar patterns are found for the secure and preoccupied (anxious-ambivalent) style using the 4-group Relationship Questionnaire, and theoretically consistent differences have been identified between the two avoidant categories in the 4-group measure. The fearful avoidant style is associated with low levels of self-confidence, intimacy, trust, level of romantic involvement, control of social relations, and reliance on others. In comparison, the dismissing avoidant type reports high self-confidence and control in social relations, and low levels of emotional expressiveness, caregiving, and warmth (Bartholomew & Horowitz, 1991). In addition, the attachment styles have been found to correspond with a wide range of self-report data, as evident in the literature previously reviewed.

Most important, adult attachment styles have been validated against a number of non self-report outcomes, including behaviour observed both inside the laboratory and in naturalistic settings, psychophysiological responses, and cognitive dynamics. Examples are couples’ supportive behaviour in stressful situations (Rholes et al., 1998), couples’ separation behaviour at airports (Fraley & Shaver, 1998), communication patterns between couples when discussing topics associated with conflict (Feeney, 1994), lexical priming and physiological signs of anger (Milkilincer, 1998), and the suppression of unwanted thoughts (Fraley & Shaver, 1997).

Convergent and discriminant validity have also been provided for the two underlying dimensions of the 4-group model (model of self or anxiety and model of other or avoidance). Self-report, peer-report, partner report, and expert raters’ judgements of the dimensions are highly intercorrelated, providing convergent validity (Griffin & Bartholomew, 1994). Discriminant validity has been provided by showing low correlations between the dimensions when rated by the same method.
Studies of test-retest reliability of the attachment styles in adults over time vary in their findings, but when taken as a whole suggest moderate stability. With regard to the 3-group measure, test-retest rates of stability have been reported as .67 over a 12 to 16-week period (Baldwin & Fehr, 1995) to .80 over a 16-week period. Regarding the 4-group measure, Jenick (1997) found an overall test-retest reliability of .61 over 6 weeks. Scharfe and Bartholomew (1994) found comparable rates of stability for the measure over eight months (.63 for females and .56 for males). Stability rates have generally been found to vary little with the time interval between assessments.

Taken together, these results may be interpreted as indicating that adult attachment is relatively stable over periods of less than 1 year. However, these studies also indicate that about one quarter of respondents do show change within this time frame. Explanations for this instability vary. Scharfe and Bartholomew (1994) suggest that instability is largely due to unreliability of measurement, rather than instability in the construct. However, Baldwin and Fehr (1995) point out that even Scharfe and Bartholomew’s most reliable assessment method, interview by trained coders, yields considerable instability, thus suggesting some instability of the construct.

It is instructive to note at this point that when changes in attachment styles in adults are observed, the patterns of change between the attachment styles are typically consistent with underlying dimensions. Studies show that the greatest rates of change are between the two avoidant styles, or between the secure style and the dismissing style (Scharfe & Bartholomew, 1994). Also, as would be expected, very low rates of change are observed between the preoccupied style and the avoidant styles. Given that the categories of attachment style are considered prototypes with underlying dimensions (both measures tapping working models of attachment), Fraley and Waller (1998)
suggest that it is not surprising that some variability is observed in the test-retest reliability of the categorical measures, and that test-retest scores on dimensional measures of attachment are typically higher than the categorical prototypes. This indicates that some measurement error does occur with the categorical measure. Nonetheless, longitudinal research also suggests some genuine change in working models of attachment style can occur over time, consistent with Bowlby’s premise that attachment style is only resistant to change. Thus, and when all evidence is taken into account, it would appear that both measurement error and instability of the construct of attachment styles explain the test-retest results.

4.72 Psychological Adjustment

As in the previous chapter, the Positive and Negative Affect Schedule (PANAS-X) was employed to measure psychological adjustment over the week prior to the interview. For a full description of the PANAS-X see Method Section Chapter Two, page 40.

4.73 Non-Focal Measures

It will be recalled that only 3 non-focal measures were identified as having a significant relationship with patients’ psychological adjustment, and thus are included in analysis as control variables.

Medical assessment of physical state and functioning.

1. The Karnofsky Performance Status (KPS; Karnofsky & Burchenal, 1949). For description see Method section Chapter Two, page 44.
2. The Quality of Life Index (QL-Index) (Spitzer, Dobson, Hall, & Chesterman, 1981). For description see Method section Chapter Two, page 45.

*Pain in interview.*

3. Pain scale. For description see Method Section Chapter Two, page 46.

### 4.8 Procedure

As will be recalled, the adult attachment measure was one of a number of paper and pencil measures administered to participants during the research interview (for overview of interview procedure, see Method Section, chapter Two, page 50). With regards here to the attachment measure, participants were each asked to rate each of the prototypical adult attachment style descriptions above (see Table 4.2) on a Likert scale from 1 (not at all like me) to 7 (a lot like me). The category endorsed most highly, or, if two are endorsed equally highly, the one chosen by the participant as most like himself or herself, was deemed the participant’s prototypical attachment style.

The scores from the four Likert scales representing each attachment prototype were also combined to provide a continuous measure of two underlying attachment dimensions: attachment anxiety and attachment avoidance. As will be recalled, each of the 4 attachment prototypes was conceptualised by Bartholomew to reflect a combination of either a positive or negative model of self with either a positive or negative model of other. Because a negative model of self is associated with attachment anxiety, and a negative model of other is associated with attachment avoidance (see Table 4.3), the Likert scores on each participant’s four prototypical attachment styles can be combined to calculate scores on the underlying attachment dimensions (Cozzarelli, Sumer, &
Major, 1998; Feeney & Collins, 2001; Griffin and Bartholomew, 1994). Validity for scores calculated in this way is provided by Cozzarelli et al. 1998, who, in a study of women coping with abortion, found model of self was strongly associated with adjustment post-abortion. Similarly, Feeney and Collins (2001), whose study was reviewed earlier, found model of other (avoidance) most strongly predicted caregiving between couples under stress.

Scores for the attachment anxiety dimension are calculated by subtracting the sum of secure and dismissing (low anxiety) scores from the sum of preoccupied and fearful (high anxiety) scores. Similarly, attachment avoidance dimension scores are calculated by subtracting the sum of secure and preoccupied (low avoidance) scores from the sum of dismissing and fearful (high avoidance) scores (see Table 4.4) (Feeney & Collins, 2001; Griffin and Bartholomew, 1994). In this way, each participant has a categorical attachment style (prototype), and a score on the dimension of attachment anxiety and attachment avoidance (each a scale with a possible range of –12 [low attachment anxiety or avoidance] to 12 [high attachment anxiety or avoidance]). Thus a positive score on anxiety or avoidance reflects high attachment anxiety or avoidance, and a negative score on anxiety or avoidance reflects low attachment anxiety or avoidance.
Table 4.3.
**Bartholomew’s Four-Group Model of Attachment**

<table>
<thead>
<tr>
<th>Model of Other (Avoidance)</th>
<th>Model of Self (Anxiety)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive (Low Anxiety)</td>
<td>Negative (High Anxiety)</td>
</tr>
<tr>
<td>Positive (Low Avoidance)</td>
<td>Secure</td>
<td>Preoccupied</td>
</tr>
<tr>
<td>Negative (High Avoidance)</td>
<td>Dismissing</td>
<td>Fearful</td>
</tr>
</tbody>
</table>

Table 4.4
**Calculations for Summing Scores for Underlying Attachment Dimensions of Attachment Anxiety and Attachment Avoidance**

<table>
<thead>
<tr>
<th>Attachment Dimensions</th>
<th>Calculation For Attachment Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment Anxiety</td>
<td>(Preoccupied + Fearful) – (Secure + Dismissing) (High Anxiety) – (Low Anxiety)</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>(Dismissing + Fearful) – (Secure + Preoccupied) (High Avoidance) – (Low Avoidance)</td>
</tr>
</tbody>
</table>

**Results**

This section opens with a review of descriptive data for the two measures of adult attachment, those being (1) the categorical prototype measure, and (2) the continuous scores for the dimensions of attachment anxiety and attachment avoidance. It will then proceed by presenting three sets of analyses related to each set of attachment hypothesis: (1) attachment and psychological adjustment, (2) attachment and emotional support, and
(3) attachment and positive meaning. The degree to which the focal variables mediate one another in their association with psychological adjustment will not be explored in this chapter, but will be explored in the fifth and final chapter of this thesis, in which path analyses will be conducted exploring the inter-relationships between the focal variables of this research.

4.9 Descriptive Data for Adult Attachment

The total number of participants and percentage of the sample falling into each of the four categorical prototypes of adult attachment are presented in Table 4.5. As can be observed, a large proportion of both patients and spouses endorsed the secure category (although patients also endorsed the dismissing-avoidant category in equal numbers), and they were approximately equal in this endorsement of security (26 patients and spouses). Likewise, patients and spouses were similar in their rate of endorsement of the fearful-avoidant category (8 versus 10 respectively). The major contrast in the pattern of endorsement between patients and spouses is between the dismissing-avoidant and preoccupied categories. As can be observed in Table 4.5, the higher number of dismissing-avoidant patients is offset by the higher number of preoccupied spouses. Six more patients endorsed the dismissing-avoidant category in contrast to spouses (26 patients versus 20 spouses), whereas 5 more spouses endorsed the preoccupied category in contrast to patients (5 patients versus 10 spouses).
Table 4.5

*Number and Percentage of Patients and Spouses falling into Each Adult Attachment Category*

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th></th>
<th>Spouses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>26</td>
<td>(40)</td>
<td>26</td>
<td>(39)</td>
</tr>
<tr>
<td>Dismissing Avoidant</td>
<td>26</td>
<td>(40)</td>
<td>21</td>
<td>(31)</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>5</td>
<td>(8)</td>
<td>10</td>
<td>(15)</td>
</tr>
<tr>
<td>Fearful Avoidant</td>
<td>8</td>
<td>(12)</td>
<td>10</td>
<td>(15)</td>
</tr>
<tr>
<td>Total</td>
<td>65</td>
<td>(100)</td>
<td>67</td>
<td>(100)</td>
</tr>
</tbody>
</table>

Note. Figures in parentheses represent percentages of sample

Next the pairings of patients and spouses was examined (Table 4.6). As is typical of adult attachment samples, secure-secure pairings were most common, and show a trend above that expected by chance as determined by the size of the groups. Interestingly, the other pairing that showed a trend above that expected by chance was the fearful avoidant and dismissing avoidant pairing, regardless of which style was reported by either patient or spouse. Secure and dismissing avoidant pairings also showed a consistently trend below that expected by chance. The remaining pairings were approximately as expected.
Table 4.6

**Pairing of Attachment Styles Between Patient and Spouse**

<table>
<thead>
<tr>
<th>Spouse Attachment Style</th>
<th>Patient Attachment Style</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Secure</td>
</tr>
<tr>
<td>Secure</td>
<td>13 (10)</td>
</tr>
<tr>
<td>Dismissing</td>
<td>6 (8)</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Fearful</td>
<td>3 (4)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>26</td>
</tr>
</tbody>
</table>

Note. Figures in parentheses represent expected count. Totals vary slightly from Table 1 due to missing data within pairs.

Next, scores on the dimensional scales of attachment anxiety and attachment avoidance are presented. Table 4.7 shows mean scores on each scale for patients and spouses (-12 indicating the minimum score of low attachment anxiety and low avoidance, and 12 indicating the maximum score of high attachment anxiety and high avoidance). Patients are slightly lower on attachment anxiety, and neither group is markedly high on either attachment dimension. The differences between attachment anxiety scores and attachment avoidance scores for patients and spouses were tested using paired samples $t$ tests, and neither contrast were significant, $t (63) = -1.63$, n.s and $t (64) = -.46$, n.s., respectively.
Table 4.7

*Dimensional Attachment Scores for Patient and Spouses*

<table>
<thead>
<tr>
<th></th>
<th>Patient ($n = 65$)</th>
<th>Spouse ($n = 67$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>-2.80</td>
<td>3.29</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>-.35</td>
<td>3.72</td>
</tr>
</tbody>
</table>

Contrasts on attachment anxiety and attachment avoidance scales for patients and spouses were further examined by gender (see Table 4.8). It should be recalled at this point that the majority of patients are male, and the majority of spouses are, of course, female. Most noteworthy is that male patients and male spouses have marginally higher scores in attachment anxiety and attachment avoidance (recall that the higher the negative figure the lower the attachment anxiety or attachment avoidance).

In order to assess for systematic differences between males and females on the attachment dimensions of attachment anxiety and attachment avoidance, analyses were conducted in which a random sample of 8 male patients was selected using the SPSS commands DATA and SELECT CASES, and this subset contrasted with the 8 female patients employing an independent samples $t$ test. (Although there are 9 female patients,
one couple in this sample was a same-sex female couple. In order to avoid the potentially confounding effect of including this couple in these contrasts, they were excluded. Analyses revealed that there were no significant differences between the two patient gender groups on the dimension of attachment anxiety, $t (13) = 1.62$, n.s, or on the dimension of attachment avoidance $t (14) = 1.15$, n.s. The same process was repeated for spouses. Eight female spouses were randomly selected using SPSS and contrasted with the 8 male spouses in this sample. Analyses revealed that there were no significant differences between the two spouse gender groups on the dimension of attachment anxiety, $t (14) = 0.81$, n.s, or on the dimension of attachment avoidance $t (14) = 1.47$, n.s. Thus it appears that there were no systematic differences on the attachment dimensions between male and female patients, and male and female spouses.

Table 4.8

*Dimensional Attachment Scores for Patient and Spouses Divided by Gender*

<table>
<thead>
<tr>
<th></th>
<th>Patient</th>
<th></th>
<th>Spouse</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male ($n = 58$)</td>
<td>Female ($n = 9$)</td>
<td>Male ($n = 8$)</td>
<td>Female ($n = 59$)</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>3.75</td>
<td>-2.53</td>
<td>3.19</td>
<td>-4.75</td>
<td>3.54</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>3.89</td>
<td>-0.26</td>
<td>3.78</td>
<td>-1.00</td>
<td>3.46</td>
</tr>
</tbody>
</table>
4.10 Focal Variable Results

4.101 Attachment and Psychological Adjustment

It was hypothesised that both categorical styles of attachment marked by high attachment anxiety (the preoccupied and fearful-avoidant attachment styles) would be associated with lower levels of psychological adjustment than those of the secure attachment style for both patient and spouse (recall no hypothesis was made regarding dismissing-avoidant attachment style here, because this style is marked by a tendency to downplay threat or distress). In order to test the differences between attachment styles for patients, a one-way ANOVA was conducted in which patients’ scores on the PANAS general dimension scale of negative affect were entered as the dependent variable and attachment style (secure, dismissing-avoidant, preoccupied, fearful-avoidant) entered as independent variable. The result indicated a significant difference between groups, $F(3, 60) = 5.91, p < .01$. Mean negative affect scores for each group are presented in Figure 4.4.

To specifically test the hypothesis that patients of preoccupied and fearful-avoidant attachment would be significantly more distressed than secure patients, a series of independent sample $t$ tests were then conducted. Results indicated that the preoccupied patients are higher in negative affect scores than secure patients, $t(29) = 4.13, p < .001$, and the fearful avoidant patients were also significantly higher in negative affect than secure patients, $t(32) = 3.24, p < .01$. These results provide support for the hypothesis that the patients endorsing the preoccupied and fearful-avoidant attachment styles will be higher in psychological distress than patients endorsing the secure attachment style.
In order to test whether the significant result reported above for patients would remain significant after controlling for the three non-focal variables identified as significant in this research (performance status, quality of life, and pain in interview), a one-way between subjects ANCOVA was performed on the general dimensional scale of negative affect. Using SPSS GENERAL LINEAR MODEL and UNIVARIATE, four levels of independent variables were entered, those being the secure, dismissing avoidant, preoccupied, and fearful avoidant attachment styles, and the covariates were performance status, quality of life, and pain in interview. As with all variables included in the analyses of this research, evaluation of the assumptions of the normality of sampling, linearity,
homogeneity of variance, and reliability of covariates were satisfactory. No outliers were observed, and to adjust for unequal $n$, cells were weighted equally, regardless of sample sizes (see Tabachnick & Fidell, 2001).

As can be observed in Table 4.9, after adjustment for performance status, quality of life, and pain in interview, patients’ attachment style remained significantly associated with psychological distress $F(3, 57) = 5.36, p < .01$. This result supports the hypothesis that the patient’s attachment style would be significantly associated with patient’s psychological distress, after control variables were taken into account.

Table 4.9.

*Analysis of Covariance of Psychological Distress*

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain in Interview</td>
<td>327.773</td>
<td>1</td>
<td>327.773</td>
<td>7.72*</td>
</tr>
<tr>
<td>Performance Status</td>
<td>64.680</td>
<td>1</td>
<td>64.680</td>
<td>1.52</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>11.262</td>
<td>1</td>
<td>11.262</td>
<td>0.27</td>
</tr>
<tr>
<td>Patient Attachment Style</td>
<td>681.932</td>
<td>3</td>
<td>227.311</td>
<td>5.36*</td>
</tr>
<tr>
<td>Error</td>
<td>2418.946</td>
<td>57</td>
<td>42.438</td>
<td></td>
</tr>
</tbody>
</table>

$R^2 = .388 \quad R^2_{Adj} = .323$

* $p < .01$

Next, the same sets of analyses were conducted for spouses. In order to test for differences between groups, a one-way ANOVA was conducted in which spouses’ scores on the PANAS general dimension scale of negative affect were entered as the dependent variable and attachment style (secure, dismissing-avoidant, preoccupied, fearful-
avoidant) entered as independent variable. Although a somewhat similar pattern of mean scores was evident (see Figure 4.5) no significant differences between attachment groups were found, $F(3, 61) = 1.54$, n.s.

![Spouse four-group attachment](image)

**Figure 4.5.** Differences Between Spouses’ Attachment Styles on Levels of Negative Affect

Analyses were also conducted assessing the association between attachment style for spouses and levels of positive affect. While it was expected that the two styles of attachment marked by high anxiety (preoccupied and fearful avoidant) would be lower in levels of positive affect than secure individuals (i.e., poorer psychological adjustment), only preoccupied spouses appear to have markedly lower scores on positive affect (see Figure 4.6).
In order to test for differences between groups, a one-way ANOVA was conducted in which spouses’ scores on the PANAS general dimension scale of positive affect were entered as the dependent variable and attachment style (secure, dismissing avoidant, preoccupied, fearful avoidant) entered as independent variable. Results indicated that there were no significant differences between attachment styles on positive affect scores, F (3, 60) = 1.29, n.s. Thus the hypothesis that the spouses’ attachment styles marked by high attachment anxiety (preoccupied and fearful avoidant) would be associated with poorer psychological adjustment was not supported by this analysis.

Figure 4.6.
Differences Between Spouses’ Attachment Styles on Levels of Positive Affect

In addition to the hypothesis tested above that differences in the categories of attachment style would be associated with psychological adjustment of patient and spouse, it was also hypothesised that patients’ and spouses’ who had higher scores on the
continuous dimension of attachment anxiety would report poorer psychological adjustment. Results partially supported this: the attachment dimension of anxiety was found to be positively associated with negative affect scores for patients, but not for spouses. Although no hypothesis was made regarding attachment avoidance, this dimension was included in the analyses for exploratory purposes. Not surprisingly, the avoidant attachment dimension was not related to negative affect for patients, or negative or positive affect for spouses (see Table 4.10).

Table 4.10

Bivariate Correlations between Attachment Dimensions and Affect for Patients and Spouses

<table>
<thead>
<tr>
<th></th>
<th>Patients (n = 64)</th>
<th></th>
<th>Spouses (n = 64)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attachment Anxiety</td>
<td>Attachment Avoidance</td>
<td>Attachment Anxiety</td>
<td>Attachment Avoidance</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>.41*</td>
<td>.23</td>
<td>.15</td>
<td>.10</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>-.28</td>
<td>-.06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .01

4.102 Analyses Controlling for Non-Focal Variables

In order to test the association between patients’ attachment anxiety and their negative affect, after controlling for performance status, quality of life, and pain in interview, a hierarchical multiple regression was conducted. Analysis was performed using SPSS REGRESSION, and SPSS FREQUENCIES for evaluation of assumptions. Using a criterion of *p* < .001, the data met analytic assumptions of multivariate normalcy, homogeneity of variance, and linearity, and there were no outliers. Table 4.11 displays
the unstandardised regression coefficients (B), the standardised regression coefficients 
(β), the increment of R squared provided at each step, and the overall R squared. R was 
significantly different from zero at the end of each step. After step one, with scores of 
performance status, quality of life, and pain in interview entered in the equation, R 
squared = .22, \( F (3, 60) = 5.48, p < .01 \). After step two, with attachment anxiety scores 
added to the prediction of negative affect scores, R squared = .30, \( F_{\text{change}} (1, 59) = 7.41, 
\ p < .01 \). The addition of attachment anxiety scores at step two resulted in a significant 
increment in R squared, indicating that the association between the predictor variables of 
attachment anxiety and the dependent variable of negative affect remained significant 
after the control variables of performance status, quality of life, and pain in interview 
were taken into account.

Table 4.11

*Multiple Regression of Negative Affect on Attachment Anxiety and Control Variable for 
Patients*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>R</th>
<th>R² Increment</th>
<th>R² Adj</th>
<th>Overall R²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain during Interview</td>
<td>1.108</td>
<td>.375</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Status</td>
<td>-.100</td>
<td>-.205</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Life</td>
<td>-.344</td>
<td>-.069</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.464</td>
<td>.215*</td>
<td>.176</td>
<td>.215</td>
</tr>
<tr>
<td><strong>Attachment Anxiety</strong></td>
<td>.764</td>
<td>.320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.550</td>
<td>.088*</td>
<td>.255</td>
<td>.303</td>
</tr>
</tbody>
</table>

* \( p < .01 \)
4.103 Attachment and Emotional Support

It was hypothesised that attachment variables would be associated with emotional support. First, with regards to the categorical measure of attachment, it was hypothesised that both patients and spouses of the secure attachment category would be significantly higher in benefit of self-disclosure scores when compared with their counterparts. Figures 4.7 and 4.8 and Table 4.12 show a pattern of mean scores consistent with this hypothesis.

![Patient four-group attachment](image1)

![Spouse four-group attachment](image2)

Figures 4.7. and 4.8.
Differences Between Attachment Styles on Benefit of Self-Disclosure for Patients and Spouses

Table 4.12

<table>
<thead>
<tr>
<th>Benefit of Self-Disclosure</th>
<th>Patient</th>
<th>Spouse</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Secure</td>
<td>Dismissing</td>
</tr>
<tr>
<td>Patient</td>
<td>40.75</td>
<td>34.46</td>
</tr>
<tr>
<td>Spouse</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
First, a one-way ANOVA was run for patients, with attachment styles entered as the independent variable and benefit of self-disclosure scores entered as the dependent variable. Results revealed a significant difference between groups, \( F (3, 57) = 5.32, p < .01 \). Three pairwise comparisons were then conducted to test the differences between the three insecure groups with the secure group. Independent samples \( t \) tests revealed a significant difference for the secure – dismissing avoidant comparison, \( t (46) = 3.31, p < .01 \), the secure – preoccupied comparison, \( t (27) = 3.17, p < .01 \), and the secure – fearful avoidant comparison, \( t (30) = 2.94, p < .01 \). Thus the hypothesis that each of the insecure groups would report lower benefit of self-disclosure was confirmed for patients. However, when an ANOVA was conducted for spouses to investigate differences between spouses attachment styles on their mean scores of benefit of self-disclosure, no significant differences were detected, \( F (3, 56) = 1.65, \text{n.s.} \). Thus, as with previous attachment related hypotheses for spouses, this attachment related hypothesis was also not confirmed for spouses.

It was also hypothesised that the continuous dimensional measure of attachment would be associated with benefit of self-disclosure. Bivariate correlations are displayed in Table 4.13. As can be observed, patient avoidance was negatively and significantly correlated with benefit of self-disclosure at an alpha level of .01. However, it should also be noted that the probability level for the correlation between patients’ attachment anxiety and benefit of self-disclosure was .011, and thus while not significant to the stringent level set for bivariate correlations in this research \( (p < .01) \), it is nonetheless considered worthy of note. These correlational results provide support for the hypothesis that both dimensional scales of attachment would be associated with benefit of self-disclosure for patients. However, no significant association was evident for spouses.
Table 4.13
_Correlations Between Benefit of Self-Disclosure and the Dimension Measures of Attachment for Patients and Spouses_

<table>
<thead>
<tr>
<th>Benefit of Self-Disclosure</th>
<th>Patient (n = 61)</th>
<th>Spouse (n = 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Anxiety</td>
<td>Avoidance</td>
</tr>
<tr>
<td></td>
<td>-.32*</td>
<td>-.36**</td>
</tr>
</tbody>
</table>

* p = .01 ** p < .01

In addition to the hypotheses that participants’ benefit of self-disclosure scores would be associated with their attachment data, it was also hypothesised that participants’ empathy scores would be associated with _their partner’s_ attachment data. First, for categorical data, Figures 4.9 and 4.10 show participants’ empathy across partners’ attachment styles. As can be observed, the data presented in Figure 4.9 appear consistent with the hypothesis that patients’ perceived empathy from partner will be associated with spouses’ secure attachment style. However, the data presented in Figure 4.10 do not appear to support the hypothesis that spouses’ empathy from patient will be associated with patients secure attachment style.

![Figure 4.9. and 4.10.](image)

*Figure 4.9. and 4.10.*
Participants Empathy From Partner Across Partners’ Attachment Styles
In order to first test differences in empathy as a function of partners’ attachment style, a series of one way ANOVAs were conducted. First, results were significant with spouses’ attachment style entered as the independent variable and patients’ empathy from spouse entered as the dependent variable, $F(3, 56) = 3.81, p < .05$. However, analyses with patients’ attachment style entered as the independent variable and spouses’ empathy from patient entered as dependent variable was not significant, $F(3, 56) = 0.29$, n.s. Independent samples $t$ tests were then employed to test for differences between patients’ perception of empathy from spouse and spouses’ attachment style. Results revealed a significant difference for the secure – preoccupied comparison, $t(30) = 3.00, p < .01$, and the secure – fearful avoidant comparison, $t(29) = 3.03, p < .01$. Furthermore, the secure – dismissing avoidant comparison approached significance, $t(39) = 1.94, p = .06$. Thus the hypothesis that those participants who report higher levels of empathy from partner will have partners who more frequently endorse the secure attachment style was largely confirmed for patients, but not for spouses.

To test the second hypothesis related to the attachment dimensions and empathy, a series of bivariate correlations were conducted. Table 4.14 shows that no correlations approached significance. Thus although the categorical attachment data showed that patients’ perceptions of empathy were associated with their spouses’ attachment styles, no support was found for this hypothesis using the attachment dimension scores.
Table 4.14
*Participants’ Empathy From Partner Across Partners’ Attachment Dimensions*

<table>
<thead>
<tr>
<th>Patient Empathy from Spouse</th>
<th>Spouse Attachment Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 60)</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
</tr>
<tr>
<td>Spouse Empathy from Patient</td>
<td>-.17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient Attachment Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n = 60)</td>
</tr>
<tr>
<td>Anxiety</td>
</tr>
<tr>
<td>Spouse Empathy from Patient</td>
</tr>
</tbody>
</table>

4.104 Attachment and Positive Meaning

The final hypothesis regarding attachment theory was that patients possessing secure working models of attachment would report one or more positive meanings. First, using the categorical measure of attachment, Table 4.15 shows a cross-tabulation using the dichotomous variable of no positive meaning/one versus more positive meanings with patients’ attachment style. As can be observed, a higher proportion of patients who reported one or more positive meanings also reported a secure style of attachment compared with patients who did not report any positive meaning (47% versus 25%, respectively). However, when a 2 x 4 cross-tabulation was performed using the dichotomous positive meaning variable with patients’ attachment, no significant difference was observed between the obtained and expected frequencies, $\chi^2 (3) = 2.72$, n.s. Thus no support for the first hypothesis regarding attachment and positive meaning was found asserting patients endorsing the insecure attachment styles would be more likely to report no positive meanings in comparison to the secure attachment styles.
Table 4.15
*Dichotomous Positive Meaning Variable Across Patients’ Attachment Style*

<table>
<thead>
<tr>
<th>Patients’ Attachment Styles (n = 65)</th>
<th>Secure</th>
<th>Dismissing-Avoidant</th>
<th>Preoccupied</th>
<th>Fearful-Avoidant</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Positive Meaning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Expected Count</td>
<td>8</td>
<td>8</td>
<td>1.5</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>% Within No Positive Meaning Group</td>
<td>25%</td>
<td>50%</td>
<td>10%</td>
<td>15%</td>
<td>100%</td>
</tr>
<tr>
<td>≥ 1 Positive Meanings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>21</td>
<td>16</td>
<td>3</td>
<td>5</td>
<td>45</td>
</tr>
<tr>
<td>Expected Count</td>
<td>18</td>
<td>18</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>% Within Positive Meaning Group</td>
<td>47%</td>
<td>36%</td>
<td>7%</td>
<td>11%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>26</td>
<td>5</td>
<td>8</td>
<td>65</td>
</tr>
</tbody>
</table>

The second hypothesis regarding attachment and positive meaning involved the continuous measure of attachment. It was hypothesised that patients reporting one or more positive meanings would also report lower scores on the dimension of attachment anxiety and attachment avoidance. Patients’ average scores on the attachment dimensions across the two meaning groups are presented in Table 4.16 and, as can be observed, there appears little difference in mean scores of attachment anxiety or attachment avoidance across the positive meaning groups.
Table 4.16
Patients' Scores on Attachment Anxiety and Attachment Avoidance Across Positive Meaning Groups

<table>
<thead>
<tr>
<th>Patients’ Attachment Dimension (n = 65)</th>
<th>Attachment Anxiety</th>
<th>Attachment Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Positive Meaning</td>
<td>-3.05</td>
<td>0.30</td>
</tr>
<tr>
<td>≥ 1 Positive Meanings</td>
<td>-2.69</td>
<td>-0.64</td>
</tr>
</tbody>
</table>

In order to test these differences, two $t$ tests were conducted, with the dichotomised variable of patients’ positive meaning (no meaning; ≥ 1 positive meanings) entered as the independent variable and patients’ scores on each of the attachment dimensions entered as dependent variables. No significant results emerged between meaning groups on attachment anxiety scores, $t(63) = 0.41, \text{n.s}$, nor on attachment avoidance scores, $t(63) = 0.94, \text{n.s}$. Thus no support was found for the second hypothesis regarding the continuous measure of attachment and positive meaning.

These null results were surprising, given the solid theory suggesting that the working models of attachment reflected in the insecure categories should make the construal of positive meaning particularly difficult. The finding that dismissing-avoidant patients were similar to the other patients in their rates of construing positive meaning was particularly surprising, given that many of the positive meanings patients reported involved an increased valuing of close relationships, and persons of dismissing-avoidant attachment style tend to dismiss the importance of such relationships.

Because of the likely clinical importance of this question, we conducted further exploratory analysis. Although the total sample number has prevented useful analyses of
pairings of attachment scores at the level of the couple, because when this is attempted a large proportion of cell sizes are too small to meet analytic assumptions, we thought it worthwhile to divide couples into high and low dismissing-avoidance subgroups. Using the 7-point Likert scale from the dismissing-avoidant category of the Relationship Questionnaire, all patients and spouses with a score of 3 or less were deemed low in attachment dismissing avoidance, and all patients and spouses with a score of 5 or more were deemed high in attachment dismissing avoidance. When patients’ level of attachment dismissing avoidance is paired with spouses’ level of attachment dismissing avoidance, a theoretically consistent pattern emerged (see Figure 4.11.)

![Figure 4.11.](image)

*Figure 4.11.*
Patient Attachment Dismissing Avoidance x Spouse Attachment Dismissing Avoidance on Patients’ Number of Positive Meanings
As can be observed in Figure 4.11, patients who rated themselves low on the dismissing avoidant attachment category, and who also have spouses who rated themselves low on the dismissing avoidant attachment category, showed a marked trend to report a higher number of positive meanings. In couples in which either patient or spouse rated themselves as high on the dismissing avoidant attachment category, the patient reported, on average, a lower number of positive meanings. Cell numbers allowed a comparison of patients and spouses low in dismissing-avoidance (n = 10) with patients and spouses high in dismissing-avoidance (n = 17). Results of an independent samples t test indicated the differences between these two groups approached significance, \( t (25) = 1.69, p = .10 \). Thus this exploratory analysis finds some support for the theoretical concept that working models of attachment that reflect dismissing-avoidant attachment style will make the construal of positive meaning more difficult. However, it appears that what is critical in understanding this effect is considering the attachment patterns of the couple rather than simply that of the patient.

Discussion

A number of hypotheses were made in this research regarding attachment theory. First, it was asserted that patients’ and spouses’ working models of attachment would be associated with their psychological adjustment. This hypothesis was confirmed for patients, but not for spouses. Second, it was hypothesised that working models of attachment would be associated with emotional support, and again this hypothesis was
confirmed for patients but not spouses. Finally, we hypothesised that the working model of attachment reflected in the secure styles of attachment would be associated with positive meanings for patients, and although no support for this hypothesis was found at the level of the patient, results approached significance when the analysis involved couples. As in the discussion sections of previous chapters, this discussion will review the findings of this chapter in order of hypotheses. However, before exploring the results of the focal variables and their implications, brief scrutiny of one aspect of the descriptive attachment data of the present sample is worthy.

It is of theoretical interest to compare the number of participants who fall into each categorical attachment style with other research samples. As will be recalled from the introduction to this chapter, much of the attachment research conducted in the personality/social psychology stream has occurred with normal healthy samples (e.g., university students). When these samples are compared with each other, it is common for a similar proportion of the sample to fall into each of the attachment categories. With regards the original categorical 3-group measure, approximately 50% to 60% of participants typically endorse the secure category, approximately 20% to 25% endorse the avoidant category, and approximately 20% endorse the anxious-ambivalent category (Hazan & Shaver, 1987, 1990; Shaver & Hazan, 1987). With regards the 4-group measure (as used in the present research) similar patterns are also observed, with approximately 45 to 50% endorsing the secure category, approximately 18% the dismissing avoidant category, approximately 15% the preoccupied category, and approximately 20% the fearful category (Bartholomew & Horowitz, 1991).

The present sample differs from these patterns in one most notable way. More participants endorsed the dismissing-avoidant category as their primary attachment style
(40% of patients and 31% of spouses, compared with approximately 18% in other samples). It seems likely that this difference reflects the clinical nature of the present sample. Although clinical samples remain rare in the social/personality stream of attachment research, support for this explanation is found in Weinfield et al. (2000) who, using the 3-group measure, reported a higher proportion of avoidant attachment style (59.6%) in a high-risk sample of adolescents living under chronically stressful conditions.

Individuals with working models of attachment of self and other that involve the defensive aspect reflected in the dismissing-avoidant category are likely to engage (to varying degrees of conscious awareness according to attachment theory) this defensive strategy more fully in a highly stressful situation because it is then, at times of stress, that the attachment system is fully activated. Because the attachment system is relatively quiescent at other times, it is possible that the same individuals may endorse the secure category under less stressful conditions. This makes sense if the attachment style categories reflect underlying continuous dimensions of attachment which, in turn, reflect working models of attachment. This proposal is consistent with Baldwin’s social-cognitive conceptualisation of attachment working models (Baldwin & Fehr, 1995; Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993; Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996) which theorises that working models of attachment involve multiple cognitive structures, each reflecting variations of secure and insecure attachment, and each with varying degrees of availability and accessibility. The availability and accessibility of the working models are thought to depend on contextual factors and the affective state of the individual at that time. Thus, although the social-cognitive model of working models of attachment acknowledges that individuals posses
one working model of attachment that is most accessible and chronic, it also suggests the
activation of working models will, at least to some degree, be context specific (Baldwin
& Fehr, 1995). From this perspective, it follows that as attachment stress becomes
greater, more deeply held defensive working models are likely to be activated that might
otherwise not be activated, *if individuals possess such models as a consequence of their
past attachment experience*.

There is growing recognition that attachment phenomena are more dynamic than
many researchers have previously considered, both in the degree of activation of the
attachment system (the normative component of attachment theory), and in the working
models of attachment (the component of individual difference) (Simpson & Rholes,
1998). It is because of this that Simpson and Rholes (1998) recently suggested that
researchers need to consider the emotional state of adults when completing self-report
measures of attachment. Just as infants’ attachment style is assessed while the attachment
system is activated under attachment-related stress in the *strange situation* procedure, so
too might the *most* clinically important measure of adult working models of attachment
be found when adults are under considerable attachment-related stress. The sample in the
present research was under high levels of attachment-related stress because of (1) the
need for emotional support in the face of multiple and severe stressors (need for *Safe
Haven*) and (2) the threat of separation in the near future (threat to *Proximity
Maintenance*). Because of this stress, a disproportionate number of participants reported
the dismissing-avoidant attachment style as their prototypical style.
4.11 Attachment and Psychological Adjustment

The hypothesis that attachment anxiety would be associated with psychological adjustment was confirmed for patients. Patients endorsing the attachment styles marked by high attachment anxiety as their prototypical style (preoccupied and fearful-avoidant styles) were significantly more psychologically distressed in comparison with patients endorsing the secure category. Likewise, attachment anxiety measured continuously was also significantly correlated with psychological distress.

These results support the proposition that attachment theory is important in understanding individuals’ distress in the context of end-stage cancer. Clearly, the context of end-stage cancer is one of multiple stressors and losses. At the time of participation in this research the physical condition of many patients was deteriorating quickly. Thus, not only were the various forms of support from others become increasingly critical, but also awareness that the threat of separation from spouse was real and imminent. Given this context, it is not surprising attachment theory should be highly relevant. The defining features of attachment explain why.

Working models of attachment that reflect higher attachment anxiety which, by definition of attachment, includes anxiety over separation (anxiety over Proximity Maintenance) should contribute to the patient’s psychological distress. Furthermore, given that care from others is becoming critical to patients at this time, working models of attachment that reflect high attachment anxiety will also involve patients’ beliefs that satisfactory care from others is unlikely, and that one is unworthy of care (thus involving anxiety over the likelihood of experiencing Safe Haven). Thus the finding that attachment anxiety is associated with psychological distress in end-stage cancer patients is consistent with attachment theory.
Given that there is good theoretical support for the association between attachment anxiety and psychological adjustment, it is surprising that the hypothesis that spouses’ working models of attachment would be associated with psychological adjustment was not confirmed. It appears that the reason for this null result is that all spouses were equally distressed, regardless of attachment style. Compared with patients, there was markedly less variation in spouses’ distress levels across their attachment styles. Consequently, although secure spouses reported lower scores of negative affect in comparison with insecure spouses, the differences between the secure and insecure attachment groups for spouses was less, and statistically non-significant.

That all spouses were distressed with little variation across the attachment styles probably reflects the multiple stressors spouses find themselves under in the end-stage cancer context (Ersek & Ferrell, 1994; Glasdam et al., 1996; Nijboer et al., 1999). In conversation with spouses during data collection, many spouses reported exhaustion due to nursing patients. Furthermore, the administration of palliative care in the home was anxiety provoking for many and social activity had often ceased, due to a lack of respite in the care of the patient. The high levels of stress from multiple sources may explain why secure attachment is less protective for spouses which, it will be recalled, will not fully protect against distress, but rather allow more effective coping with stress.

In addition to providing important understanding of individual differences in distress in end-stage cancer patients, we believe these findings provide important support for attachment theory itself. We are aware of no well-controlled studies, using well-validated measures of individual differences in adult attachment, which have tested attachment theory in a clinical context (i.e., in contexts in which the attachment system should be fully activated because the need for care is real, and/or the threat or experience of
separation is genuine). We are aware, however, of a small handful of important bereavement studies that clearly meet this criteria and are clinical in nature, but have investigated attachment using attachment measures specific to those studies (Parkes & Weiss, 1983; Sable, 1989, 1991; van Doorn, Kasl, Beery, Jacobs, & Prigerson, 1998). That the present study has employed a widely used and well-validated measure of attachment contributes important empirical evidence to the clinical attachment literature.

Fundamental to both the normative aspect of attachment theory and the aspect of individual differences is the notion that the attachment system and related cognitive structures influence how human beings respond to stress, separation, and loss. That the end-stage context is marked by these themes (particularly for patients whose losses are multiple and eventually total), and that this research revealed a pattern of data consistent with attachment theory, therefore provides important fundamental support for attachment theory itself.

4.12 Attachment and Emotional Support

4.12.1 Attachment and Benefit of Self-Disclosure.

The hypothesis that secure working models of attachment would be associated with higher levels of benefit of self-disclosure was supported for patients, but not for spouses. Patients endorsing the secure attachment style as their prototypical style reported higher levels of benefit of self-disclosure, in comparison with the three insecure styles. Likewise, patients with lower scores on the dimension of attachment anxiety and avoidance reported higher benefit of self-disclosure.

Overall, the results linking working models of attachment with benefit of self-disclosure in patients is consistent with the literature. In a study of physically healthy
individuals, Mikulincer and Nachshon (1991) found that secure individuals were more highly skilled communicators than insecure individuals. They self-disclosed more when discussing intimate topics, and were more able to be flexible in their communication (disclosure flexibility and topic reciprocity). Our findings are also consistent with those of Rholes et al. (1998) and Feeney and Collins (2001), who found that healthy couples high in avoidance were low in seeking and giving caregiving support when placed under stressful experimental conditions.

Interestingly, attachment anxiety was not very influential in these attachment studies of communication and support. In contrast, the present results indicate that working models of attachment involving both higher avoidance and anxiety appear to be playing an important role in limiting emotional support. Why should attachment anxiety be more influential in the end-stage cancer context? It seems possible that attachment anxiety had a significant effect in the end-stage cancer context because of the threat of separation. In contrast, the studies reviewed above using healthy participants under experimental conditions probably did not fully activate the attachment system and related anxiety, because the threat of separation was not real as in the present sample. Attachment anxiety could clearly interfere with the ability to openly address many of the issues concerning coming separation, and death and dying more generally. That research has shown an association between death anxiety and attachment anxiety (Mikulincer et al., 1990; Mikulincer & Florian, 1998) supports the notion that attachment anxiety would interfere with emotional support in the end-stage cancer context. Thus, both attachment avoidance and attachment anxiety play an important role in understanding emotional support between couples coping with end-stage cancer.
Although hypotheses asserting working models of attachment would be associated with benefit of self-disclosure were confirmed for patients, they were not for spouses. Nonetheless, and as with the prior analyses involving attachment and psychological adjustment, spouses showed a similar pattern: compared with secure patients, secure spouses’ scores on benefit of self-disclosure was not as high, although scores for insecure patients and spouses were similar. Because of lower benefit of self-disclosure scores for secure spouses, the difference between scores for secure spouses’ and insecure spouses’ was not large enough to reach significant statistical levels. This indicates that the secure working models of attachment were not as influential on the benefit of self-disclosure for spouses as they were for patients.

Why should spouses’ attachment security not increase their benefit of self-disclosure scores to the same degree as patients? The literature appears to provide a compelling explanation. Spouses of cancer patients stop utilising their main source of emotional support: the patient. They do so because they are afraid of burdening the patient (Ell, Nishimoto, Mantell, & Hamovitch, 1988; Lictman et al., 1987). If this were true, it would follow that secure spouses were less likely to benefit from their secure patterns of relationship with their spouse. (This also explains why secure spouses were not significantly less psychologically distressed.) Furthermore, and as suggested above, spouses are under multiple stressors associated with the heavy load of caregiving. Some of these stressors may be primarily practical in nature, and the effects of coping with such ongoing stress largely unaffected by self-disclosure (i.e., the stress of managing morphine injections to patients). The data are consistent with this possibility. The analyses in Chapter Two showed that spouses had lower overall benefit of self-disclosure scores (although benefit of self-disclosure scores were associated with psychological
adjustment). Because of these factors, it appears that for spouses caring for partners in the context of end-stage cancer, secure working models of attachment do not ensure benefit of self-disclosure scores significantly higher than insecure working models of attachment.

4.122 Attachment and Empathy

It will be recalled that participants’ reports of empathy from partner was paired with their partners’ self-reported attachment data, and that it was hypothesised that this empathy would be associated with partners’ attachment security. This hypothesis was supported for patients’ empathy from spouses, but not for spouses’ empathy from patients. In other words, patients who reported higher levels of empathy from their spouse had spouses who tended to endorse the secure style as their prototypical style. However, spouses’ reports of empathy from patient were unrelated to patients’ category of attachment.

This significant finding for patients is consistent with the intriguing study conducted by Mikulincer et al. (2001) which, it will be recalled, found that both habitual (termed chronic) attachment security, and attachment security temporarily increased by various priming techniques, strengthened empathic responses to the plight of others under experimental conditions. Likewise, the present research reveals that spouses who report higher attachment security (the secure prototypical style) have partners (patients) who report higher levels of empathy from them. Like Mikulincer, I believe that the positive working models of attachment reflected in attachment security promote feelings of increased control and self-efficacy, thus reducing distress and increasing the capacity for empathic care.
Why, once again, was this hypothesis supported for patients, but not spouses? It would appear that the direction of emotional support helps us to understand these results. In all results regarding attachment data and emotional support, patients’ emotional support (from the spouse) is significantly related to attachment data, yet spouses’ emotional support (from the patient) is unrelated to attachment data. Again, here we find a similar pattern of results. It is empathy from the spouse that is significantly associated with attachment data, not empathy from the patient. The repetition of this pattern suggests that the most plausible explanation for the empathy finding is the same as that mentioned above: spouses were withdrawing from using patients for emotional support. This is preventing attachment security (in this instance, the attachment security of the patients) from having a fully protective effect, as again the most notable difference between patients’ data and spouses’ data is that the secure patients are seen as providing their spouses with lower levels of empathy (see Figure 4.9 and 4.10). Secure spouses are perceived as more empathic by patients, suggesting the direction of support is important here: spouses are withdrawing from patients, and thus not allowing secure patients to provide higher levels of empathy.

4.13 Attachment and Positive Meaning

Working models of attachment reflecting security were predicted to aid patients in their construal of positive meaning. We asserted that attachment anxiety (reflected either in the preoccupied and fearful-avoidant attachment styles or the dimension of attachment anxiety) would be associated with a lower number of positive meanings, because the associated anxiety would interfere with the construal of positive meaning. Furthermore, the dismissing-avoidant attachment style would be linked to a lower number of positive
meanings, because many of the positive meanings reported in the literature involve a positive valuing of close relationships, and the dismissing-avoidant style is marked by a dismissal of such valuing.

Initial analyses revealed no significant results. This was surprising, given the theoretical basis for the hypothesis concerning the dismissing-avoidant attachment style. Consequently, I analysed the dismissing-avoidant attachment data at the level of the couple: that is, couples were placed into high and low dismissing-avoidant categories using the Likert scale for the dismissing-avoidant category and, as will be recalled, an interesting trend emerged. If couples contained one member high on dismissing-avoidance, the patient’s number of positive meanings was relatively low. Furthermore, couples high on dismissing-avoidance tended to report fewer positive meanings compared with couples low in dismissing avoidance. Thus some tentative support for our hypothesis was found: working models of attachment reflecting dismissing-avoidant attachment do appear to limit the patients’ construal of positive meaning. However, this effect can occur if either patient or spouse is high on the dismissing-avoidant style of attachment.

This preliminary finding is potentially important, because it highlights the importance of the couple in the patient’s construal of positive meaning, and further supports the notion that psychosocial interventions for cancer patients may be most effective if they involve the patient’s spouse. These preliminary data justify further research investigating the effects of working models of attachment on positive meaning.
4.14 Summary

The present research suggests that attachment theory is important in understanding psychological adjustment in dying cancer patients. Working models of attachment also appear to be associated with emotional support within couples coping with end-stage cancer, and some tentative evidence was found for the idea that working models of attachment will influence the patient’s construal of positive meaning. To what degree the association between working models of attachment and psychological adjustment are mediated by emotional support will be explored in the following chapter, where analyses integrating the focal variables within one model will occur.

Before proceeding to the final chapter, the question may be asked what clinical benefit may come from research investigating attachment in the context of end-stage cancer? Briefly, the following three benefits are proposed:

1. **Attachment theory may inform the content of supportive clinical interventions.** Attachment theory suggests that attachment patterns are not fixed, but can be changed towards security through one or more of a number of processes, including positive relationship experience, therapy, and/or self understanding (Bowlby, 1988). Bowlby’s suggestion that therapy and/or self-understanding may influence working models of attachment would seem to be supported by cognitive therapy which finds benefit in uncovering underlying schemas, some of which are presumably attachment related. Indeed, there is direct evidence to suggest that self-understanding of attachment issues derived through therapy can have lasting benefits to marital functioning (Snyder, Wills, & Grady-Fletcher, 1991). Thus it is proposed that the attachment framework may help
patients and family normalise their anxiety and gain greater insight into their patterns of coping.

Researcher clinicians suggest that good terminal care of patient and family, including giving the patient and family the opportunity to address related issues, reduces risk of pathological bereavement and increases quality of life for the patient and family (Cameron & Parkes, 1983; Kelly et al., 1999; Parkes, 1990). However, one note of clinical caution is made at this point. To what degree attachment information should be provided to all families in the stressful end-stage context is a question requiring sensitive clinical judgement. Similar to other constructs in other clinical contexts, the risk of clinical information being misunderstood in its complexity, and resulting in blame and guilt instead of desired understanding must be judged on a case-by-case basis. Thus it seems likely that attachment theory may best be utilised in a setting in which the clinician can assess the patient and families potential for benefit from such a perspective. It also seems likely that patients and family may more fully benefit from attachment theory in the earlier stages of cancer when stress levels are likely to be lower.

2. **Attachment theory may inform the process of supportive clinical interventions.** In accord with the literature, including the present data, identifying emotional support from family and friends as critical to the well-being of the cancer patients and their family, it is here suggested that emotional support likewise provided by professional staff may be of great benefit in the end-stage of cancer. This suggestion is consistent with the hospice movement’s strong focus on professional psychosocial support to the dying and their families, of which emotional support is prominent. While the present research did not address this issue directly, the attachment findings in the present research do suggest that
attachment dynamics are relevant to the psychological adjustment of dying cancer patients, and thus attachment theory may contribute to an explanation of why emotional support provided professionally is appropriate and important in this context.

Bowlby (1973, p. 292) defined the attachment figure as someone conceived “as stronger or wiser”, and Weiss (1991) points out that adults may perceive other adults in this way in times of need. Thus it is important that health professionals understand that they are likely to function as an attachment figure for some patients and family in the context of cancer, and thus need to be responsive to calls for support and protection (Hefez, Gaber, Arison, & Robinson, 1982). Because proximity to a responsive attachment figure attenuates anxiety, psychological adjustment (security) may be increased in patients, even those with insecure working models of attachment, by professional staff simply as a product of the patient perceiving sensitive and responsive staff being in close proximity (available). Thus attachment theory emphasises the psychological benefit of the presence of the emotionally responsive professional, irrespective of the professional’s technical or physical contribution.

Understanding that the patient’s perceptions of proximity and availability of the professional may influence felt security has practical implications. For example, it emphasises the importance of continuity of care provided by professionals. This may involve physicians maintaining regular contact with patients and family, even when they may have little further to contribute medically. It also emphasises the importance of nursing support being provided by a team of nurses familiar to patient and family. Economic factors tend to pressure the disregard of such continuity in care, yet it is important to the psychological adjustment of patients and their family, and particularly
those without a strong sense of security in the family environment. Attachment theory explains why. Research that finds support for attachment theory in this difficult context also highlights the importance of such process issues in the holistic care of cancer patients and their families.

3. Attachment theory may predict risk of psychological morbidity. The identification of attachment patterns is likely to be a parsimonious and relatively unobtrusive way in which to identify those dying patients most in need of professional support, because the present data suggest working models of attachment are associated with psychological adjustment in dying cancer patients. Patients reporting insecure attachment may require greater support from professional staff, particularly as they are also likely to be less supported by family and/or friends. Given that resources are limited in hospices, the identification of those patients most likely to need and benefit from psychosocial support is important.

A final yet important benefit of using attachment measures to screen hospice patients is that nursing staff may be more understanding and better prepared to provide a secure environment to patients identified as high in attachment anxiety, rather than identify such patients as difficult or manipulative. In other words, using a measure of attachment may encourage interest in attachment theory, thus encouraging a thoughtful understanding of the behaviour of patients (although this is not meant to imply many hospice staff do not possess such understanding already).
Chapter 5
Integration of Independent Variables, Limitations of the Research, and Conclusion

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5.1 Overview

It has now been shown that each of the three focal variables in the present research, those being emotional support, positive meaning, and the working models of attachment, are associated with the psychological distress of patients. While results are not as clear for spouses, it has been shown that of the two focal variables for spouses (emotional support and the working models of attachment), emotional support is strongly associated with spouses’ psychological adjustment. Why spouses’ working models of attachment are not strongly associated with spouses’ emotional support or psychological adjustment remains an intriguing question to be answered by further research.

The major goal of the present chapter (and indeed the present research) is to link the focal variables with each other. The motivation for doing so is simply to better understand why there are individual differences in how people cope with adversity, and calls for the investigation of this issue have been noted in the literature. For example, Helgeson and Cohen (1996), in their review of social support research and coping with cancer, suggest that a focus on individual differences is required, and will inform the application of psychosocial interventions for patients and their families. Likewise, Tennen and Afflick (1998) have called for research exploring the link between personality variables and the construal of positive meaning. Research that includes frameworks that explain individual differences is overdue, and clearly such work has important theoretical and clinical implications. As was proposed in earlier chapters, attachment theory and the working models of attachment are likely to be important in understanding why people differ in coping with an environment such as end-stage cancer, not only because the working models of attachment influence coping with stress
across a range of interpersonal contexts, but particularly because the themes of separation and loss are salient in the end-stage context. Such themes are likely to fully activate the attachment system and thus make working models of attachment particularly influential.

In the earlier analyses focal variables have been linked together using univariate analyses. A mediational model, which will also evaluate the overall fit of the model for patients and spouses, will now be tested using path analyses. One model will be tested for patients, and one for spouses. As can be observed in Figures 5.1 and 5.2 for patients’ and spouses’ respectively, attachment dimensions are used to predict emotional support and psychological adjustment, and also to predict positive meaning for patients. Emotional support is also used to predict psychological adjustment and positive meaning for patients, and psychological adjustment for spouses. Furthermore, positive meaning is used to predict psychological adjustment for patients. All paths are consistent with prior hypotheses in the present research.

An explanation for the direction of the paths is appropriate at this point. That the attachment dimensions are placed in the model as predictors of the other variables is consistent with theory and research findings. Working models of attachment have been associated with emotional support variables in a number of studies (e.g., Feeney & Collins, 2001; Mikulincer & Nachshon, 1991; Rholes et al., 1998), and for patients in the present research. These findings are in accord with attachment theory, which suggests that working models of attachment organise patterns of interpersonal behaviour and coping (e.g., Mikulincer & Florian, 1995, 1998). Thus it is theoretically consistent that working models of attachment should predict emotional support and psychological adjustment. Likewise, it is theoretically consistent that working models of attachment,
which are considered fundamental cognitive structures that influence perception, may influence the individual’s ability to construe positive meaning.

The notion that emotional support predicts psychological adjustment is also consistent with previous research reviewed earlier (e.g., Bloom & Spiegel, 1984; Jamison et al., 1978; Taylor et al., 1985), including prospective research that provides stronger evidence for direction of cause (Northouse, 1988; Spiegel et al., 1983). Although little research has examined the influence of emotional support on the construal of positive meaning, it is considered likely that the primary direction of cause is from emotional support to positive meaning, because many of the positive meanings reported by patients reflected involvement in close supportive relationship. This proposal is consistent with Fife (1995), who suggested her findings indicated social support was predictive of meaning related to illness (although not positive meaning as defined and measured in the present research). It is also consistent with the theory of Frankl (1959/1984a), who proposed meaning is not invented but discovered as a consequence of experience in the world.

In both path models the primary measure of emotional support is used (benefit of self-disclosure). Thus it is worthy of brief note that the perception of partner empathy variable was not used in the path analyses. The rationale for its exclusion here is consistent with its conceptualisation outlined earlier: the perception of partner empathy variable is considered a reasonably valid measure of the partners' empathy. Thus it would not be expected that patients' or spouses' attachment dimensions would be very strongly associated with their partner's empathy. In other words, partner empathy should be influenced most strongly by the partners’ working models of attachment, consistent
with research that found empathy displayed under experimental conditions was
associated with participants’ working models of attachment (Mikulincer et al., 2001).

Finally, positive meaning is used in the patients’ path as a predictor variable for
psychological adjustment. Once again, this is consistent with theory concerned with the
effects of meaning on psychological well being reviewed earlier (e.g., Cassel, 1982;
Frankl, 1959/1984a; Marris, 1974), and with research investigating the psychological
effects of positive meaning (Davis et al., 1998).

Why was path analysis chosen for this research? Structural equation modelling, of
which path analysis is a subcategory, is considered an elegant and parsimonious way to
test complex, interactive, and multidimensional psychological theories (MacCallum &
Austin, 2000). For this reason it is ideally suited to social support research (Newcomb,
1990).

In effect, path analyses are an extension of multiple regression, and tests whether a
series of directional effects between variables (termed *regression paths*) reflects the
sample covariance matrix among the variables within the model. A model is said to fit if
the hypothesised model generates an estimated covariance matrix that closely matches
the covariance matrix obtained from the sample data. The advantage of path analyses
over multiple regression is that more than one dependent variable can be explored
simultaneously, and that various types of associations can be tested among predictor
variables (MacCallum & Austin, 2000; Newcomb, 1990). Given the wide endorsement
for the advantages of path analyses, and that in the model for spouses there are two
dependent variables (negative affect and positive affect), path analyses were considered
the best type of analyses to conclude the present research.
Method

5.2 The Hypothesised Models

Using AMOS software (Arbuckle, 1997), two path models were examined: one for patients and one for spouses. First for patients, paths were examined between the attachment dimensions (attachment anxiety and attachment avoidance) and positive meaning, the primary measure of emotional support (benefit of self-disclosure), and negative affect. To control for the non-focal variables identified in the earlier analyses as significantly associated with negative affect for patients, the effects of the performance status, quality of life, and pain in interview were partialled out from the patients’ negative affect variable prior to analyses.

For spouses, the model examines the association between the attachment dimensions (attachment anxiety and attachment avoidance) and the primary measure of emotional support (benefit of self-disclosure), and negative and positive affect. As no non-focal variable was significantly associated with negative affect or positive affect for spouses, no variables were partialled out prior to analyses.

Figure 5.1 illustrates the hypothesised path model for patients. Patients’ working models of attachment reflected in attachment anxiety are hypothesised to directly influence negative affect, and both attachment dimensions to influence emotional support and positive meaning (the dichotomised meaning variable of no positive meaning vs. one or more positive meanings that, it will be recalled, was significantly associated with negative affect in earlier analyses). Emotional support (benefit of self-disclosure) is hypothesised to predict positive meaning and negative affect, and positive meaning is
hypothesised to predict negative affect. A similar model for spouses, but without the variable of patients’ positive meaning, and with the additional dependent variable of positive affect, is illustrated in Figure 5.2.

*Figure 5.1.*
Hypothesised Path Model for Patients

*Figure 5.2.*
Hypothesised Path Model for Spouses
5.3 Assumptions

The assumptions of multivariate normality and linearity were tested using SPSS. No multivariate outliers were detected at the recommended alpha level of .001 (Tabacknick & Fidell, 2001). A small amount of data were missing at random, and a full information maximum likelihood procedure was used to estimate missing data points.

Results

5.4 Model Estimation

The fit of the model was evaluated by joint consideration of the chi-square statistic, the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), the Bentler-Bonett nonnormed fit index (NNFI, also known as the Tucker-Lewis index: Bentler, 1990; Bentler & Bonett, 1980), and the residual mean square error of approximation (RMSEA). The chi-square statistic evaluates whether the hypothesised model adequately explains the data, and a non-significant chi-square indicates adequate model fit. The GFI also examines the goodness of fit of the model, as the name suggests. However, because the chi-square statistic is very sensitive to sample size, as is the GFI to some degree, two other indexes were also examined that are not so effected: the AGFI reflect how much better the hypothesised model fits the data in comparison with a null model. Values for both indexes range from 0.0 to 1.0, and higher scores indicating better model fit (Newcomb, 1990). The NNFI provides a correction for model complexity, and values of .90 or greater are desirable (Kline, 1998). Finally, the RMSEA reflects the average standardised residual, and values of .05 or less indicate adequate model fit (Tabachnick & Fidell, 2001). In addition to the fit of the model, models are also examined regarding the significance between variables of the estimates of explained variance (regression
paths), and of the overall variance explained in the dependent variables(s) by the independent variables ($R^2$).

5.41 Path Model for Patients

The goodness-of-fit statistics indicate that this model provided an adequate fit to the data, GFI = .99, AGFI = .90, NNFI = .96, RMSEA = .05, $\chi^2 (1, n = 67) = 1.16$, $p = .28$ (see patients’ path analyses on CD for additional results).

![Path Model for Patients](attachment:image)

$R^2 = .33$

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

Figure 5.3. Path Model for Patients. $N = 67$. Path values represent standardised regression coefficients.

Inspection of the path coefficients in Figure 5.3 reveals that attachment anxiety and attachment avoidance had significant direct effects on benefit of self-disclosure, such that the higher the levels of attachment anxiety and attachment avoidance the lower were the levels of benefits of self-disclosure. These path coefficients are consistent with univariate
analyses in the prior chapter. Because benefit of self-disclosure was a significant predictor of negative affect and positive meaning, attachment anxiety and attachment avoidance thus also had indirect effects on negative affect and positive meaning via the mediator of benefit of self-disclosure.

Also noteworthy here are the path coefficients between attachment anxiety and negative affect, and positive meaning and negative affect. While both attachment anxiety and positive meaning continue to explain some variance of negative affect, these path coefficients are not significant, whereas in earlier univariate analyses the association between these variables did reach significant levels. That the path coefficients are not significant here may be attributed to the large amount of variance in negative affect attributed to emotional support. Taken together, the three independent variables explained 33% of the variance observed in the dependent variable of negative affect (Multiple $R^2 = .33$).

5.42 Path Model for Spouses

Like the path model for patients, the goodness-of-fit statistics indicated that the path model for spouses provided an adequate fit to the data, GFI = 1.0, AGFI = .99, NNFI = 1.56, RMSEA = 0.00, $\chi^2 (3, n = 67) = .27, p = .97$ (see spouses’ path analyses on CD for additional results).

Consistent with univariate analyses in earlier chapters, benefit of self-disclosure had significant direct effects on negative affect and positive affect (although note that the association between benefit of self-disclosure and positive affect was not considered significant in prior analyses because of the more conservative alpha level of .01 adopted
in bivariate correlations. Nonetheless, it was significant to an alpha level of .05 in prior analyses). That is, higher levels of benefit of self-disclosure were associated with lower levels of negative affect, and higher levels of positive affect. Attachment anxiety also had a significant direct effect on positive affect, but not negative affect (also consistent with earlier bivariate correlations, although once again not discussed there because the level of significance did not reach the conservative alpha level of .01 used in the earlier analyses). Like the patients’ path model, the finding that the path coefficient between attachment anxiety and negative affect was not significant may be attributed to the large amount of variance in negative affect attributed to emotional support. Taken together, the independent variables explained 19% of the variance observed in the dependent variable of negative affect, and 13% of the variance of positive affect.

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

$R^2 = .19$ (Negative Affect)  
$.13$ (Positive Affect)

*Figure 5.4.* Path model for Spouses. $N = 67$. Path values represent standardised regression coefficients.
Discussion

5.5 Discussion of Path Analyses Results

Many of the direct effects between individual variables within the path analyses for patients and spouses are consistent with the analyses of previous chapters. Once again the patients’ attachment dimension were associated with benefit of self-disclosure, and self-disclosure was associated with negative affect. Given that these results have been discussed extensively earlier in the attachment chapter, they will not be explored again here. Of importance here is new information provided by the path analyses, and a number of major and important observation can be made on the basis of the patients’ path analyses. First regarding the attachment dimensions, attachment anxiety is no longer significantly associated with negative affect. It appears the influence of the working models of attachment psychological adjustment is mediated by emotional support. In other words, the patients’ working models of attachment influence their psychological adjustment primarily through the influence they have upon the emotional support between the patient and his or her spouse. This finding would seem consistent with the many studies reviewed earlier that have found a link between working models of attachment and supportive communication between couples (Feeney & Collins, 2001; Mikulincer & Nachshon, 1991; Rholes et al., 1998).

While it was expected that working models of attachment would influence emotional support, it was also expected that attachment anxiety would continue to have a greater direct effect on negative affect, given data showing attachment anxiety is related to death anxiety (Mikulincer & Florian, 1998; Mikulincer et al., 1990). One possible explanation for this null result is that the influential control variable of pain in interview,
partialled out of the dependent variable of negative affect prior to path analyses, is to some degree also predicted by attachment anxiety. (The bivariate correlation between pain in interview and attachment anxiety was .34, \( p < .01 \)) This explanation is consistent with the influential gate control theory of pain which proposes that pain is a complex phenomenon involving the interaction of several dimensions at various cerebral levels (Melzack & Wall, 1965). Pain involves both cognitive-evaluative and motivational-affective dimensions, and not only sensory components. Thus the proper understanding, assessment, and treatment of pain must include cognitive, affective, motivational, and behavioural dimensions (Price, Harkin, & Baker, 1987; Turk, Meichenbaum, & Genest, 1983).

Clearly, working models of attachment reflected in attachment anxiety may influence patients’ report of pain, which was assessed at the beginning of the research interview. Although this research has taken the most conservative position by assuming pain is independent of attachment anxiety, it is likely that reality is more complex than the comparatively simple analyses presented here. If attachment anxiety did significantly influence patients’ reports of pain, then this variable is misplaced as a control variable, and may explain why attachment anxiety did not have a significant direct effect in the patients’ path analyses. While the present cross-sectional research design does not allow this issue to be explored further in any useful way, the question of the influence of attachment anxiety on pain is an important one, and worthy of prospective research that may help to tease out the direction of cause.

Moving now to path results related to positive meaning, the results from the patients’ path analyses supports the hypothesis that the construal of positive meaning is predicted
by emotional support, consistent with earlier analyses. However the most important indication provided by the path analyses related to positive meaning is that emotional support is more important to patients’ psychological adjustment than their construal of positive meaning, because the direct effect of positive meaning on negative affect was no longer significant in the path analyses. Thus emotional support appears to be more protective to patients than their ability to find positive meaning in their illness. This finding was of some surprise to the present author, given his clinical experience in the hospice setting. It is also surprising given the findings from studies reviewed earlier reporting cancer patients in the early stages of the disease report benefits from finding meaning in the illness experience (Ersek & Ferrell, 1994; Taylor, 1983), and the large number of cancer patients in the early stages are seeking positive meaning in the illness (O’Connor et al., 1990) and life more generally (Moadel et al., 1999). Although this finding needs to be replicated and explored in more detail, it suggests that the experience of emotional support may be more protective than the cognitive work of construing positive meaning, at least to the average dying cancer patient in western society. This possibility is consistent with the a study that found emotional support is strongly associated with the emotional adjustment of dying cancer patients (Morasso et al., 1999), and a study that found dying cancer patients reported emotional support as one of their most important needs (Greisinger et al., 1997).

It is also possibly important to note that our sample of patients had partners with whom they relied upon for support. It seems possible that for dying patients without this support, the cognitive process of construing positive meaning may be more critical, simply because this form of internal coping is relied upon in place of coping based on support from external sources. That positive meaning was found to predict adjustment in
a conjugal bereavement study (Davis et al., 1998) where, of course, the bereaved do not have this form of support, seems consistent with this possibility. Further research with end-stage cancer patients who do not have partners may investigate this possibility.

In the path model for spouses, like patients, emotional support also had a significant direct effect on psychological adjustment. In addition, working models of attachment reflected in attachment anxiety had a significant direct effect on positive affect, with higher levels of attachment anxiety predicting lower levels of positive affect. Working models of attachment reflecting lower levels of anxiety appear to allow spouses to experience higher levels of positive affect. Spouses often reported in interview that positive affect was usually experienced in the form of temporary relief from negative affect, consistent with the evidence that positive affect and negative affect are independent constructs. This finding has important clinical implications, as positive affect has been found to be a stronger predictor of adjustment in bereavement over time than negative affect (Keltner & Bonanno, 1997; Maercker, Bonanno, Znoj, & Horowitz, 1998; Weiss & Richards, 1997). Future prospective research could follow spouses from end-stage into bereavement, and may provide important evidence of the effects of and interactions between attachment, emotional support, and positive meaning over time. Prospective research such as the work of Davis et al. (1998) reviewed earlier highlights the importance of changes in the prediction of adjustment over time.

Taken together, the findings from the path analyses help in understanding why some people cope with end-stage cancer in less than optimal ways. Working models of attachment, reflecting relationship history over the life span, do influence emotional support for patients, which in turn have a significant impact on their psychological
adjustment. In understanding this, we may find ways of supporting patients and families that take working models of attachment into account. In summary, the most important findings of the path models are (1) they indicate the importance of emotional support in couples coping with end-stage cancer and (2) that patients’ ability to benefit from emotional support will be influenced by their working models of attachment. Because working models of attachment have a direct effect on emotional support between patients and spouses, health professionals designing psychosocial interventions for cancer patients need to consider attachment theory and its many implications.
Limitations of the Present Research

A number of limitations of the present research suggest that its findings need to be considered with some degree of caution. First and foremost, the research design was cross-sectional and many analyses were correlational. It has been implied throughout this work that the three focal variables of attachment, emotional support, and positive meaning influence psychological adjustment, but the reverse is possible. In reality, most of the associations examined are likely to be bi-directional to some degree. Nonetheless, although this work cannot fully discern causal relationships, it is noted that the fit of the path models was satisfactory, providing some validity for the direction of the hypothesised paths. In total this research does represent an important advancement in psycho-oncology research, both because of the dearth of research with end-stage cancer patients and their families, and because of the lack of work examining correlates of psychological adjustment, particularly those that have the potential to explain individual differences.

A second potential limitation of the present research is that participants were recruited as a convenience sample. Our response rate of approximately 20% of eligible couples was consistent with the few other studies conducted with end-stage cancer patients (e.g., Kelly et al., 1999), and although a low response rate is expected with end-stage cancer patients and their families, it was lower than is generally desired. Given this, the characteristics of the patients and their spouses who agreed to participate may be different from the general population of end-stage cancer patients and families. Indeed, it is noted that 87% of patients were male. It is possible that the present participants may have been better psychologically adjusted, more cohesive as a couple, and more likely to
report positive meaning in their illness experience. Despite this possibility, we note that when compared with other samples, the proportion of our participants falling into each of the attachment style categories was comparable with a sample of highly stressed participants (Weinfield et al., 2000), and the proportion of patients finding one or more positive meaning in their illness experience was similar to the proportion of the sample reported by Davis et al. (1998).

To the extent that our sample may have been less distressed than average, the generalizability and external validity of this study may be limited. However, the possibility that the present sample may have been less distressed than couples that did not participate in the research does not necessarily mean that the key variables and processes examined in the present research are not relevant to understanding psychological adjustment in a broader sample of end-stage cancer patients and their families, and thus relevant to guiding support and interventions that may reduce levels of distress.

Another possible limitation of this research concerns the clinical limitations of normative data. That we can recognise that some patterns of coping are typically associated with better psychological adjustment does not automatically imply these patterns of coping will always be optimal for all people. It is possible that for some patients and families, maladaptive patterns of coping may actually be the best form of coping available to them. Attempts by professionals to change patterns of coping in the stressful context of end-stage cancer may lead not to better psychological adjustment, but rather to disorganisation and higher levels of distress.
A good example of this scenario is the independent, aggressive, and perhaps slightly anxious cancer patient who communicates little with his or her spouse and aggressively fights the disease to the final moments. Based on the normative findings presented here, we might try to help this individual engage in the giving and receiving of emotional support with his or her spouse, and we may even encourage the construal of positive meaning. However, in doing so we may undermine the most effective coping patterns available to that patient, and the implicit meaning his or her disease holds: a battle fought well. Consequently, our intervention based on normative data may replace anxiety and anger with hopelessness and depression, and in all likelihood increase the psychological distress of the patient. Although this change may make the patient more manageable for family and health professionals alike, it cannot be considered a clinically successful one. Thus normative research findings such as those reported here need to be applied in clinical settings with caution.
Conclusion

Three psychosocial variables were hypothesised to contribute to the attenuation of distress in the context of dying of cancer have been reviewed in this thesis. They are (1) emotional support; (2) the construal of positive meaning; and (3) attachment. Most hypotheses related to these variables were confirmed. In Chapter Two, emotional support was strongly associated with psychological adjustment for both patients and spouses. In the following chapter, patients who reported one or more positive meanings also reported significantly better psychological adjustment and, consistent with hypotheses, higher levels of emotional support were associated with patients’ increased ability to construe positive meaning.

In Chapter Four, hypotheses asserting that individual differences in attachment would be associated with emotional support and psychological adjustment were supported for patients, but not spouses (although spouses’ attachment anxiety was associated with positive affect at an alpha level of .05). The overall null result for spouses appears to reflect their withdrawal from seeking support from patients. Furthermore, no substantial support was found for the hypothesis that patients’ positive meaning would be influenced by their working models of attachment. Interestingly, however, there was some evidence to suggest that high levels of dismissing-avoidant attachment in either member of the couple was associated with lower levels of positive meaning in patients.

In the final chapter, two path analyses were conducted, one for patients and one for spouses. Generally, the models supported the hypothesis of earlier chapters. However,
two notable results were identified for patients: neither attachment anxiety nor positive meaning had a direct effect on psychological adjustment. It appears that emotional support is most critical to patients’ psychological adjustment. Furthermore, it is largely through emotional support that attachment influences the psychological adjustment of end-stage cancer patients and their construal of positive meaning.

Very little psychosocial research has been conducted in the end-stage cancer context. The present research adds to the small yet growing body of empirical knowledge that indicates psychosocial factors do attenuate distress in the dying. This information is likely to be useful to professionals attempting to relieve distress in cancer patients and their families. Because dying of cancer can involve great psychological suffering for the patient and his or her spouse, present and future psychosocial research investigating couples in the context of end-stage cancer is worthwhile.
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Appendix A

Patient Questionnaire

Relationship Styles Questionnaire

Part A

Below are descriptions of 4 relationship styles that people often report. Please read each description and rate each style on the scale from 1 to 7.

A. □
It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I do not worry about being alone or not being accepted by others.

Not at all like me                                      A lot like me
1               2               3                   4                   5               6                  7

B. □
I am comfortable without close relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

Not at all like me                                      A lot like me
1               2               3                   4                   5               6                  7

C. □
I want to be completely emotionally intimate with others, but I often find that others are reluctant to get close to me as I would like. I am uncomfortable without close relationships, but I sometimes worry that others don’t value me as much as I value them.

Not at all like me                                      A lot like me
1               2               3                   4                   5               6                  7

D. □
I am uncomfortable getting close to others. I want emotionally close relationships, but find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

Not at all like me                                      A lot like me
1               2               3                   4                   5               6                  7

Part B

Please CHOOSE ONE of the descriptions above that best describes the way you generally are in your close relationships, and tick the box next to the letter for that description.
Benefit of Self-Disclosure

1. Sometimes when you have talked with your partner about your concerns and feelings it may have had different results. Below is a list of feelings people may have after they have talked. Please read each item carefully and then circle the response which is most accurate for you.

a). When I have talked with my partner about my concerns and feelings to do with my illness it gave me a feeling of relief or reassurance

- □ Strongly true for me
- □ Slightly true for me
- □ Moderately true for me
- □ Slightly untrue for me
- □ Moderately untrue for me
- □ Strongly untrue for me

b). When I have talked with my partner about my concerns and feelings to do with my illness it made me feel more confused about things

- □ Strongly true for me
- □ Slightly true for me
- □ Moderately true for me
- □ Slightly untrue for me
- □ Moderately untrue for me
- □ Strongly untrue for me

c). When I have talked with my partner about my concerns and feelings to do with my illness it helped me to think about things I could do to feel better

- □ Strongly true for me
- □ Slightly true for me
- □ Moderately true for me
- □ Slightly untrue for me
- □ Moderately untrue for me
- □ Strongly untrue for me

d). When I have talked with my partner about my concerns and feelings to do with my illness it made me dwell more on my concerns and feelings

- □ Strongly true for me
- □ Slightly true for me
- □ Moderately true for me
- □ Slightly untrue for me
- □ Moderately untrue for me
- □ Strongly untrue for me

e). When I have talked with my partner about my concerns and feelings to do with my illness it helped me to see things differently, more clearly, or in a new light

- □ Strongly true for me
- □ Slightly true for me
- □ Moderately true for me
- □ Slightly untrue for me
- □ Moderately untrue for me
- □ Strongly untrue for me
f). When I have talked with my partner about my concerns and feelings to do with my illness it made me feel worse, more worried, more upset

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

g). When I have talked with my partner about my concerns and feelings to do with my illness it helped me to get things off my mind

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

h). When I have talked with my partner about my concerns and feelings to do with my illness it left me thinking that there was nothing I could do to feel better

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me
Perception of Partner Empathy

2. We are interested in how much your partner understands the experience you are currently going through – that is, how much they understand your feelings, concerns, and what the experience has been like for you. Please consider each statement below in terms of how your partner has responded to you recently. Please circle the answer that is most correct for you.

a). He or she nearly always knows exactly what I mean

☐ Strongly true for me          ☐ Moderately true for me          ☐ Slightly true for me

☐ Slightly untrue for me       ☐ Moderately untrue for me         ☐ Strongly untrue for me

b). He or she may understand my words but he or she does not see the way I feel

☐ Strongly true for me          ☐ Moderately true for me          ☐ Slightly true for me

☐ Slightly untrue for me       ☐ Moderately untrue for me         ☐ Strongly untrue for me

c). He or she usually senses or realises what I am feeling

☐ Strongly true for me          ☐ Moderately true for me          ☐ Slightly true for me

☐ Slightly untrue for me       ☐ Moderately untrue for me         ☐ Strongly untrue for me

d). His or her own attitudes towards some of the things I do or say prevent him or her from understanding me

☐ Strongly true for me          ☐ Moderately true for me          ☐ Slightly true for me

☐ Slightly untrue for me       ☐ Moderately untrue for me         ☐ Strongly untrue for me
e). His or her response to me is usually so fixed and automatic that I don’t really get through to him or her

- [ ] Strongly true for me
- [ ] Moderately true for me
- [ ] Slightly true for me
- [ ] Slightly untrue for me
- [ ] Moderately untrue for me
- [ ] Strongly untrue for me

f). He or she appreciates exactly how the things I experience feel to me

- [ ] Strongly true for me
- [ ] Moderately true for me
- [ ] Slightly true for me
- [ ] Slightly untrue for me
- [ ] Moderately untrue for me
- [ ] Strongly untrue for me

g). He or she just takes no notice of some of the things that I think or feel

- [ ] Strongly true for me
- [ ] Moderately true for me
- [ ] Slightly true for me
- [ ] Slightly untrue for me
- [ ] Moderately untrue for me
- [ ] Strongly untrue for me

h). He or she does not realise how sensitive I am about some of the things we discuss

- [ ] Strongly true for me
- [ ] Moderately true for me
- [ ] Slightly true for me
- [ ] Slightly untrue for me
- [ ] Moderately untrue for me
- [ ] Strongly untrue for me

i). He or she understands me

- [ ] Strongly true for me
- [ ] Moderately true for me
- [ ] Slightly true for me
- [ ] Slightly untrue for me
- [ ] Moderately untrue for me
- [ ] Strongly untrue for me
j). He or she realises what I mean even when I have difficulty saying it

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

How much does your partner touch you in a physically affectionate way?

1 2 3 4 5 6 7
Very little A moderate amount A lot

How much do you touch your partner in a physically affectionate way?

1 2 3 4 5 6 7
Very little A moderate amount A lot

Overall, how much do you receive from your partner in emotional support?

1 2 3 4 5 6 7
Very little A moderate amount A lot

Overall, how much do you give to your partner in emotional support?

1 2 3 4 5 6 7
Very little A moderate amount A lot
The words below describe different feelings and emotions. Read each item and then mark the appropriate number in the space next to that word to indicate to what extent you have felt this way recently. Use the following scale to record your answers:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>very slightly</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>a little</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>moderately</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>quite a bit</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>extremely</td>
<td></td>
</tr>
</tbody>
</table>

- ____ afraid
- ____ scared
- ____ distressed
- ____ ashamed
- ____ guilty
- ____ frightened
- ____ irritable
- ____ disgusted
- ____ loathing
- ____ nervous
- ____ sad
- ____ jittery
- ____ downhearted
- ____ lonely
- ____ blue
- ____ scornful
- ____ shaky
- ____ hostile
- ____ blameworthy
- ____ angry
- ____ upset
- ____ disgusted with self
- ____ alone
- ____ angry at self
- ____ dissatisfied with self
LIFE EVENTS DURING THE LAST 12 MONTHS:

Please indicate whether any of the events listed below have happened to you in the last 12 months by ticking the appropriate box.

YES       NO

1) In the last 12 months has a close relative or family member other than your spouse been hospitalised or had to take a month or more off work or school because they have become seriously ill or been injured? □ □

2) In the last 12 months has any member of your family died? (e.g. parent, brother, sister, or child) □ □

3) In the last 12 months has any other relative or close friend died? □ □

4) In the last 12 months has arguments or marital difficulties with your partner worsened? □ □

5) In the last 12 months have you begun to have serious arguments or problems with someone who lives in the same household? □ □

6) In the last 12 months have you become unemployed? □ □

7) In the last 12 months have you been given notice or been downgraded at work? □ □

8) In the last 12 months have you had a major financial crisis? □ □

9) In the last 12 months have you been involved in an accident that caused serious risk to the health or life of yourself or others? □ □

10) In the last 12 months have you been involved in a court case? □ □

YES       NO
11) **In the last 12 months** has some other adverse event occurred? □ □

12) How much stress do you perceive you have experienced overall **in the past 12 months**?

   Extreme □   Marked □   Moderate □   Mild □

If the answer is YES to any of the above questions (1-11) please describe the event and the circumstances surrounding it in detail below:

EVENT (Question No….. )

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

EVENT (Question No….. )

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

EVENT (Question No….. )

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

EVENT (Question No….. )

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Appendix B

Spouse Questionnaire

Relationship Styles Questionnaire

Part A

Below are descriptions of 4 relationship styles that people often report. Please read each description and rate each style on the scale from 1 to 7.

A. □
It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I do not worry about being alone or not being accepted by others.

Not at all like me                                                                                         A lot like me
1                  2                  3                    4                   5               6                  7

B. □
I am comfortable without close relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

Not at all like me                                                                                         A lot like me
1                  2                  3                    4                   5               6                  7

C. □
I want to be completely emotionally intimate with others, but I often find that others are reluctant to get close to me as I would like. I am uncomfortable without close relationships, but I sometimes worry that others don’t value me as much as I value them.

Not at all like me                                                                                         A lot like me
1                  2                  3                    4                   5               6                  7

D. □
I am uncomfortable getting close to others. I want emotionally close relationships, but find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

Not at all like me                                                                                         A lot like me
1                  2                  3                    4                   5               6                  7

Part B

Please CHOOSE ONE of the descriptions above that best describes the way you generally are in your close relationships, and tick the box next to the letter for that description.
Benefit of Self-Disclosure

1. Sometimes when you have talked with your partner about your concerns and feelings it may have had different results. Below is a list of feelings people may have after they have talked. Please read each item carefully and then circle the response which is most accurate for you.

a). When I have talked with my partner about my concerns and feelings to do with my illness it gave me a feeling of relief or reassurance

☐ Strongly true for me  ☐ Moderately true for me  ☐ Slightly true for me
☐ Slightly untrue for me  ☐ Moderately untrue for me  ☐ Strongly untrue for me

b). When I have talked with my partner about my concerns and feelings to do with my illness it made me feel more confused about things

☐ Strongly true for me  ☐ Moderately true for me  ☐ Slightly true for me
☐ Slightly untrue for me  ☐ Moderately untrue for me  ☐ Strongly untrue for me

c). When I have talked with my partner about my concerns and feelings to do with my illness it helped me to think about things I could do to feel better

☐ Strongly true for me  ☐ Moderately true for me  ☐ Slightly true for me
☐ Slightly untrue for me  ☐ Moderately untrue for me  ☐ Strongly untrue for me

d). When I have talked with my partner about my concerns and feelings to do with my illness it made me dwell more on my concerns and feelings

☐ Strongly true for me  ☐ Moderately true for me  ☐ Slightly true for me
☐ Slightly untrue for me  ☐ Moderately untrue for me  ☐ Strongly untrue for me

e). When I have talked with my partner about my concerns and feelings to do with my illness it helped me to see things differently, more clearly, or in a new light

☐ Strongly true for me  ☐ Moderately true for me  ☐ Slightly true for me
☐ Slightly untrue for me  ☐ Moderately untrue for me  ☐ Strongly untrue for me
f). When I have talked with my partner about my concerns and feelings to do with my illness it made me feel worse, more worried, more upset

- Strongly true for me
- Slightly true for me
- Moderately true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

g). When I have talked with my partner about my concerns and feelings to do with my illness it helped me to get things off my mind

- Strongly true for me
- Slightly true for me
- Moderately true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

h). When I have talked with my partner about my concerns and feelings to do with my illness it left me thinking that there was nothing I could do to feel better

- Strongly true for me
- Slightly true for me
- Moderately true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

Perception of Partner Empathy

2. We are interested in how much your partner understands the experience you are currently going through – that is, how much they understand your feelings, concerns, and what the experience has been like for you. Please consider each statement below in terms of how your partner has responded to you recently. Please circle the answer that is most correct for you.

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- Strongly true for me
- Slightly true for me
- Moderately true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

b). He or she may understand my words but he or she does not see the way I feel

- Strongly true for me
- Slightly true for me
- Moderately true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me
c). He or she usually senses or realises what I am feeling

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- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

d). His or her own attitudes towards some of the things I do or say prevent him or her from understanding me

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- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

e). His or her response to me is usually so fixed and automatic that I don’t really get through to him or her

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

f). He or she appreciates exactly how the things I experience feel to me

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

g). He or she just takes no notice of some of the things that I think or feel

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me

h). He or she does not realise how sensitive I am about some of the things we discuss

- Strongly true for me
- Moderately true for me
- Slightly true for me
- Slightly untrue for me
- Moderately untrue for me
- Strongly untrue for me
i). He or she understands me

☐ Strongly true for me  ☐ Moderately true for me  ☐ Slightly true for me

☐ Slightly untrue for me  ☐ Moderately untrue for me  ☐ Strongly untrue for me

j). He or she realises what I mean even when I have difficulty saying it

☐ Strongly true for me  ☐ Moderately true for me  ☐ Slightly true for me

☐ Slightly untrue for me  ☐ Moderately untrue for me  ☐ Strongly untrue for me

How much does your partner touch you in a physically affectionate way?

1 2 3 4 5 6 7
Very little A moderate amount A lot

How much do you touch your partner in a physically affectionate way?

1 2 3 4 5 6 7
Very little A moderate amount A lot

Overall, how much do you receive from your partner in emotional support?

1 2 3 4 5 6 7
Very little A moderate amount A lot

Overall, how much do you give to your partner in emotional support?

1 2 3 4 5 6 7
Very little A moderate amount A lot
The words below describe different feelings and emotions. Read each item and then mark the appropriate number in the space next to that word to indicate to what extent you have felt this way recently. Use the following scale to record your answers:

<table>
<thead>
<tr>
<th></th>
<th>1 very slightly or</th>
<th>2 a little</th>
<th>3 moderately</th>
<th>4 quite a bit</th>
<th>5 extremely</th>
</tr>
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<td>afraid</td>
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<td>angry</td>
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<td>sad</td>
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<td>happy</td>
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<td>proud</td>
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<td>alert</td>
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<td>nervous</td>
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<tr>
<td>disgusted</td>
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<td>bold</td>
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<td>energetic</td>
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<tr>
<td>upset</td>
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</tbody>
</table>

                      |            |            |              |              |             |
| enthusiastic        |            |            |              |              |             |
| ashamed            |            |            |              |              |             |
| strong             |            |            |              |              |             |
| frighten           |            |            |              |              |             |
| blameworthy        |            |            |              |              |             |
| concentrating      |            |            |              |              |             |
| mean               |            |            |              |              |             |
| angry at self      |            |            |              |              |             |
| scornful           |            |            |              |              |             |
| dissatisfied       |            |            |              |              |             |
| determined         |            |            |              |              |             |
| interested         |            |            |              |              |             |
| shaky              |            |            |              |              |             |
| determined         |            |            |              |              |             |
| daring             |            |            |              |              |             |

                      |            |            |              |              |             |
| blue               |            |            |              |              |             |
| joyful             |            |            |              |              |             |
| attentive          |            |            |              |              |             |
| active             |            |            |              |              |             |
| irritable          |            |            |              |              |             |
| delighted          |            |            |              |              |             |
| downhearted        |            |            |              |              |             |
| inspired           |            |            |              |              |             |
| confident          |            |            |              |              |             |
| cheerful           |            |            |              |              |             |
| lonely             |            |            |              |              |             |
| excited            |            |            |              |              |             |
| jittery            |            |            |              |              |             |
| lively             |            |            |              |              |             |

                      |            |            |              |              |             |
| inspired           |            |            |              |              |             |

PANAS
LIFE EVENTS DURING THE LAST 12 MONTHS:

Please indicate whether any of the events listed below have happened to you in the last 12 months by ticking the appropriate box.

YES       NO

1) In the last 12 months has a close relative or family member other than your spouse been hospitalised or had to take a month or more off work or school because they have become seriously ill or been injured? □ □

2) In the last 12 months has any member of your family died? (e.g. parent, brother, sister, or child) □ □

3) In the last 12 months has any other relative or close friend died? □ □

4) In the last 12 months has arguments or marital difficulties with your partner worsened? □ □

5) In the last 12 months have you begun to have serious arguments or problems with someone who lives in the same household? □ □

6) In the last 12 months have you become unemployed? □ □

7) In the last 12 months have you been given notice or been downgraded at work? □ □

8) In the last 12 months have you had a major financial crisis? □ □

9) In the last 12 months have you been involved in an accident that caused serious risk to the health or life of yourself or others? □ □

10) In the last 12 months have you been involved in a court case? □ □
11) In the last 12 months has some other adverse event occurred?  ☐  ☐

12) How much stress do you perceive you have experienced overall in the past 12 months?

Extreme ☐  Marked ☐  Moderate ☐  Mild ☐

If the answer is YES to any of the above questions (1-11) please describe the event and the circumstances surrounding it in detail below

EVENT (Question No….. )
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

EVENT (Question No….. )
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________________________________________________________________________
________________________________________________________________________

EVENT (Question No….. )
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

EVENT (Question No….. )
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Please use the following scale to rate the following statements

I Strongly Disagree  I Neither Agree nor Disagree  I Strongly Agree

1 2 3 4 5 6 7

1. I have a special friend who is a real source of comfort to me ............... ____

2. My family really tries to help me ............................................. ____

3. I have friends with whom I can share my joys and sorrows.................... ____

4. There is a special person in my life who cares about my feelings............. ____

5. I can talk about my problems with my family................................. ____

6. There is a special person who is around when I am in need.................... ____

7. My friends really try to help me................................................... ____

8. I get the emotional help and support I need from my family.................... ____

9. There is a special person with whom I can share my joys and sorrows...... ____

10. My family is willing to help me make decisions.............................. ____

11. I can talk about my problems with my friends................................. ____

12. I can count on my friends when things go wrong............................ ____
Appendix C

A practical adaptation of the mini-mental state examination

‘I’d like to ask some questions about your health……what’s your sleep been like?……your appetite?……your interest in
things?……your energy?……your concentration?……what is your memory like these days? Do you mind if I test it?

Memory registration

‘What I want to do is give you three things I want you to try to remember for me. First I want you to repeat them, then in a few
minutes I’ll ask you how many you can recall. Here are the three things I want you to remember for me……MELBOURNE, CRICKET, BLUE.’
‘Can you repeat them for me?’ Score number of attempts required. (For example, CORRECT FIRST TRY = 3; SECOND TRY = 2;
THIRD TRY = 1).
‘Good, now can you try to remember those three things for me, because I am going to ask you to recall them shortly. But first I’d like
to get you to do some things that might interfere with your memory.’

Attention and Concentration

‘First I’d like you to count out loud from 1 to 20’____
‘Now could you count backward from 20 to 1’____
‘Next can I get you to spell the word world for me please?’____
‘Now can you try to spell WORLD backwards for me? ___D__L__R__O__W ___/5

Memory Recall

‘Now what were those three words I asked you to remember for me?’
___MELBOURNE, ___CRICKET, ___BLUE ___/3
Optional: Cued Recall (___City, ___Sport, ___Colour)
Recognition (list four cities, four sports, four colours)

Language

Sometimes as people get older they have trouble remembering words, the right words. Does this ever happen to you? Well, lets see.

What do you call this?
PEN (Optional more difficult items……CAP……POINT) ___/1
WATCH (Optional difficult items……STRAP……WINDER) ___/1
‘Can I get you to repeat a sentence, exactly as I say it?’
NO IFS, ANDS, OR BUTS _____________________________ ___/1
‘Can I get you to do three things with this envelop?’
‘PICK IT UP WITH YOUR LIFT HAND___, FOLD THE ENVELOP IN HALF ___, AND PUT THE ENVELOP ON THE FLOOR ___/3

‘Can you read what’s written on the envelop and do what it says?’
CLOSE YOUR EYES (Written in large letters) ___/1
‘Can you write a sentence for me on the back of the envelope please?’
SENTENCE (Should contain subject and object and make sense) ___/1

Orientation

‘Can you put your address on the envelope?’
NUMBER___, STREET___, SUBURB/CITY___, STATE___, COUNTRY___ ___/5
‘Can you put today’s date on the back?’
DATE___, MONTH___, YEAR___, DAY___, SEASON___ ___/5

Visuospacial Skills

‘Can you make a copy of this figure for me?’

TOTAL SCORE ___/30
## Appendix D

### Karnofsky Performance Status

<table>
<thead>
<tr>
<th>Definition</th>
<th>Score</th>
<th>Criteria</th>
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<tbody>
<tr>
<td>Able to carry on normal activities and to work. No special care is needed.</td>
<td>100</td>
<td>Normal; No complaints; NED.</td>
</tr>
<tr>
<td></td>
<td>90</td>
<td>Able to carry on normal activity; minor signs or symptoms of disease.</td>
</tr>
<tr>
<td></td>
<td>80</td>
<td>Normal activity with effort; some signs or symptoms of disease.</td>
</tr>
<tr>
<td>Unable to work. Able to live at home.</td>
<td>70</td>
<td>Cares for self. Unable to carry on activity or to do active work.</td>
</tr>
<tr>
<td>Varying amount of assistance is needed.</td>
<td>60</td>
<td>Requires occasional assistance but is able to care for most of his/her needs.</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>Requires considerable assistance and frequent medical care.</td>
</tr>
<tr>
<td>Unable to care for self. Requires equivalent of institutional or hospital care. Disease may be progressing rapidly.</td>
<td>40</td>
<td>Disabled; requires special care and assistance.</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>Severely disabled; hospitalization is indicated although death not imminent.</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>Very sick; hospitalisation is necessary; active supportive treatment necessary.</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Moribund; fatal processes progressing rapidly.</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Dead.</td>
</tr>
</tbody>
</table>
Appendix E
Quality of Life Index

Score each heading 2, 1, or 0 according to your most recent assessment of the patient.

**Activity:** During the past week the patient

a). has been working or studying full time, or nearly so, in usual occupation, or managing own household or participating in unpaid or voluntary activities, whether retired or not. ................................................................. 2

b). has been working or studying in usual occupation or managing own household or participating in unpaid or voluntary activities but requiring major assistance or a significant reduction in hours worked or a sheltered situation or was on sick leave. ........................................................................................................... 1

c). has not been working or studying in any capacity and not managing own household .............................................. 0

**Daily Living:** During the past week the patient

a). has been self-reliant in eating, washing, toileting, and dressing; using public transport or driving own car ............... 2

b). has been requiring assistance (another person or special equipment) for daily activities and transport but performing light tasks .............................................................................................................. 1

c). has not been managing personal care nor light tasks and/or not leaving own home or institution at all .................. 0

**Health:** During the past week the patient

a). has been appearing to feel well or reporting feeling ‘great’ most of the time. ................................................................. 2

b). has been lacking energy or not feeling entirely ‘up to par’ more than just occasionally ......................................................... 1

c). has been feeling very ill or ‘lousy’, seeming weak and washed out most of the time or was unconscious ......................... 0

**Support:** During the past week,

a). the patient has been having good relationships with others and receiving strong support from at least one other family member and/or friend ................................................................. 2

b) support received or perceived has been limited from family and friends and/or by the patient’s condition ................. 1

c) support from family and friends occurred infrequently or only when absolutely necessary or patient was unconscious... 0

**Outlook:** During the week the patient

a). has usually been appearing calm and positive in outlook, accepting and in control of personal circumstances, including surroundings ................................................................................................................. 2

b). has sometimes been troubled because not fully in control of personal circumstances or has been having periods of obvious anxiety or depression ................................................................. 1

c). has been seriously confused or very frightened or consistently anxious or depressed or unconscious ......................... 0

Q of L INDEX TOTAL

How confident are you that your scoring of the above is accurate?

<table>
<thead>
<tr>
<th>Absolutely Confident</th>
<th>Very Confident</th>
<th>Quite Confident</th>
<th>Not very Confident</th>
<th>Very Doubtful</th>
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<tbody>
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