PSYCHOLOGICAL DISTRESS IN COUPLES COPING WITH CANCER: THE INFLUENCE OF SOCIAL SUPPORT AND ATTACHMENT

A thesis submitted in partial fulfilment of the requirements for the degree of

MASTERS OF SCIENCE IN PSYCHOLOGY

in the University of Canterbury

By

Bronwyn H. Trewin

University of Canterbury 2008

Acknowledgements

First, I would like to say a special thank you to my supervisor Dr. Roeline Kuijer. Thank you for all of the guidance and support you provided and for the knowledge you offered in the completion of this thesis. In addition, I would like to thank Dr. Julia Rucklidge for your early input into this thesis, it was much appreciated.

I would also like to thank Kurt, my family and my friends that have been there consistently to offer love and support. You were all amazing!

Finally, thank you to all of the couples who took part in this study. I am extremely grateful for the time you gave, and the information you shared. Without your participation, the study would not have been possible.

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Abstract

The current study examined psychological distress in couples coping with a cancer diagnosis. Although it is widely recognised that spouses coping with a cancer diagnosis are at risk of psychological distress, debate exists within the literature regarding the amount of distress experienced by individuals, and about who is most at risk. Fifty-five couples coping with a cancer diagnosis completed questionnaires assessing psychological distress, social support and attachment style characteristics. Results indicated that partners psychological distress levels were more influenced by social support and attachment characteristics than patients were. Partners of those with cancer, who were higher on the insecure attachment dimensions, perceived providing and receiving less support and were less satisfied with support overall compared to less insecure partners. In addition to this, partner social support was significantly related to psychological distress, and attachment style was found to moderate this relationship. Specifically, partners were more vulnerable to psychological distress when they were higher on the insecure attachment dimensions and when support satisfaction was low or when they had a perception of low support receipt. Contrary to expectations, there were no significant findings for the patient group. Explanations and implications are discussed.

Keywords Intimate Relationships, Couples, Cancer, Psychological Distress, Emotional Support, Instrumental Support, Attachment style.

1 Introduction

1.1 Overview

Being diagnosed with cancer can be traumatic for many individuals. It is not just the initial diagnosis that has a significant impact, following the diagnosis there can be daunting treatment regimes and long rehabilitation periods. For some there is hope of recovery or remission from their diagnosis, however, for others the diagnosis is terminal. It is clear therefore, that for the patient there are many obstacles to overcome following a cancer diagnosis. In addition to the patient, intimate partners of those diagnosed are also greatly impacted by a diagnosis of cancer. Partners are not only required to adjust to the diagnosis of cancer, they are frequently required to take on a caregiver's role at different times of the patient's illness, and to carry on with existing life responsibilities. In considering the adjustment to a diagnosis of cancer, it is therefore important to consider both the patient and their intimate partner. This study will look at psychological distress in couples following a diagnosis of cancer. In doing so it will also investigate the impact of social support exchanges on psychological distress, and how attachment style of each individual may influence perception of social support.

1.2 A diagnosis of Cancer

Cancer describes a class of diseases, which are characterised by abnormal cell growth that destroys adjacent tissue and can spread throughout the body. Cancer can appear in persons of any age, ethnicity or division of society. As a result of this widespread influence, it has become an international health focus, both in terms of prevention, and cure. There are a variety of different treatments for cancer which depend on the cancer type, the location, and

the stage of the cancer. Although treatments are often highly successful, many patients will endure a cancer which is inevitably terminal.

1.2.1 The incidence of cancer diagnoses in New Zealand

New Zealand is not exempt from this international health concern. Statistics demonstrate that the number of cancer registrations in New Zealand has been steadily increasing over the past century. Evidence of this is revealed by data, which shows that, cancer registrations increased by 21.2% between 1995 and 2004 (19,223 registrations in 2004 - 10,143 male and 9080 female registrations) (Ministry of Health: New Zealand Health Information Service (NZHIS), 2007). A wide range of diagnoses make up these registrations, and differences are found both in the rate and in the type of diagnoses for age and sex. Table 1 provides an overview of the most common diagnoses in 2004.

A number of factors have been suggested to contribute to the increase in registrations. This includes population growth, aging of the population, advanced testing for cancer and more accurate and up to date cancer registers (Ministry of Health: Public Health Intelligence group, 2002). These are not temporary issues. The New Zealand population is expected to continue to grow, reaching 4.5 million by 2051. In addition to this, over the next fifty years the proportion of those who are aged 65 years and over is expected to increase from 12% of the population in 2001 to 25% in the year 2051 (Statistics New Zealand 2004). These projections are concerning given their association with increased cancer risk. As would be expected, projections of cancer registrations appear to follow similar trends in growth. By 2011, cancer registrations are forecast to reach 510 per 100,000 (male) and 450 per 100,000 (female) (Ministry of Health: NZHIS, 2007).

Table 1. *Most frequent New Zealand cancer registrations across age and sex in 2004*

Age	Male Diagnosis (number of registrations)	Female Diagnosis (number of registrations)
0-15 years		
	Leukaemia (17)	Leukaemia (26)
15-24 years		
	Cancer of the testis (24)	Malignant Melanoma of the skin (12)
		Leukaemia (11)
		Cancer of the thyroid gland (10)
25 – 44 years		
	Malignant melanoma (122)	Cancer of the breast (326)
	Cancer of the testis (80)	Malignant melanoma of the skin (185)
	Cancer of the colorectum and anus (40)	
45 – 64 years		
	Cancer of the prostate (912)	Cancer of the breast (1173)
	Malignant melanoma of the skin (373)	Malignant melanoma of the skin (358)
	Cancer of the colorectum and anus (367)	Cancer of the colorectum and anus (348)
	Cancer of the trachea, bronchus and lung (308)	
65 – 74 years		
	Cancer of the prostate (965)	Cancer of the breast (422)
	Cancer of the colorectum and anus (453)	Cancer of the colorectum and anus (386)
	Cancer of the trachea, bronchus and lung (361)	Cancer of the trachea, bronchus and lung (222)
	Malignant melanoma of the skin (206)	Malignant melanoma of the skin (180)
> 75 years		
	Cancer of the prostate (808)	Cancer of the colorectum and anus (574)
	Cancer of the colorectum and anus (509)	Cancer of the breast (417)
	Cancer of the trachea, bronchus and lung (382)	Cancer of the trachea, bronchus and lung (245)

(Statistics released the Ministry of Health: NZHIS, 2007).

Despite the increasing incidence in cancer registrations in New Zealand, when considering cancer related mortality, there is evidence of a decline. Across all cancer types mortality figures have dropped from 270 per 100,000 (male) and 190 per 100,000 (female) in the 1980s, to 246 per 100,000 (male) and 181 per 100,000 (female) in 1997 (Ministry of Health: NZHIS, 2007). These figures reflect an international phenomenon. It is now recognised that the experience of cancer has changed from acute recognition and a quick progression to death, which was typical in the early 20th century, to a much longer and more varied course (Hagedoorn, Sanderman, Bolks, Tuinstra & Coyne, 2008). Reasons for a decline in mortality are suggested to include earlier detection and provision of interventions, as well as better treatment opportunities. Mortality rates are expected to continue declining

with figures reaching 198 per 100,000 (males) and 162 per 100,000 (females) in 2012 (Ministry of Health: NZHIS, 2007).

Although there has been an overall decline in cancer related mortality, there has been an increase in the absolute number of cancer related deaths (9.7% increase between 1995 and 2004). This increase in cancer related deaths has resulted in cancer becoming the leading cause of death in New Zealand. Statistics demonstrate that in 2004, 28.4% of all deaths in New Zealand were attributable to cancer (8145 deaths) (Ministry of Health: NZHIS, 2007). The increase in deaths (despite a decline in mortality) is likely to be due to both population growth and population aging.

In summary of the information provided, Table 2 provides an overview of the total number of cancer registrations, as well as the total number of cancer related deaths in New Zealand in 2004. This is further split into both age and sex.

Table 2. *Cancer prevalence across both age and gender in 2004*

Age		**Cancer registrations (% accounted for by age group)**	**Cancer related deaths (% accounted for by age group)**
0-24 years	Total	296 (1.5)	42 (0.5)
	Male	152	20
	Female	144	22
25 – 44 years			
	Total	1513 (7.9)	330 (4.1)
	Male	555	126
	Female	958	204
45 – 64 years			
	Total	6350 (33)	2010 (24.7)
	Male	3141	992
	Female	3209	1018
65 – 74 years			
	Total	5045 (26.2)	2088 (25.6)
	Male	3022	1206
	Female	2023	882
> 75 years			
	Total	6019 (31.3)	3675 (45.1)
	Male	3273	1902
	Female	2746	1773

(Statistics released by the Ministry of Health: NZHIS, 2007).

These statistics demonstrate that cancer is a widespread illness which most New Zealanders will have had either direct or indirect experience with.

1.2.2 The impact of a cancer diagnosis

A cancer diagnosis and its associated treatment and rehabilitation period, has a sudden impact on the individual who is diagnosed, and on those who surround him or her. Not only does the patient have to come to terms with the diagnosis and its implications, but family members and specifically intimate partners are also greatly affected.

For the patient, the impact of a cancer diagnosis and its associated consequences can be significant. Patients have to cope with the emotional and physical consequences of being diagnosed with a life threatening illness, invasive medical treatments and worry about recurrence. Coe & Kluka (1988) described some of the most common concerns of patients who had recently undergone an ostomy procedure (a procedure commonly preformed in those with a cancer diagnosis, involving opening of abdominal wall for waste elimination). These included fear of recurrence or metastases, the need for information, the loss of bodily functions and fear of the future. A diagnosis of cancer will overshadow all areas of life. Previous life plans may need to go on hold, and severe treatment regimes often leave the patient unable to continue in their previous role. This means the preceding everyday routine before diagnosis is likely to be significantly altered. There is often an uncertainty about the progression of the illness, and a general fear of the associated consequences and treatment side-effects, such as physical alterations, and fatigue (Manne, Ostroff, Rini, Fox, Goldstein, & Generosa, 2004). A diagnosis of cancer is chronic in nature, and for most individuals the changes that accompany the illness mean that their life will never be the same as it was pre-diagnosis.

Surrounding family and particularly intimate partners are also affected by a diagnosis of cancer. It is proposed that partners of those diagnosed with cancer may worry about a variety of issues including their partner (e.g., partner health or the death of their partner), their relationship (e.g., the lack or potential lack of doing things together), and external relationship worries (e.g., role changes within the relationship) (Ptacek, Pierce, Dodge, & Ptacek, 1997). Partners are frequently required to take on a primary care-giving role for their sick spouse, and also to assume many other responsibilities such as looking after the larger family unit, taking financial responsibility and looking after any other important day-to-day tasks. At the same time as partners are expected to adopt these new roles, they are also required to fulfil previous responsibilities such as their ongoing career.

It is not surprising then, that cancer patients and their partners are vulnerable to experience subsequent psychological difficulties. Despite general agreement among researchers that cancer patients and their partners are at risk of psychological distress, numerous inconsistencies exist within the cancer literature regarding the level of distress experienced. Some researchers have reported that cancer patients experience significant levels of anxiety or depressive symptoms following diagnosis (Gallagher, Parle, & Cairns, 2002), whilst others claim that depression and anxiety are not heightened in cancer patients when compared to the general population (van't Spijker, Trijsburg, & Duivenvoorden, 1997). Further inconsistencies arise when considering the difference in distress levels of cancer patients versus partners. Some researchers claim that patients are more distressed than partners (Ben-Zur, Gilbar, Lev, 2001), some suggest that partners have distress levels which are at a similar level to patients (Baider et al., 1996) and others claim that partners are more distressed than patients (Langer, Abrams, Syrjala, 2003).

To overcome some of these inconsistencies, Hagedoorn et al. (2008) conducted a meta-analysis of 46 research articles published between 1980 and 2005 that focused on distress in couples coping with cancer. Results of this meta-analysis suggest that rather than distress being a function of the role of patient versus partner, distress may actually be related to gender. Specifically, women were found to be higher on distress measures regardless of whether they were the cancer patient or the partner (Hagedoorn et al., 2008). These studies provide evidence that further research is required to determine which individuals are vulnerable to experiencing psychological difficulties following a cancer diagnosis. If specific factors can be identified as increasing the risk of distress, this may help with provision of early intervention, therefore decreasing potential psychological distress.

Another factor, which has been identified as increasing the risk of psychological distress, is prognosis. Following the observation that not all patients and partners are influenced by the cancer diagnosis in the same way, Manne (1998) reviewed the cancer literature that included spouses. The review identified a subgroup of patients and spouses who were at risk of long-term adjustment difficulties. Generally, in situations where the cancer treatment was successful and there was little chance of recurrence, distress levels were shown to dissipate after surgery. For those individuals where the prognosis was worsening, distress levels were shown to increase over time (Manne 1998).

As well as having an impact on individual members of an intimate relationship (i.e. patients and partners), research has focused on how a cancer diagnosis may have an overall impact on the 'marital relationship'. This research involves looking at positive changes following the cancer diagnosis e.g. we express more love now, versus negative changes e.g. there is more tension in our relationship. The majority of research has shown that a cancer

diagnosis does not significantly change the marital relationship, and where changes do occur they tend to be positive in nature (Keller, Henrich, Sellschopp, & Beutel, 1996; Kuijer, Buunk & Ybema 2001; Swensen & Fuller 1992). For those relationships that struggle with adjusting to the stress of cancer, research has investigated possible reasons for the difficulty. One process which is found to have a detrimental impact on the relationship is protective buffering, such as, hiding worries, denying personal concerns and yielding to the partner to avoid disagreements (Manne, 1998). These actions may be intended to be protective, but ultimately they are likely to have a detrimental effect on the relationship for both the patient and partner.

Although a diagnosis of cancer is in itself extremely stressful, the 'process' of having cancer also creates stress (Ptacek, Pierce, Ptacek, & Nogel, 1999). Specific experiences such as cancer treatments, financial concerns and role changes each bring with them stress that is experienced differently and is influenced by the nature of the cancer itself (type and stage) as well as many individual factors (Ptacek et al., 1999). The impact of a cancer diagnosis will therefore depend not only on the nature of the diagnosis generally, but also on the way that it is experienced by the individual.

1.2.3 Summary

As has been outlined, cancer is a serious health risk, which has become the leading cause of death in New Zealand. With an aging population and significant population growth expected over the next forty years, cancer diagnoses are expected to continue increasing. These diagnoses bring with them significant challenges for all individuals involved. Patients are required to cope with the direct effect of the diagnosis as well as the many changes that come with the associated treatment period. In addition to the patient, close family members

(particularly partners) are also required to adjust to the cancer diagnosis. As would be expected with such a life-changing event, patients and partners are both vulnerable to psychological distress following diagnosis, however, not all individuals experience significant distress. Research indicates that risk factors for psychological distress include being female as well as having a worsening prognosis. Research is required to address these risk factors, and to identify other factors, which may also increase the risk of psychological distress in both patients and partners following a diagnosis of cancer. One factor that is likely to influence potential distress, is social support.

1.3 Social Support

Over the last century, there has been a shift in western society from small close knit rural communities who could rely on one-and-other for support, to large industrial cities where individuals often do not even know their neighbours. These societal changes have largely impacted support access. Individuals now have far fewer support sources and have to rely much more upon family and friends in times of need. Where an individual could have once relied on their entire community for support, families (and particularly partners) may now be their only support source. This puts far more pressure on partners to provide the necessary support when required.

1.3.1 Defining Social Support

Social support can be defined in a many ways. Researchers make a distinction between structural aspects of support e.g. the size of an individuals support network, and functional aspects of support e.g. emotional, informational or instrumental support (Helgeson & Cohen, 1996; Kafetsios & Sideridis, 2006). 'Emotional support' involves verbal and non-verbal communication of caring and concern. During an illness, this may include empathising, reassuring, and comforting, so that an individual feels valued and loved

(Helgeson & Cohen, 1996). 'Informational support' involves the provision of information used to guide or advise. This may be displayed through providing patients with tools to manage their illness, and allowing them to understand the cause, course and treatment of the illness (Helgeson & Cohen, 1996). Finally 'Instrumental support' involves the provision of material goods such as physical assistance or financial support (Helgeson & Cohen, 1996).

When considering the definition of social support, distinctions are also made between 'perceived' available support (perception that one is loved by others, and that others can be counted on when needed) and 'received' support (objective social resources that one actually receives) (Kleiboer, Kuijer, Hox, Schreurs & Bensing, 2006). Perception of support provision and receipt can be construed in either a positive or a negative way. For example, if an individual is receiving support, they may perceive it as an indication that they are loved and cared for. Alternatively, it may be perceived negatively as indicating that they are incompetent, leading to an increase in feelings of dependence and undermining self-efficacy (Helgeson & Cohen, 1996; Kleiboer et al., 2006). Perception of available support is therefore suggested to be more predictive of health and well-being than received support (Collins & Feeney, 2004; Kafetsios & Sideridis 2006).

It is also possible for support provision to be perceived in both negative and positive ways. To some it may highlight positive attributes such as concern and commitment, however, for others it may become a burden and be associated with stress and worry (Kleiboer et al., 2006). Individual expectations and preferences of supportive behaviour are therefore likely to influence subsequent perceptions of appropriateness and adequacy of support provided (Ell, 1996).

As a result of differing perceptions of support, spousal perceptions of support provision and receipt do not always correspond and are shown to be only moderately correlated (Abbey, Andrews & Halman 1995). This is important, as discrepancies between either the form or amount of support an individual desires, and the support the individual actually receives can increase distress levels. Support which is desired but is not provided or is only partially provided, may be perceived as inadequate and associated with increased distress (Harris, 1992), while support which is provided but is not desired may be perceived as excessive, insensitive, patronizing or intrusive, thereby increasing distress (Bailey & Kahn, 1993; Dehle, Larsen, & Landers, 2001). In a study which investigated couples support provision during illness, couples were required to report the amount of support they provided to each other, and the extent to which they felt the support they received was validating (Fekete, Stephens, Mickelson & Druley, 2007). Results indicated that the more individuals perceived that support efforts did not meet their emotional demands, the more likely they were to experience depressive symptoms, and the less satisfied they were with their marriage. A discrepancy between support desired and perception of support received may be reasonably common. Peters-Golden (1982) found that 72% of cancer patients reported being misunderstood, and 50% reported receiving support inadequate to meet their needs. It is clear therefore, that while support is in no doubt beneficial, if there is a discrepancy between support desired and perception of support provided, there may be important negative consequences.

Differences may also exist in perception of the balance of social support give and take. In a study that compared give and take of social support between couples coping with cancer, results indicated that patients felt their partners were doing more for them, whereas partners generally found the relationship to be balanced in terms of support give and take (Kuijer et al.,

2001). This study again highlights the importance of individual perception. Within relationships, individuals may perceive the same set of behaviours in very different ways.

Studies also suggest that individuals may perceive support differently dependant on their gender. It is suggested that females are likely to perceive higher levels of support to be available (Allen & Stoltenberg, 1995), to make greater use of their support network (Harrison, Maguire & Pitceathly, 1995) and to be more satisfied with the support that they receive (Allen & Stoltenberg, 1995). It is not that males do not seek social support, but rather that in comparison to women they do so in a much more restricted way. Rather than having a large support network consisting of family and friends, men are found to limit their confiding to one person who is usually their partner (Harrison et al., 1995). A study done with prostate cancer patients supported this finding, demonstrating that of ten patients who lived with their partners, only one of them sought emotional support from someone other than their partner (Helgason, Dickman, Adolfsson, & Steineck, 2000). These studies indicate that for men in particular, the intimate relationship is an extremely important (if not the only) source of social support.

When it comes to receiving social support, there are some key individuals who are consistently relied upon to provide the necessary support. These individuals may include friends and family members, however, of particular importance are intimate partners. An intimate relationship is a unique relationship unlike any other. It is characterised by three components including 'self-disclosure', 'attentive listening and understanding' (by one or both partners), and finally 'positive affect' between the partners (Prager, 1995). These three components are often individually present in other relationships, however, the presence of all

three together makes an intimate relationship unique, and makes it a vital source of social support (Revenson, 1994).

1.3.2 Social support and illness

As has been described, partners within intimate relationships heavily rely on one another to provide comfort and assistance at times of need (Feeney & Collins, 2001). This is particularly true during times of stress such as when one individual is diagnosed with an illness. During times of illness, family systems are an integral part of the patient's support network, and within this support network, spouses are identified by patients as the most important support source (Dehle et al., 2001; Ell 1996; Peters-Golden, 1982). The importance of social support from an intimate partner is made even more significant by the fact that during an illness, other support sources are not found to compensate for a lack of social support from an intimate partner (Coyne & Delongis, 1986).

Receiving social support during an illness has been shown to be particularly important. Not only is social support associated with superior psychological and physical wellbeing of the patient (Manne et al. 2004), it is also associated with lower rates of morbidity and mortality (Ell, Nishimoto, Mediansky, Mantell & Hamovitch, 1992). As well as influencing a patient's adjustment to their illness, partners may also influence survival from the illness. When compared to widowed patients, married breast cancer patients have been shown to have a better prognosis (Neale, Tilley, & Vernon, 1986). Reasons for higher survival rates in married cancer patients are suggested to include more positive health habits, better treatment compliance, or that they receive better care as their spouses act as an advocate for better health care (Neale et al., 1986). Another possibility is that married individuals may benefit from higher social support, which then buffers the impact of stressful

life events (Manne, 1998). The answer is likely to be complex, however, it is clear that the presence of a supportive partner is positive in terms of both psychological adjustment and for survival of the illness.

Research has also demonstrated that patients who experience their partner as unsupportive may be worse off in terms of adjustment and possibly survival also. In a study of patients with breast cancer who perceived their partner to be unsupportive, patients were at higher risk for poorer psychological outcomes and quality of life (Manne, Ostroff, Winkel, & Generosa, 2005). Unhelpful partner responses can include physical avoidance of their ill partner, avoidance of open communication, minimisation of the illness and/or its consequences or engaging in forced cheerfulness (Wortman & Dunkel-Schetter, 1987).

Taken together, these finding suggest, that patients who experience supportive family and partners benefit in terms of both psychological adjustment and also possibly in terms of survival. In contrast, patients who perceive their family or partner as being unsupportive may experience poorer psychological adjustment. As awareness of these important links has grown, research and interventions have been increasingly targeted toward both patients and their immediate family members, with the goal of promoting healthy coping styles both for the patient and for family members (Martire, Lustig, Schulz, Miller, & Helgeson, 2004).

In considering these findings, researchers have investigated which specific components of support are most helpful. Patients not only identify different types of support to be most important, they also indicate preferences for who provides this support. Patients with cancer have identified emotional support to be most helpful when provided by their partner, families and close friends, while, ‘information giving’ is most helpful from other patients and from medical staff (Dakof & Taylor, 1990). These findings indicate that the

general provision of social support is important, but further consideration should also be given to what form of support is being provided, and who it is being provided by.

When considering all forms of support, emotional support is often viewed as the most important form of social support for patients with cancer. Perceived emotional support and satisfaction with this support are strongly related to cancer patient's psychological adjustment (Hunter, Davis, & Tunstall, 2006). Patients that report an emotionally supportive relationship with their spouse also tend to report lower levels of negative affect. Emotional support is suggested to differ from other support types for a number of reasons. It allows for practical decisions to be made together leading to clarity about the process, it positively influences self-worth of both patients and partners, and finally it facilitates exploration of issues (Hunter et al., 2006).

Although emotional support is shown to be very useful, it is also important to consider that much of the research has neglected other forms of support such as instrumental and informational. As well as this, there has also been a tendency in the literature to combine different forms of support and to inaccurately label them all as representing emotional support. It is likely that all three forms of support are important in different ways which are neglected in the extant literature. Support preferences are also likely to vary as a function of a patient's illness. If an individual is undergoing extreme treatment regimes, they may be too ill to appreciate emotional/informational support however, they may value instrumental support, as it is vital for survival. This does not imply the lack of importance that emotional support has, but it is likely that all types of support are important for different individuals at different illness stages and for different purposes.

1.3.2.1 Support for partners

Despite the obvious importance, research has failed to thoroughly investigate which kinds of social support are most beneficial to the partner (rather than the patient) in the relationship. The literature shows that both members of the relationship are required to cope with multiple stressors making social support a common need for both partners (Ptacek et al., 1997). Spouses of patients compared to spouses of healthy individuals, are found to be more impaired both physically and psychologically. They have more physical health problems, higher psychological distress and are at increased risk of mortality (Bigatti & Cronan 2002; Schulz & Beach, 1999). These problems are reduced significantly by the provision of support, and spousal caregivers are shown to be less depressed when they receive support (Revenson & Majerovitz, 1991).

Support for partners may come from within their marriage (i.e. from their ill partner) or from other family members and friends (Ptacek et al., 1997; Revenson & Majerovitz, 1991). In terms of support provision for partners, patients are found to be key providers of support to their care-giving spouse (Fergus, Gray, Fitch, Labrecque & Phillips, 2002). This indicates that rather than support being unidirectional (from partners to patients) as is most often researched, support is reciprocal within the relationship. In addition to this, patients and partners who can reciprocate each others support efforts are found to be better adjusted to the patient's illness, and more satisfied with their marriages (Kuijer et al., 2001; Manne et al., 2004). Research in the area of social support during illness, should therefore focus on perception of support in both patients and partners when considering support exchange.

Despite the reciprocal exchange which occurs, after an individual in a relationship becomes ill, social support exchanges can take on unidirectional characteristics. It is suggested that the ill patient may receive more support from their partner and provide less in return (Kleiboer et al., 2006). This unidirectional support exchange may result from the

nature of the situation such as if one partner is ill they may have less energy or time to provide social support, or alternatively from an individuals distorted perception of support availability.

1.3.3 Summary

Regardless of how social support is defined, it is found to be an extremely important element of all intimate relationships. It allows individuals to demonstrate their love and concern for their partner, and it is an important predictor of marital satisfaction. This becomes even more important when one partner is diagnosed with an illness such as cancer. Social support is found to be extremely important to the psychological and physical health of both patients and partners. Despite this, there is some research which suggests that social support can be detrimental if it is perceived as either inadequate or as overly excessive. Given the importance of social support following a cancer diagnosis, research into perception of social support and factors that may influence this perception is essential. One factor that may influence the perception of social support is attachment style, this will be elaborated on further with regard to social support later in the introduction.

1.4 Attachment

1.4.1 Attachment theory

Attachment theory was originally devised by John Bowlby in the 1950's. Throughout the decades that followed, Bowlby further developed attachment theory and collaborated extensively with Mary Ainsworth, who was another significant researcher in the area (Bretherton, 1991). Attachment theory is now a prominent theory that has been applied across a number of academic disciplines.

Attachment theory provides a framework for understanding interpersonal relationships. According to the theory, unique attachment behaviours develop in childhood and are regulated by an innate motivational system called the attachment behavioural system. This system is activated during times of adversity or threat (e.g., when separated, frightened, tired, or ill), and to maintain a feeling of security children will seek protection and comfort from an attachment figure who is usually their primary caregiver (Bowlby, 1969; Bowlby, 1980). Attachment figures are used as a 'secure base' to explore the world from, and a 'safe haven' to flee to in times of distress (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969). Across all attachment relationships, contact is sought if there is a threat to the self, threat to the attachment figure, or threat to the relationship. Bowlby described the theory in evolutionary terms, stating that maintaining proximity to a caregiver would have been adaptive for infants and so natural selection promoted a subsequent attachment behavioural system (Bowlby, 1980).

Although all individuals possess an attachment behavioural system, there are individual differences in attachment behaviour. These differences are proposed to result from the quality of the relationship an individual has with caregivers, and the expectations of attachment security that one develops. Individual's expectations are influenced by the perception that a caregiver is reliable and will be responsive when needed, and the perception of themselves as being worthy of care (Hunter et al., 2006). From these expectations, individuals develop cognitive schemas which attachment theory refers to as 'working models' of attachment. Working models determine how one may react to and handle distress, as well as guiding future attachment interactions (Daniel, 2006; Simpson & Rholes, 1998). In this sense, working models are proposed to be fairly stable, and any new experiences are assimilated into the existing working model. Individuals look for information in line with

their working model, thus eliciting further evidence in support of their attachment style (Daniel, 2006).

Based on the observation of different attachment behaviours, researchers have suggested a variety of possible attachment interaction patterns. Of particular importance were attachment patterns suggested by Mary Ainsworth. These patterns were developed following an experimental research procedure called 'the strange situation' where infants were separated and reunited with their mother. Ainsworth suggested three patterns of infant-mother attachment and these were labelled as pattern A (later referred to as insecure-avoidant), pattern B (later referred to as secure) and pattern C (later referred to as insecure-ambivalent) (Aisworth et al., 1978). An additional pattern was later included for children who showed no clear attachment behaviour, and this was referred to as pattern D or insecure-disorganised attachment (Daniel, 2006).

Historically, attachment theory has most often been the focus of childhood development and interpersonal relationship styles however, research since the 1970's has also focused on attachment relationships in adulthood. Attachment styles are understood to develop in childhood and to continue evolving through ones lifetime as individuals accumulate multiple attachment experiences (Guerrero & Jones, 2003). When comparing attachment figures in childhood to those in adulthood, there are differences. In childhood, the attachment figure is often seen as wiser and stronger. This is not necessarily true for adult attachment, which can be observed in relationships such as pair-bond, parental relationships with children, adult relationships with parents, and also in some therapeutic relationships (Weiss, 1991). There is also a difference in the nature of threat which elicits attachment behaviours. In childhood it is usually threat to self which elicits attachment behaviour,

however, in the pair-bond it is frequently threat to the relationship which elicits the behaviour (Weiss, 1991).

A major outcome of adult attachment research has been a shift away from Ainsworth's categorical patterns of attachment interaction, to a more dimensional approach. The literature now appears to support two continuous dimensions of attachment ('avoidance' and 'anxiety') in defining individual differences in attachment organisation (Brennan, Clark & Shaver, 1998; Mikulincer & Shaver, 2007). Research supports the predictive, convergent and discriminant validity of these two dimensions (Simpson, Rholes, Oriña, & Grich, 2002). The anxiety dimension is suggested to represent "one's sense of relational self-worth and acceptance (vs. rejection) by others" while the avoidance dimension represents "one's degree of comfort (or discomfort) with intimacy and interdependence with others" (Collins, Ford, Guichard, & Allard, 2006 p.202). Overall those who score high on either (or both) of the dimensions are described as having an 'insecure attachment', and those who score low on the dimensions are described as having a 'secure attachment'.

The way that an individual approaches attachment relationships in adulthood is suggested to be a result of the experiences which they had with caregivers growing up. Adults characterised with a secure attachment are likely to have experienced a childhood of sensitive 'situationally contingent' care where they learn to cope with future distress by turning to others for support (Ainsworth et al., 1978). These individuals learn when and how to care, and over time are suggested to develop a greater empathic capacity for caring for the needs of others (Main, 1991). Research has supported this, with secure individuals found to seek more support from (Mikulincer, Florian & Weller, 1993) and give more support to their attachment figures than less secure individuals (Simpson, Rholes & Nelligan, 1992).

In contrast, adults characterised with an avoidant attachment are likely to have experienced repeated rejections from attachment figures while growing up. This experience makes it difficult for avoidant individuals to trust others leading them to develop a self-reliant distress management style (Simpson et al., 1992). These individuals do not learn how to be cared for, and subsequently do not learn how to appropriately care for others either. As a result of being so self-reliant in their own distress management, individuals with an avoidant attachment are suggested to value independence and self-reliance not only for themselves but also in the partners they choose (Simpson et al. 2002). As a result, these individuals tend to seek less support when distressed (Mikulincer et al., 1993) and then offer less support when their attachment figures are distressed (Simpson et al., 1992).

Finally, adults characterised with an anxious attachment are likely to have experienced inconsistent or unpredictable care, where it was difficult to predict the response of others around them (Simpson et al., 2002). These individuals are likely to find it difficult to know when or how to care for others (George & Solomon, 1996). As a result of this they have been found to have low thresholds for perceiving threat to their relationships (Fraley & Shaver, 2000) and they worry about abandonment (Simpson et al., 2002).

In support of the suggestion that attachment style in childhood predicts attachment transactions in adulthood, working models of attachment to parents have been found to predict support given to romantic partners. In a study conducted by Simpson et al. (2002), women who had more secure representations of their parents provided more support to their partners if their partners sought support, but offered less if their partner sought less. This is considered optimal as it is 'situationally contingent' support (George & Solomon, 1996) and is in accordance with what their partner needs and desires. Women who were characterised as having avoidant representations of their parents were found to provide less support than those

who were less avoidant and this was regardless of how much their partners sought. This study did not investigate individuals characterised by an anxious attachment style.

Individual's attachment characteristics will also influence how they react and cope during stressful events. Secure attachment helps an individual to positively appraise stressful experiences, and to cope and adjust to these events. These individuals are more likely to have optimistic expectations of the event, a strong sense of control and self-efficacy, and importantly confidence in seeking external help when required. An insecure attachment can be a risk factor leading to poor coping and maladjustment, where early experiences of instability may have led these individuals to cope inadequately (Simpson & Rholes, 1998). It is suggested that 'Anxious' individuals may have inner working models that exaggerate the appraisal of adversities as threatening, irreversible and uncontrollable (Simpson & Rholes 1998). These individuals are therefore likely to cope with stress by being hyper-vigilant and by mentally ruminating. Conversely, individuals who are 'Avoidant' may have inner working models emphasizing the threatening and untrustworthy nature of others and the need to rely exclusively on oneself, these individuals may deal with stress by restricting the acknowledgement of distress and adopting a "compulsive self-reliance" (Simpson & Rholes, 1998). Generally, both avoidant and anxious attachment styles result in difficulty seeking support at times of distress.

1.4.2 Attachment and wellbeing

Research into attachment style has also been applied in the area wellbeing. Overall, insecure attachment has been associated with poorer scores on measures of loneliness, depression, anxiety, hostility and psychosomatic illness (Hazan & Shaver, 1990). Specifically, low levels of wellbeing are found to be more strongly connected with anxious/preoccupied attachment than avoidant attachment (Burge et al., 1997; Hammen et al.,

1995; Mikulincer & Florian, 2001). In considering the relationship between insecure attachment style and poorer wellbeing, a review of the literature is necessary. This will take into consideration not only attachment style and illness research, but also the social support literature. This review will follow in the next section of this introduction.

In addition to looking at patient wellbeing, attachment theory has also been used to understand individual differences in care-giving approaches. Secure individuals have been found to be responsive caregivers who are warm, sensitive and cooperative and actively help their partner solve problems. They report high sensitivity and proximity as well as low levels of compulsive (over involved) and controlling care-giving. In contrast, those characterised as insecure adults have been found to be relatively poor caregivers who provide care less frequently (Feeney & Collins, 2001; Kim & Carver, 2007). Avoidance has been shown to be associated with unresponsive and controlling forms of care-giving. These individuals tend to lack sensitivity to their partners needs and are unwilling to provide comfort and nurturance in response to their partner's distress signals. Caregivers with an anxious attachment are found to be characterised by a style, which is over involved and controlling, yet not unresponsive as is found for those with an avoidant attachment style (Feeney & Collins, 2001). There is also a suggestion that gender differences may exist, with attachment style having more influence on care provision in males than in females (Kim & Carver, 2007). This research highlights the importance of considering not only a patients attachment style, but also the attachment style of caregivers who surround them.

1.4.3 Summary

Although attachment theory was developed in the 1950's by John Bowlby, it is still an important theory, which is used extensively in research today. The theory suggests that

individuals are born with an attachment behavioural system which is activated at times of threat. At these times, individuals are required to seek protection and comfort from their primary caregiver. Although all individuals have an attachment behavioural system, differences arise as a function of underlying attachment working models. These working models develop in childhood following experiences with attachment figures and may include secure, anxious, and avoidant styles of attachments. Because attachment style is considered to be relatively stable, childhood working models of attachment have a large influence on later adult attachments. In this way, expectations of availability of an attachment figure are influenced by the availability of childhood attachment figures. Attachment style is also found to predict wellbeing in adulthood. Specifically, insecure attachment predicts increased loneliness, depression, anxiety, hostility and psychosomatic illness. Attachment style also influences the approach of a caregiver. Those who are more secure in their attachment, are found to be more responsive, and sensitive to their partners needs, while insecure individuals are found to lack sensitivity to their partners needs and are either unresponsive or over-controlling towards their partners distress signals. It is clear therefore how attachment style would be important in considering response patterns in couples coping with an illness. The following section will consider specifically, how the concepts of attachment style and social support inter-relate within the domain of illness research.

1.5 Attachment, Social Support and Illness

There are many personal characteristics, which are suggested to influence perception of support, and attachment style is one of these characteristics. As individuals interact with those around them, their working model of attachment is suggested to act as a filter through which individuals evaluate and appraise social information (Collins & Feeney, 2000). In this sense, interactions that an individual experiences growing up and the working models of

attachment that they develop, are likely to have a great impact on social interactions later in life. Children who experience supportive relationships with attachment figures are likely to develop a strong sense of social support. Those who have an insecure attachment and grow up with doubts about those they can rely on when in need may develop a belief in a 'non-supportive world' (Florian, Mikulincer, & Bucholtz, 1995).

These differences are likely to impact how an individual will process information regarding social support and how they will interpret support transactions with others (Collins & Feeney, 2004). Florian et al. (1995) investigated how attachment style may influence the extent to which individuals perceive emotional and instrumental support is available from significant others, and their tendency to seek support in times of need. Secure individuals had a tendency to see others as providing high levels of support, and they were likely to seek support when in need. Those with an insecure attachment had a tendency to perceive a low level of both instrumental and emotional support available from others, and a low tendency to seek support in times of need. Generally, research shows that those with a secure attachment tend to be satisfied with the support they receive. Insecure adults however report less support to be available, less satisfaction with the support they receive and a greater discrepancy between what they require and what they perceive that they receive (Collins & Feeney, 2004).

As has been described, secure and insecure individuals differ in their expectations about the availability and responsiveness of others around them. Based on this, a number of researchers have used a diathesis-stress model to investigate the relationship between attachment style and social support and depression. According to this model, depressive symptoms should most likely occur when vulnerable people (e.g. those with an insecure attachment style) experience stressors (e.g., illness) that strain their relationships (Simpson, Rholes, Campbell, Tran & Wilson, 2003). In a study that focused on the transition to

parenthood, investigators looked at support perception and attachment style of wives and their subsequent vulnerability to depression. Results showed that those who were highly anxious and perceived less pre-natal support became more depressed across the transition than less anxious women (Simpson et al., 2003). Importantly, there was not a significant relationship for avoidant women between perceived support and depression. The authors suggest that in contrast to anxious individuals, who's emotional well-being may be more dependent on how they perceive their partners and relationships (for example less emotionally supportive), avoidant individuals are less likely to rely on positive perceptions of their partners or relationships to enhance wellbeing (Simpson et al., 2003). They suggest that for avoidant individuals, depressive symptoms are more likely to arise later in the transition to parenthood when other life-tasks are impacted (such as performance at work or financial difficulties). In this sense, the emotional wellbeing of avoidant individuals may be less dependent on emotional support, and more influenced by deficient instrumental support (Simpson et al., 2003). This is important when looking at the components of social support as it indicates different individuals may have different needs in terms of the kind of support they benefit from. The lack of a significant relationship between perceived support and depression for avoidant women, is also likely to be related to avoidant women's preference for being self-reliant and therefore they are not hurt (i.e. do not experience depression) by low levels of perceived available support.

Meredith, Ownsworth, & Strong (2007) have done similar research, and used attachment theory to help understand the high comorbidity between chronic pain and the presence of depression. The study classified people on two attachment dimensions including 'Comfort with closeness' and 'Anxiety over relationships'. Using these dimensions, the authors found that high comfort with closeness and low anxiety over relationships was related to lower depression both before and after treatment. The authors suggest that these results

show depression is negatively associated with secure attachment, and positively with insecure attachment, providing support for an attachment informed treatment approach to chronic pain (Meredith et al., 2007).

Attachment styles and inner working models cannot be thought of in isolation when considering pair-bond relationships. Because of the dyadic nature of attachment bonds researchers have been paying increasing attention to the influence of attachment characteristics within couples. In a study undertaken by Simpson et al. (1992) social interaction between partners was identified, and differences between secure and avoidant individuals were identified with respect to support seeking and support provision. The authors found woman with secure attachment styles tended to seek out more support as their anxiety increased, whereas more avoidant women were likely to seek less support with increasing anxiety. Secure men also tended to offer more support when their partner displayed greater anxiety while more avoidant men were inclined to become less supportive. There were no significant effects found in this study for anxious attachment style. This study supports previous literature, and provides evidence that give-and-take of support was influenced by the attachment style of both partners.

As has been described, the attachment behavioural system is triggered at times of threat such as after a diagnosis of cancer. Despite this, rather than focusing on cancer, previous research in the area of adult attachment has tended to focus predominantly on healthy individuals, who are often students. Research in the area of illness, and particularly with those facing cancer has received limited attention. This is particularly true when considering the influence of attachment style on social support in both patients and partners. In considering illness, the limited research that has been conducted, has tended to focus on

how attachment style influences the patient. Specifically, it has been found that attachment style affects psychological adjustment and how patients approach emotional support. Based on the variation in the level of distress people experience with cancer, Hunter et al. (2006) investigated the influence of attachment and emotional support in patients with end-stage cancer. The study found that attachment dimensions had an influence on emotional support where other background variables did not (e.g. time since diagnosis, age, SES, physical condition). Those with an avoidant or anxious attachment were found to have greater difficulty benefiting from emotionally supportive relationships. Avoidant individuals were characterised by ineffective support seeking and lower levels of psychological adjustment. Anxious individuals were characterised by over-involvement, compulsiveness and a tendency to be controlling. Individuals who were lower on both the avoidant and anxious dimension and who were in emotionally supportive relationships displayed lower levels of negative affect.

These findings support the cancer literature discussed previously, which suggests that patients who have supportive family members benefit in terms of both psychological adjustment and also possibly in terms of survival. It also raises the possibility that studies which do not find patients to benefit from social support, may need to consider the influence that attachment style could be having. Although the study conducted by Hunter et al. (2006) included both cancer patients and their spouses, its focus was on the impact of attachment style and support on negative affect in the patient group only. It failed to address the influence of partner attachment styles. When considering attachment style within intimate relationships, the dyadic nature of attachment bonds is important to consider.

1.5.1 Summary

When an individual is diagnosed with cancer, significant changes occur not only for the patient, but for their partner also. At this time, social support has generally been shown to be beneficial in reducing both patient and partner psychological distress. There are, however, individuals who do not benefit from provision of social support. One factor suggested to influence this is attachment style. As has been described, an individual's attachment style has a large impact on perception of provision and receipt of social support. Those characterised by a secure attachment style are found to perceive a strong sense of social support to be available, they are satisfied with the support they receive and they seek and provide support during times of need. In contrast, those characterised by an insecure attachment style perceive low amounts of support to be available and are less likely to seek and provide support. In terms of the cancer literature, these are important findings. For individuals that do not benefit from social support provision there may be key differences in their attachment style. Support for this has been found in cancer patients, where those with an avoidant or anxious attachment were shown to have greater difficulty benefiting from emotionally supportive relationships as well as displaying higher levels of negative affect. Research, however, has failed to consider the impact of partner attachment style. In addressing support provision and receipt of couples coping with a cancer diagnosis, research needs to consider the impact of attachment from both patients and their partners. This will allow identification of needs, and development of interventions, which may aid in increasing the benefits of social support as well as decreasing patient and partner psychological distress.

1.6 The current Study

Being diagnosed with cancer and going through the associated treatment and rehabilitation process can be extremely traumatic for all individuals involved. As has been

outlined, a cancer diagnosis impacts on the patient and has a significant impact on their partner also. The availability of social support is therefore considered paramount for both the patient and their partner in helping them to cope.

Individuals may have strong opinions on how much support they are giving or receiving, however, partners do not always agree. This study will measure what patients and their partners perceive in terms of social support received and social support provided. It is important to identify what both patients and their partners report providing and what they report receiving. By comparing these perceptions researchers can discover how they compare, and how they may be related. Previous research has indicated moderate agreement between spousal perceptions of emotional support provision and receipt (Abbey et al., 1995). There is limited research describing spousal agreement for instrumental support exchange. Research has however, found higher agreement for enacted support than perceived support (Cohen, Lakey, Tiell, & Neely, 2005) In addition to this, because instrumental support is more visible in nature compared to emotional support (e.g., provision of physical assistance) it is likely that agreement would be higher for instrumental support exchange than for emotional support. Despite the assumption that social support is important when faced with an illness such as cancer, not all individuals have been shown to benefit from social support. This has caused researchers to look at the involvement of attachment style characteristics.

Attachment working models and attachment behaviours are activated by conditions of threat, such as a diagnosis of cancer. In addition to this, previous research has demonstrated a relationship between attachment style and perception of social support, which is therefore likely to be important when considering couples coping with cancer. Individuals characterised by an insecure attachment style (highly avoidant or highly anxious) have a

tendency to perceive less available support and to be less satisfied with the support they receive (Florian et al., 1995; Ognibene & Collins, 1998; Rodkin et al., 2007; Collins & Feeney, 2000). Specifically, those with an avoidant attachment style are suggested to have a restricted awareness of their feelings (Priel & Shamai, 1995), and prefer to be self-reliant during times of need (Simpson, 1992). This includes both seeking less support when distressed, as well as offering less support when partners are distressed (Mikulincer et al., 1993; Simpson et al., 1992; Simpson et al., 2002). Based on this research, it is likely that avoidant individuals coping with a threat such as cancer diagnosis, would report receiving and providing lower levels of support compared to less avoidant patients and partners. In relation to individuals who are high on the anxious attachment dimension, research suggests they are hypervigilant to negative feelings they experience, and exaggerate adversities as threatening, leading to a tendency of never perceiving enough available support to meet their needs (Priel & Shamai, 1995; Simpson & Rholes, 1998). It is likely, therefore, that when faced with a threat such as a cancer diagnosis, these individuals would perceive receiving less support (as no amount would meet their anxious needs), but providing more support (as they have a tendency to be over-involved) compared to less anxious patients and partners (Feeney & Collins, 2001).

If individuals report a perception that their support needs are not being met, there are likely to be a number of negative outcomes. One outcome which has been identified is a decrease in mood. As has been described, previous research indicates that individuals diagnosed with cancer, and their spouses, are vulnerable to psychological distress. Despite this, not all individuals experience the same level of distress, and research has investigated factors that may reduce distress, such as provision and receipt of social support. Although support is beneficial, not all individuals benefit from social support in the same way.

Therefore, researchers have suggested that attachment style may influence the way individuals experience support provision (Hunter et al., 2006; Priel & Shamai 1995; Moreira et al. 2002; Simpson et al., 2003). In this sense, it is possible that attachment style plays a moderating role in this relationship. That is, some people may benefit more from social support than others. For example, highly anxious patients may experience psychological distress regardless of how much social support they receive, whereas less anxious patients may report less depression when they receive more support.

There are key variables which are likely to influence the effectiveness and perception of social support. The focus of this study is how attachment style may be one of these variables. Not only is it likely that attachment style will impact on how social support is provided, but it will also impact on how support is received. Therefore, this study will investigate couples perception of social support provided and received. It will then look at how attachment style may have a significant influence on these perceptions and in what way attachment style may act as a moderator for outcomes, such as psychological distress in each of the couples.

1.7 Hypotheses

1.7.1 Hypothesis One

Within-couple agreement and differences in perceptions of support provision and receipt will be examined. As has been described, social support is in the eye of the beholder, therefore, it is expected that only moderate levels of agreement will be found. Agreement will be higher with respect to more visible support (i.e. instrumental support) compared with more invisible or subjective types of support (i.e. emotional support).

1.7.2 Hypothesis Two

Attachment style is expected to influence how much support individuals report receiving and providing. It is expected that patients and partners who are more avoidant will report receiving and providing lower levels of support, compared to less avoidant patients and partners. It is expected that patients and partners who are more anxious will report receiving less but providing more support compared to less anxious patients and partners.

With respect to satisfaction with the support received, it is expected that individuals who are higher on the anxious dimension, or the avoidance dimension, will be less satisfied with the support they receive, regardless of how much they receive.

1.7.3 Hypothesis Three

It is expected that attachment style will play a moderating role between social support perception and depression (see Figure 1). Patients and partners who are highly avoidant will not be hurt by low levels of social support, and will subsequently experience less psychological distress compared to less avoidant individuals. Patients and partners, who are highly anxious, will benefit less from available support (no matter how much is offered) and will subsequently display higher levels of psychological distress than less anxious individuals.

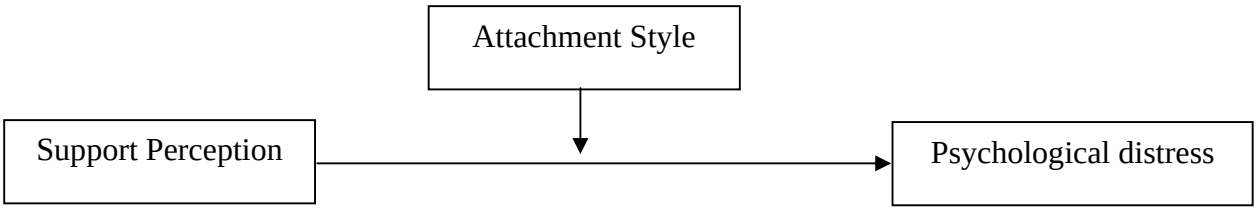

Figure 1. Schemata – Hypothesised moderator role of attachment style between support perception and psychological distress.

Note: Support Perception includes perception of emotional support received, instrumental support received, and support satisfaction.

2 Method

2.1 Participants

2.1.1 Sample Characteristics

Participants for the study were individuals who had been diagnosed with cancer (first diagnosis) within the previous 12 months, and/or were currently receiving treatment for cancer, as well as their spouse or partner. There was no restriction placed on participant's age, or on the length of couple's relationships. In total, there were fifty-five couples recruited for the study, giving a total of one hundred and ten individuals. Forty-five couples were married (81.8%), and ten couples were in a de facto relationship (18.2%). Of these relationships, there was one homosexual relationship (male) and the remainder were heterosexual. The mean length of relationship was 22.35 years (SD = 14.11 years, range = 2 – 62). The patient group consisted of 26 males and 29 females, while the partner group was made up of 30 males and 25 females. The mean age of patients was 50.85 years of age (SD = 11.17 years, range = 28 – 79) and the mean age of partners was 50.63 years of age (SD = 11.75 years, range = 23 – 84). Of the participants, 84% of the patients and 91% of partners were of New Zealand European decent, while 4% of patients and 2% of partners were of Maori decent and 13% of patients and 7% of partners specified other. In terms of education, 13% of patients and 22% of partners had no school qualification, 20% of patients and 9% of partners had a secondary school qualification, 31% of patients and 35% of partners had a trade certificate, 26% of patients and 26% of partners had a university degree and 11% of patients and 9% of partners either indicated other or did not answer this question. There were 47% of patients and 61% of partners that indicated working in full time. Of the remaining participants, 18% of patients and 20% of partners indicated working part time, 4% of patients and no partners indicated that they were unemployed, and the remaining participants either failed to answer the question, or indicated that they were a housekeeper, on a disability

benefit, retired or answered other. There were 15% of patients and 2% of partners that indicated being on sick leave at the time of the study. A summary of the demographic profile of the study participants is provided in Table 3.

Table 3. *Demographic profile of study participants*

Variable					
		M (SD)		**N (%)**	
		Patient	**Partner**	**Patient**	**Partner**
Age (years)		50.85 (11.17)	50.63 (11.75)	-	-
Sex	Female	-	-	29 (54)	25 (46)
	Male	-	-	26 (46)	30 (54)
		-	-		
Ethnicity	New Zealand European	-	-	46 (84)	50 (91)
	New Zealand Maori	-	-	2 (4)	1 (2)
	Other	-	-	7 (13)	4 (7)
Length of Relationship (years)		22.57(13.99)	22.35 (14.12)	-	-
One or more children	Yes	-	-	48 (87)	45 (82)
	No	-	-	7 (13)	7 (13)
	Missing Data	-	-	0 (0)	3 (6)
Education Status	Left without School Certificate	-	-	7 (13)	12 (22)
	School Certificate	-	-	11 (20)	5 (9)
	Trade Certificate	-	-	17 (31)	19 (35)
	Degree	-	-	14 (26)	14 (26)
	Other	-	-	4 (7)	5 (9)
	Missing Data	-	-	2 (4)	0 (0)
Employment Status	Full-Time	-	-	26 (47)	34 (61.8)
	Part-Time	-	-	10 (18)	11 (20)
	Unemployed	-	-	2 (4)	0 (0)
	Housekeeper	-	-	3 (6)	0 (0)
	Disability Benefit	-	-	3 (6)	1 (2)
	Retired	-	-	6 (11)	7 (13)
	Other	-	-	4 (7)	2 (4)
	Missing Data	-	-	1 (2)	0 (0)
Currently on Sick leave	Yes	-	-	8 (15)	1 (2)
	No	-	-	33 (60)	43 (78)
	Missing Data/Not currently working	-	-	14 (26)	11 (20)

2.1.2 Sample cancer status

Within the patient sample, the mean time since diagnosis of cancer was 9.38 months (SD = 6.15, range = 2 – 30 months). A range of diagnoses were reported by the patient sample, and 27 % endorsed that their cancer had metastasized. In terms of recovery from their cancer diagnosis, 16% stated that they had little or no chance of recovery while 60% stated that they had a reasonable or good chance of recovery. There were 13% of patients that stated they were cured, and 11% were unsure of their chance of recovery. Table 4 presents an overview of the cancer status reported by the sample.

Patients had also experienced a wide range of cancer treatments. The main treatment undertaken by the sample since diagnosis was surgery (69% of sample), followed by chemotherapy (44%) and radiation therapy (34%). At the time of the study, 56% of participants were not undertaking any kind of treatment while the remainder of the sample endorsed a range of current treatments. Table 5 provides further information on treatments which patients had undertaken 'since' diagnosis, as well as treatments which patients were receiving 'at the time' of taking part in this study.

Table 4. *Cancer status of the sample*

Variable		**N (%)**
Cancer Type	Bowel	11 (20)
	Breast	16 (29)
	Prostate	8 (15)
	Lymphomas	5 (9)
	Other	14 (25)
	Missing Data	1 (2)
Cancer Metastasized	Yes	15 (27)
	No	35 (64)
	Missing Data	5 (9)
Chance of Recovery	There is no chance on recovery	7 (13)
	There is little chance on recovery	2 (3)
	There is a reasonable chance on recovery	7 (13)
	There is a good chance on recovery	26 (47)
	I am cured	7 (13)
	I was not told	6 (11)

Table 5. *Cancer treatments of the sample*

Treatment(s) undertaken since diagnosis	**N (%)**		**Treatment(s) being undertaken at present**	**N (%)**	
	No	**Yes**		**No**	**Yes**
Surgery	17 (31)	38 (69)	Surgery	52 (95)	3 (5)
Chemotherapy	31 (56)	24 (44)	Chemotherapy	46 (84)	9 (16)
Radiation Therapy	36 (66)	19 (34)	Radiation Therapy	53 (96)	2 (4)
Hormone Therapy	47 (85)	8 (15)	Hormone Therapy	48 (87)	7 (13)
Other	52 (95)	3 (5)	Other	52 (95)	3 (5)
			No Treatment at present	24 (44)	31 (56)

2.1.3 Recruitment

Recruitment for this research began in 2002, and at this time, a total of 52 couples were recruited. Further to this, and using the same recruitment strategy, additional data was collected in 2007. This gave a total of 57 couples, however, as a result of missing data, there were two couples excluded from the analysis leaving a final total of 55 couples.

Participants were recruited through advertisements in local newspapers, and through the New Zealand Cancer Society. This strategy of recruitment was approved by the University of Canterbury Human ethics committee.

Couples recruited for this research each consisted of a cancer patient, and their partner. The patients recruited were required to have been diagnosed with cancer (first diagnosis) within the previous 12 months and/or to be currently receiving treatment for their cancer diagnosis. In addition to this, as the research is focused on couples, they were required to be in a married or stable romantic relationship. There was no exclusion criterion for the partners recruited, however both individuals were required to willingly consent to participate.

2.2 Procedure

The overarching study, which began in 2002, is a longitudinal study that takes measurements at four specific time points (one-month intervals). However, for the purposes of this thesis, data was only drawn from the questionnaires completed at Time 1.

After responding via email or phone to the recruitment advertisement, couples were emailed/posted an information form regarding the study. This information form was altered according to whether individuals lived in Christchurch (Appendix A) or elsewhere in New Zealand (Appendix B). The information form described the aim of the study, as well as the study requirements and procedure. It also described their right to withdraw from the study and the confidential nature of any information provided. Finally the information form provided contact details of the researchers involved to allow for any further questions to be answered.

After receiving the information form and agreeing to take part in the study, all participants were provided with a consent form to complete (Appendix C). This was either emailed/posted to those living outside of Christchurch, or personally delivered to those living within the Christchurch area. The consent form described that participants had read the information form and understood the study, and that they could withdraw at any stage of the study.

Following completion of the consent form, test booklets (Appendix D (patients) and Appendix E (partners)) were provided to each participant (either during the personal delivery of the consent form or via post). Test booklets were compiled to include questionnaires which are described below, and took about 40 – 45 minutes to complete. Each test booklet

was divided into four parts. Part 1 included 'background information', part 2 included 'health and wellbeing', part 3 included the 'relationship with your partner', and finally part 4 included 'beliefs about relationships in general'. For patients, part 2 included additional questions on their medical diagnosis, however all other parts of the test booklet were the same for patients and their partners.

Questionnaires within the booklet were presented in a uniform order across participants with demographic information presented first, followed by the questionnaires. Couples were required to complete the questionnaire separately and were asked not to converse with their partner regarding answers. After completion of the questionnaires, participants posted their questionnaires in separate envelopes to the University of Canterbury.

After agreeing to participate, all couples were assigned a code number for identification purposes. This number was put onto each questionnaire and ensured that all participants remained anonymous. All consent forms and questionnaires that were returned from participants were stored in a locked cabinet in a health laboratory at the University of Canterbury. At the University all consent forms and questionnaires were separated. Any further analysis was done within the University so that forms did not need to be removed from the premises. Procedures were approved by the University of Canterbury Human Ethics Committee.

As an incentive to participate, participants received a $15 gift voucher of their choice (e.g. petrol voucher, grocery voucher, Westfield shopping mall voucher) after completing the 1st questionnaire and returning it. On completion of the fourth and final questionnaire, each participant received another $20 gift voucher of their choice.

2.3 Measurements

Generally, the questionnaires were the same for patients and partners unless otherwise stated. All participants received questionnaires measuring a wide range of variables which were selected when the study began. Many of these variables were beyond the scope of this Masters thesis, therefore, as well as demographic data, there were four key variables which were selected from the larger group. These variables included psychological distress, social support, attachment style and general health status and wellbeing.

2.3.1 Psychological Distress

The Centre of Epidemiologic Studies Depression Scale (CES-D)

The Centre of Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977) is a self-report scale of psychological distress. It was created utilising a combination of depressive inventories including Zung's depression scale (Zung, 1965), Beck's Depression Inventory (Beck et al 1961), a scale developed by the Minnesota Multiphasic Personality Inventory (MMPI, 1960), and a scale developed by Raskin (Raskin et al 1967) (Eaton, Muntaner, Smith, Tien, & Ybarra, 2004). There are twenty items in the scale, which are ranked on a 4-point likert scale in terms of days per week going from 'rarely or none of the time' (less than one day), to 'most or all of the time' (5-7 days). Items are rated in relation to the past week, and include things like during the past week 'I was bothered by things that usually don't bother me', or 'I had trouble keeping my mind on what I was doing', or 'my sleep was restless'. Higher scores represent greater psychological distress and generally a score of 16 or higher is representative of a 'depressive case' (Eaton et al., 2004).

Radloff (1977) originally identified four factors suggested to underlie the CES-D including 'depressed affect', 'positive affect', 'somatic and retarded activity' and

'interpersonal'. Since this time, research has provided varied support for these factors, and a number of researchers have therefore suggested fewer than four factors to exist (Helmes & Nielson, 1998; Philips et al., 2006; Thomas & Brantly, 2004). As a result of the varying support of the factors, it is now suggested that the CES-D total score is just as effective in accounting for the variance as the individual factors are (Phillips et al. 2006). For the purposes of this study, only the total score was utilised. Internal consistency estimates for the CES-D range from 0.8 to 0.9, and test-retest reliability from two weeks to a year is reported to be between 0.4 to 0.7 In a study looking specifically at cancer patients, Hann, Winter and Jacobsen (1999) assessed the psychometric properties of the CES-D in a sample of women undergoing treatment for breast cancer. The internal consistency analysis demonstrated a coefficient alpha of 0.89, and test-retest coefficient of 0.57 (*p*, 0.001) over 2.5 weeks. For the current sample, reliability coefficients were calculated to be 0.89 for the patient group and 0.93 for the partner group.

2.3.2 Social Support

The social support scale was newly developed for the study and was based on the Social Support List-Interactions scale (VanSonderen, 1993). This questionnaire breaks social support down into four subscales including: emotional support (4 items), instrumental support (2 items), informational support (2 items) and finally companionship (2 items). For the purposes of this study, only the emotional support and instrumental support subscale scores were utilised.

Both patients and partners were asked how often they perceived that 'they' performed certain supportive behaviours in the past week (e.g. In the past week how often did you …comfort your partner when he/she was feeling down? … give your partner practical help?) and how often they perceived that 'their partner' performed the same behaviours (e.g. In the

past week, how often did your partner ….. comfort you when you were feeling down? …. give you practical help?) Items were ranked on a 4-point likert scale in terms of 'never', 'sometimes', 'often' and 'very often'.

Patients and partners were also asked how 'satisfied' they were with the support they received from their partner in the previous week. This was ranked on a 5-point Likert scale ranging from 'not satisfied at all' up to 'extremely satisfied'.

For the current sample, reliability coefficients ranged from 0.61 to 0.89. For the emotional support subscale provided, coefficients were 0.87 (patients) and 0.78 (partners), and for emotional received, coefficients were 0.89 (patients) and 0.80 (partners). On the instrumental support subscale provided, coefficients were 0.64 (patients) and 0.61 (partners), and for instrumental support received, coefficients were 0.74 (patients) and 0.74 (partners).

2.3.3 Attachment

Adult Attachment Questionnaire AAQ

The Adult Attachment Questionnaire (AAQ) (Simpson, Rholes, & Phillips, 1996) is a dimensional measure of attachment style which is based on Hazan and Shaver's attachment descriptions (Simpson, Rholes & Phillips, 1996). There are seventeen items in the scale, and participants are required to rate on a 7-point likert scale (1 = strongly disagree to 7 = strongly agree) how each item describes the way they feel in romantic relationships (in general rather than with a specific partner) (Mikulincer & Shaver, 2007). Items include such statements as 'I find it relatively easy to get close to others', 'I worry that my partner(s) don't really love me', and 'I usually want more closeness and intimacy than others do'. Seven items require reverse scoring prior to calculating the final scores.

Two dimensions are suggested to underlie the AAQ including 'avoidance' (8 items - scores range from 8 to 56) and 'anxiety' (9 items - scores range from 9 to 63). Low scores on each of these dimensions reflect a 'secure' attachment style, indicating an absence of problems associated with high levels of avoidance or anxiety (Simpson et al., 1996). These two dimensions have been consistently supported, and factor analyses confirm the AAQ items load on two independent factors (see Mikulincer & Shaver, 2007). Simpson et al. (1996) reported reliability coefficients for men and women on each of the dimensions with 0.70 and 0.74 for avoidance and 0.72 and 0.76 for the anxiety dimension. Other studies have found reliabilities ranging from 0.69 to 0.82 for the anxiety dimension and 0.74 to 0.86 for the avoidance dimension (e.g., Simpson et al., 2003; Campbell, Simpson, Boldry, & Kashy, 2005). For the current sample reliability coefficients for the avoidance dimension were 0.79 (patients) and 0.79 (partners), and for the anxiety dimension they were 0.71 (patients) and 0.58 (partners). The reliability for the anxiety dimension in partners was surprisingly low in the present study and is not in line with reliabilities usually found in other studies. As the AAQ is a well validated, frequently used measure, it was decided not to try and increase Cronbach's alpha in the present study by deleting one or more items.

2.3.4 General Health Status

The Short Form 12 Health Survey and Short Form 36 Health Survey

Patients and partners both received the Short Form 12 Health Survey (SF-12) within the questionnaire booklet. The SF-12 is a twelve item self-report test, developed using items from the original Short Form-36 Health Survey (SF-36) (Jenkinson et al, 1997; Ware, Kosinski, & Keller, 1996). The SF-12 measures eight domains of health including, physical functioning, role limitations due to physical health, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems, and mental health.

From these eight domains, a physical component summary and a mental health component summary is calculated, where lower scores on these two subscales represent lower self-reported health functioning For the purposes of this study, only the physical health summary score was utilised from the SF-12. The mental health summary score was excluded from analysis as it is known to overlap with scores on the CES-D.

Sample items measuring physical health are 'Does your health limit you in the following activities and if so, how much?: e.g., climbing several flights of stairs (1 = yes limited a lot, 2 = yes limited a little, 3 = no, not limited at al'), and 'During the past week**,** how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?: e.g., Accomplished less than you would like (1 = all of the time to 5 = none of the time). All rating scales were transferred to 5-point scales. Despite the shorter nature of the SF-12 compared with the SF-36, Jenkinson et al. (1997) found evidence that the SF-12 provides both physical and mental health summary scores which are virtually identical to scores achieved on the same subscales of the SF-36. These authors suggest the SF-12 is an effective alternative to administering the entire SF-36. In the present study, the full physical limitations subscale of the SF-36 was included to measure physical limitations in patients in more detail. However, this longer scale was highly correlated with the SF-12 physical health summary score ($r = .75$, $p < .001$), and it was decided to use the SF-12 summary scale only. Studies also provide evidence for adequate reliability of both summary scales with test-retest coefficients reported in the range of 0.73 to 0.89 (Resnick & Parker, 2001; Ware, Kosinski & Keller, 1996). For the current sample, reliability coefficients for the SF-12 physical functioning summary were found to be 0.91 (patients) and 0.81 (partners).

Cancer information

Open questions were included in the patient-questionnaire to gain information about the cancer diagnosis and treatment. Questions included time since diagnosis, what their diagnosis was, and had their cancer metastasized. In addition to this, patients were asked to indicate the treatments they were currently receiving, and what treatments they had historically received for their cancer. Finally patients were asked about their chances of recovery.

2.4 Data Analysis

Data analysis was performed using the statistical analysis programme SSPS. The statistical analyses that were conducted included descriptive statistics, reliability analyses, correlations, dependent t-tests, and hierarchical regression analyses.

Descriptive statistics were completed to determine the composition of the sample, this included gender, ethnicity, age, education and vocational experience, and relationship status. Descriptive statistics were also used to analyse the characteristics of the sample's cancer status.

Reliability statistics were calculated to evaluate the internal consistency of each scale prior to completing further analysis. Pearson product-moment correlations were conducted to test agreement in perception of support provision and receipt within relationships. Correlations were also used to analyse the association between attachment and social support. Correlations were also used to test the association between control variables such as age and sex with attachment and perception of support. Dependent t-tests were conducted to analyse the within relationship differences of support provision and receipt. Finally, hierarchical regression analyses were used to analyse whether attachment plays a moderating role between social support perception and psychological distress. A moderator variable affects the

"direction and/or strength of the relation" between a predictor variable and a criterion variable (Baron & Kenny, 1986, p.1174). To test this relationship, scores on the CES-D were entered into the hierarchical regression as the dependent variable (criterion variable). The first level of the regression model included the control variables, and these were chosen based upon significant correlations found with the CES-D (both for the patient group and the partner group). Level two in the model included the moderator variable (attachment style), and following this the third level included the predictor variable (social support). The fourth and final level in the model included the interaction between the moderator variable and the predictor variable. To minimise multicollinearity in the regression analyses, all scores for the moderator variable and the predictor variable were centered (West, Aiken & Krull, 1996). This involved subtracting the sample mean from each observed value therefore giving each of these variables a mean of zero. Interactions were further examined by calculating regression slopes one standard deviation above and below the mean of the moderator.

3 Results

Results were analysed using SPSS version 15.0 for windows. Following a summary of the descriptive statistics, results are described with respect to each hypothesis.

3.1 Descriptives

Table 6 presents the means, and standard deviations of the key variables in the study, as well as correlations between the key variables and control variables. Mean scores on the CES-D were not significantly different between patients and partners, $t(53) = .14$, *ns*. On the attachment dimensions, the mean scores for patients and partners were not significantly different for the avoidance dimension, $t(51) = 1.07$, *ns*. However, on the anxiety dimension partners were found to score significantly higher than patients, $t(52) = -3.25$, $p < .01$. In line with what would be expected, the mean score of patients on the SF-12 physical functioning summary was lower than that found for the partner group (*M* patients = 20.31; *M* partners = 26.62), $t(53) = -6.04$, $p < .001$. This was indicative of low self-reported physical health functioning in the patient sample in comparison to their partners. Differences with respect to provision and receipt of social support will be described in section 3.2.

Table 6 further shows, that for both the patient group and the partner group, lower levels of physical health functioning were significantly related to higher levels of psychological distress. In addition to this, for the patient group, a more recent time since diagnosis was a significant predictor of psychological distress, and for partners greater psychological distress was related to being younger, and whether their partner's cancer had metastasized.

In the patient group, men scored higher on the avoidance dimension than women, and in the partner group, women were found to score higher than men did on the anxiety dimension. However, it should be noted that these correlations were only marginally significant (i.e., $p < .10$). For the partner group, individuals were also higher on anxiety if their partner's cancer had metastasized. For patients, this correlation was only marginally significant.

For patients, higher age was significantly related to higher perception of emotional support received, as well as higher perception of emotional and instrumental support provided. Longer relationship duration was also related to higher patient perception of emotional and instrumental support provided. Lower physical health functioning was related to higher perception of instrumental support received (i.e. patients who were more physically impaired reported receiving more instrumental support). Whether or not the cancer had metastasized was related to instrumental support provided with patients providing more instrumental support when their cancer had metastasized. With respect to sex it was found that female patients reported providing less instrumental support than male patients. For partners, higher physical health functioning was related to higher perception of emotional support provided and received. In addition, partners reported receiving more emotional support from their partner if the cancer had not metastasized. Perception of instrumental support provided and received was not significantly related to any of the control variables among partners. With respect to support satisfaction, Table 6 shows that female patients were less satisfied with the support they received from their partner than male patients were. In the patient group, women were found to be lower on support satisfaction than men, and In partners, higher support satisfaction was related to whether the cancer had metastasized (higher support satisfaction if cancer had not metastasized), and higher physical health functioning.

Table 6. *Zero-order Correlations of control variables and variables under study.*

PATIENTS	**Age (patient)**	**Sex (patient)**	**Relationship duration**	**Time since diagnosis**	**Cancer metastasized**	**Current treatment**	**SF-12 phys (patient)**	**Mean (SD)**
CES-D	-.15	.21	-.23	-.29*	-.11	.03	-.75***	12.35 (9.63)
Avoidance	.13	-.24†	.08	.18	-.17	.22	.09	27.98 (8.37)
Anxiety	.04	.09	-.01	.14	-.26†	-.10	-.09	23.07 (8.12)
Emotional Support received	.30*	-.16	.25	-.12	-.19	.15	-.16	12.56 (3.02)
Emotional Support provided	.35*	-.03	.32*	-.02	-.08	.17	-.18	11.78 (2.86)
Instrumental Support Received	.12	.14	.22	.06	-.11	.16	-.31*	6.41 (1.62)
Instrumental Support provided	.36*	-.38**	.34*	-.10	-.37*	.24	.19	4.98 (1.45)
Support Satisfaction	.20	-.35*	.22	-.06	-.12	.20	-.00	4.46 (.83)
PARTNERS	**Age (partner)**	**Sex (partner)**	**Relationship duration**	**Time since diagnosis**	**Cancer metastasized**	**Current treatment**	**SF-12 phys (partner)**	**Mean (SD)**
CES-D	-.33*	.02	-.18	-.09	-.38**	.18	-.45**	12.30 (10.93)
Avoidance	.01	-.14	-.04	.04	-.08	.06	-.24	26.91 (8.40)
Anxiety	-.17	.23†	-.07	-.03	-.32*	.08	-.20	27.42 (7.83)
Emotional Support received	.20	-.02	.14	.20	.30*	-.07	.43**	11.79 (2.60)
Emotional Support provided	.25	.25	.20	.02	.15	-.05	.32*	12.22 (2.22)
Instrumental Support received	.10	.20	.20	.01	.04	.14	.13	5.35 (1.60)
Instrumental Support provided	.19	-.22	.12	-.04	.22	-.16	.11	5.83 (1.45)
Support Satisfaction	.22	.07	.13	-.06	.30*	-.08	.34*	4.09 (.97)

$^{\dagger}p < .10$. *$p<.05$. **$p<.01$. ***$p<.001$

Note: Sex: 1 = male, 2 = female; Cancer metastasized: 1 = yes, 2 = no; Current treatment: 0 = no, 1 = yes. CES-D = The Centre of Epidemiologic Studies Depression Scale; SF-12 phys = The Short Form 12 Health Survey (physical component summary).

3.2 Hypothesis One

Correlational analyses and dependent t-tests were conducted to compare agreement and differences in perceptions of support provision and receipt between couples. In conducting these analyses, three patterns of results were of interest (refer to Figure 2 for a schemata of these patterns). The first pattern (pattern a) was of most importance for hypothesis one. It included correlations and dependent t-tests between what one individual in the couple reported providing and what the other individual reported receiving (and vice versa). These analyses gave an indication of within couple agreement about social support exchanged.

The second pattern (pattern b) included correlations and dependent t-tests between the amount of social support a partner perceived they received and the amount of social support the same partner perceived that they provided. These analyses provided information on the comparability of support provision and receipt for individuals (i.e. how does an individual's perception of support provision and receipt compare).

The third and final pattern of interest (pattern c) included correlations and dependent t-tests between the amount of social support a partner perceived they personally received, and what their partner perceived they personally received as well as between what a partner perceived they personally provided and what their partner perceived they personally provided. These analyses provided information on the amount of reciprocity within couples (i.e. how do partners compare in terms of perception of support provision and support receipt).

To analyse results for hypothesis one, social support was divided into emotional support and instrumental support. Results are described for each support type and for each pattern of interest. Correlations were defined as small (between .10 and 0.29), medium (between 0.3 and 0.49), and large (between 0.5 and 1.00) (Cohen 1992). Results from the

dependent t-tests were interpreted using the Bonferroni-Holm correction technique (Holm 1979) to correct for multiple testing[1].

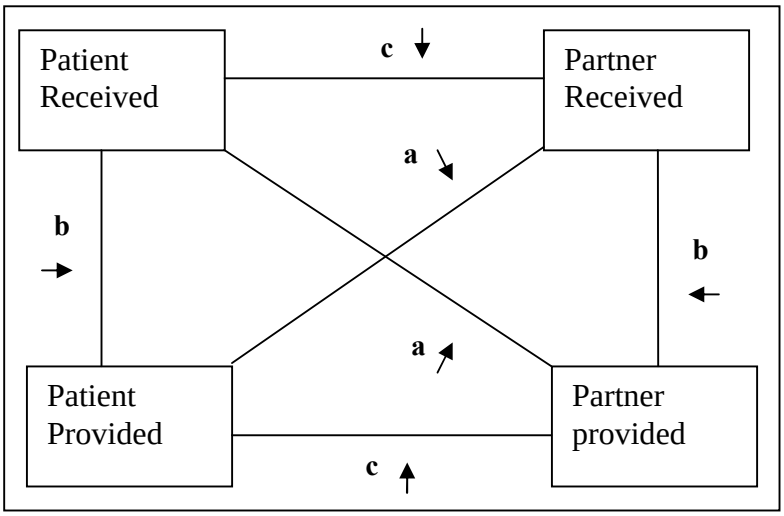

Figure 2. Schemata of the three Patterns described for correlation and t-test analyses (pattern a, b and c).

3.2.1 Emotional Support

In terms of within couple agreement about emotional support exchanged (pattern a), significant medium to large correlations were found. Specifically, there was a medium correlation for patient received and partner provided support ($r = .38$, $p < .01$), and a moderate to large correlation for patient provided and partner received support ($r = .51$, $p < .001$) (see Figure 3). Results from the dependent t-tests supported these findings with non-significant differences found between the means for emotional support of both patients and partners (see Table 7). Taken together, the results of these analyses show agreement between what patients and partners report providing and receiving in terms of emotional support.

When considering the relationship between the amount of emotional support a partner perceived they received and the amount of emotional support the same partner perceived that

[1] According to the Bonferroni-Holm technique, *p* values are ordered from the smallest to the largest. Following this, the initial *p* value is divided by the total number of tests administered, the next *p* value is then divided by the number of tests – 1, and the next is divided by the number of tests – 2 etc. The technique continues subtracting one each time until all *p*-values are compared.

they provided (pattern b), a significant large relationship was found for both patients (r = .74, p <.001) and partners (r = .67, p <.001) (see Figure 3). These correlations indicate that individuals who report receiving a lot of emotional support also report they provide a lot of emotional support. Dependent t-tests indicated that there was a significant difference between emotional support received by patients and emotional support provided by patients, that is, patients on average thought that they received more emotional support than they provided. There was a non-significant difference between emotional support received by partners and emotional support provided by partners (see Table 7).

Significant medium size correlations were found for the amount of emotional support a partner perceived they personally received, and what their partner perceived they personally received (r = .42, p <.01) as well as between what a partner perceived they personally provided, and what their partner perceived they personally provided (r = .47, p <.01) (pattern c) (see Figure 3). Dependent t-tests were non-significant (see Table 7). These analyses indicate reciprocity in the level of support that couples both reported providing and receiving. That is, in couples where patients reported receiving high levels of emotional support, partners were likely to report receiving high levels of emotional support as well. Similarly, in couples where patients reported providing high levels of emotional support, their partners were likely to report providing high levels of emotional support also.

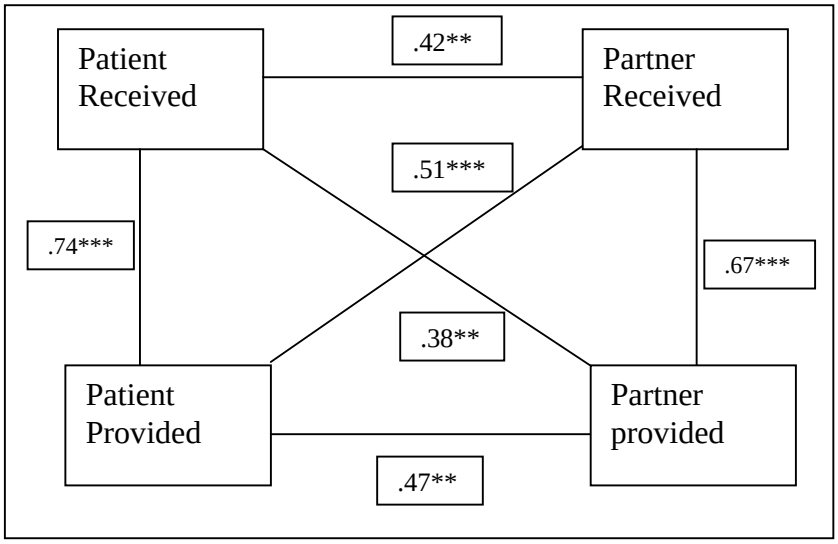

Figure 3. Correlational Analyses of Emotional Support Provision and Receipt

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

Table 7. *Dependent t-tests of Emotional Support Provision and Receipt*

Pattern a			
	Patients Mean (SD)	**Partners Mean (SD)**	**T value**
Emotional received by patient and emotional provided by partner	12.49 (3.01)	12.26 (2.23)	*t*(52) = .55 *ns*
Emotional received by partner and emotional provided by patient	11.63 (2.81)	11.82 (2.61)	*t*(50) = .51 *ns*
Pattern b			
	Received Mean (SD)	**Provided Mean (SD)**	
Emotional received by patient and emotional provided by patient	12.58 (3.04)	11.77 (2.86)	*t*(52) = 2.77, *p* <.05
Emotional provided by partner and emotional provided by partner	11.79 (2.60)	12.15 (2.21)	*t*(51) = -1.32 *ns*
Pattern c			
	Patients Mean (SD)	**Partners Mean (SD)**	
Emotional received by patient and emotional received by partner	12.45 (3.02)	11.82 (2.61)	*t*(50) = 1.47 *ns*
Emotional provided by patient and emotional provided by partner	11.71 (2.85)	12.27 (2.25)	*t*(51) = -1.51 *ns*

(Bonferroni-Holm procedure to correct for multiple comparisons).

3.2.2 Instrumental Support

In terms of within couple agreement about instrumental support exchanged, there were small to medium size correlations found (see Figure 4). Specifically, there was a small correlation for patient received and partner provided support (r = .20, *ns*), however, this correlation was not statistically significant. A significant medium size correlation was found for patient provided and partner received support (r = .31 p <.05) (see Figure 4). Results from the dependent t-tests showed a marginally significant difference between patient received and partner provided support indicating that on average patients reported receiving more instrumental support from their partner than their partner reported providing. The difference between the means for patient provided and partner received support was not significant (see Table 8, pattern a). Taken together, these results indicated that for instrumental support, the relationship between what partners report providing and what patients report receiving was weak however in terms of what patients report providing and partners report receiving, there was a little more agreement.

When considering the relationship between the amount of instrumental support a partner perceived they received and the amount of instrumental support the same partner perceived that they provided, a small correlation that approached significance was found for patients (r = .26, p <.10) indicating there was a trend for patients who received high levels of instrumental support to provide high levels of instrumental support as well. For the partner group, there was no relationship (r = .06, *ns*). Table 8 shows that for patient provided and patient received support, there was a significant difference between the relevant means, indicating that, patients on average thought that they received more instrumental support than they provided. For partner provided and partner received support there was no significant difference. A small, marginally significant correlation was found between the amount of instrumental support each partner perceived receiving (r = -.25, p <.10). The correlation

between what each partner perceived providing in terms of instrumental support was close to zero (r = -.08, *ns*). Results from the dependent t-test indicated significant differences between the means of instrumental support provision and receipt for both patients and partners. This indicates that patients on average thought that they received more instrumental support than partners thought they personally received, while partners thought they provided more instrumental support than patients thought they personally provided.

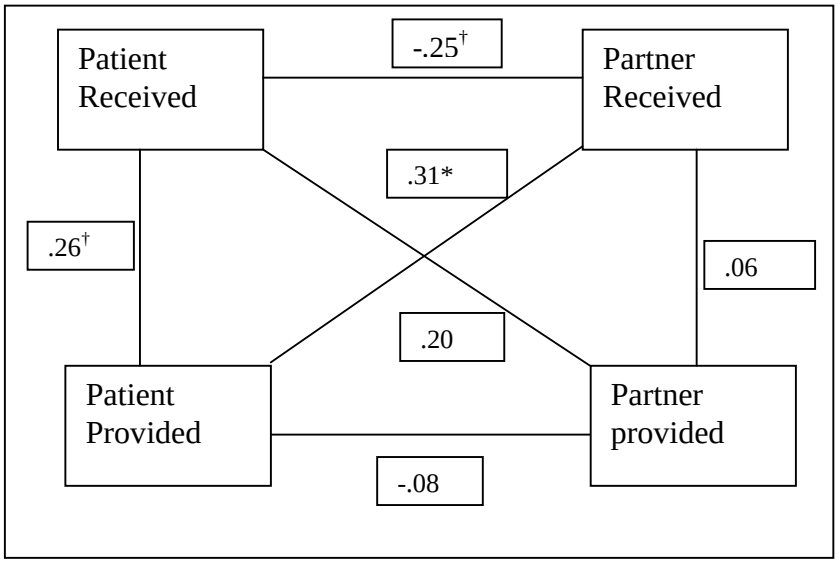

Figure 4. Correlational Analyses of Instrumental Support Provision and Receipt
†$p < .10$. *$p<.05$

Table 8. *Dependent t-tests of Instrumental Support Provision and Receipt*

Pattern a			
	Patients Mean (SD)	**Partners Mean (SD)**	**T value**
Instrumental received by patient and instrumental provided by partner	6.45 (1.57)	5.82 (1.45)	$t(50) = 2.35$, $p < .10$
Instrumental received by partner and instrumental provided by patient	4.94 (1.42)	5.38 (1.57)	$t(46) = 1.75$ *ns*
Pattern b			
	Received Mean (SD)	**Provided Mean (SD)**	
Instrumental received by patient and instrumental provided by patient	6.44 (1.63)	4.98 (1.45)	$t(49) = 5.50$, $p < .05$
Instrumental provided by partner and instrumental received by partner	5.38 (1.60)	5.82 (1.45)	$t(49) = -1.48$ *ns*
Pattern c			
	Patients Mean (SD)	**Partners Mean (SD)**	
Instrumental received by patient and instrumental received by partner	6.41 (1.58)	5.43 (1.58)	$t(48) = 2.75$, $p < .05$
Instrumental provided by patient and instrumental provided by partner	5.00 (1.47)	5.88 (1.47)	$t(47) = -2.81$, $p < .05$

(Bonferroni-Holm procedure to correct for multiple comparisons).

3.2.3 Summary of Hypothesis one

It was expected that there would be moderate levels of agreement between couples with respect to social support. Specifically agreement was expected to be higher for instrumental support than for emotional support. Results demonstrated medium to large sized correlations for emotional support perception. Moreover, t-tests showed that there were no mean differences between the amount of emotional support patients reported providing and partners reported receiving, and vice versa. This indicates that couples generally agreed regarding emotional support exchange. Within couple agreement for instrumental support was not found to be as strong as that shown for emotional support. The relationship between what partners reported providing and what patients reported receiving was weak and non-significant. There was more agreement in terms of what patients reported providing and partners reported receiving. Generally, it appears that within couple agreement was actually

higher for emotional support provision and receipt than for instrumental support as hypothesized.

With respect to the other patterns of correlations and t-tests, the results showed that the correlations for emotional support were generally stronger than for instrumental support: individuals who reported providing high levels of emotional support also provided receiving high levels of emotional support, and when one partner reported receiving and providing high levels of emotional support, the other partner was likely to do so as well. This was generally not the case for instrumental support. With respect to mean differences, patients reported receiving more instrumental support than they provided. Also patients reported receiving more instrumental support and providing less instrumental support than their partners did.

3.3 Hypothesis Two

Correlational analyses were conducted to examine the relationship between the attachment dimensions of avoidance and anxiety with emotional and instrumental support provision and receipt. In addition to this, analyses also investigated the relationship between avoidant and anxious attachment style and support satisfaction (see Table 9).

3.3.1 Avoidant Attachment

In the patient group, correlations for the avoidance dimension did not highlight any significant relationships with the support categories. The only significant relationship found for patient avoidance, was with anxiety, where those who were higher on avoidance were found to be higher on the anxiety dimension (r = .24, p <.10). This relationship between the avoidance and anxiety dimension was also found in the partner group (r = .36, p <.01).

In the partner group, avoidance was found to have a significant negative relationship with emotional support provision (r = -.45, p <.01) and receipt (r = -.37, p <.01), as well as instrumental support receipt (r = -.42, p <.01). This indicates that those who were higher on the avoidance dimension perceived providing less emotional support, and perceived receiving less emotional and instrumental support.

There was no significant relationship between patient or partner avoidance and satisfaction with support.

3.3.2 Anxious Attachment

In the patient group, there was a relationship found between the anxiety dimension and instrumental support receipt (r = .25, p <.10). This relationship was approaching significance, and indicated that those who were higher on the anxiety dimension perceived receiving higher amounts of instrumental support.

In the partner group, anxiety was found to have a significant relationship with emotional support receipt (r = -.40 p <.01). This supports the hypothesis indicating that the more anxious an individual was, the less support they perceived receiving. The relationship between anxiety and emotional support provided was found to be approaching significance (r = -.23 p <.10), indicating that the higher an individual was on the anxiety dimension, the less emotional support they perceived providing.

For patients there was no significant relationship found between anxious attachment and satisfaction with support. There was however, a relationship found for partner anxious attachment and support satisfaction (r = -.46 p <.01). This indicated that individuals who were higher on the anxiety dimension were less satisfied with the support they received.

In addition to the correlations described above, Table 9 includes other noteworthy correlations. In both the patient and partner groups, perception of emotional support provision was found to be significantly correlated with perception of emotional support received, instrumental support provided, and instrumental support received. These correlations indicate that individuals who perceived providing a higher amount of one support type, were also likely to perceive receiving and providing a high amount of the other support types. In addition to this, those individuals who perceived providing and receiving a higher amount of emotional and instrumental support were found to be more satisfied with support overall (with the exception of partner instrumental support provided).

Relationships between the social support measures and attachment on the one hand, and psychological distress on the other hand will be discussed in section 3.2.

3.3.3 Summary of Hypothesis two

It was expected that attachment style would influence how much support individuals reported receiving and providing. Individuals who were more avoidant were expected to report receiving and providing lower levels of support compared to less avoidant patients and partners. Evidence of this was not found in the patient group, however for partners there was support. Those partners who were higher on the avoidance dimension were found to perceive providing less emotional support, and to perceive receiving less emotional and instrumental support.

Individuals who were more anxious were expected to report receiving less but providing more support compared to less anxious patients and partners. Contrary to this prediction, individuals in the patient group who were higher on the anxiety dimension were found to perceive receiving higher amounts of instrumental support. No other significant

results were found for the patient group. In the partner group, those higher on the anxiety dimension were found to perceive receiving less emotional support which was in line with the hypothesis however they were also found to perceive providing less emotional support which is contrary to the hypothesis.

It was expected that those who were higher on either the anxious dimension or the avoidance dimension would be less satisfied with the support they received, regardless of how much they received. Evidence of this relationship was found for partners only. Partners who were higher on the anxious dimension were found to be less satisfied with the support that they received, however, for the avoidance dimension, no significant relationships were found with support satisfaction.

3.4 Hypothesis Three

Hierarchical regression analyses were conducted to investigate the moderating role that attachment style may play between social support received and psychological distress. To investigate the proposed moderation model, predictor variables were entered into the model in a hierarchy to determine if the relation between one predictor variable and psychological distress was influenced by a third (moderating) variable.

Prior to conducting the regressions, correlations between the control variables and predictor variables were examined (refer to Table 6). Results from these correlations indicated that for patients psychological distress was correlated with time since diagnosis and physical wellbeing of the patient, and for partners psychological distress was correlated with age of the partner and physical wellbeing of the partner. These variables were controlled for in the regression analyses by entering them first in the hierarchical regression equations. This ensured any effects of the predictor variables were independent of the control variables.

Table 9. *Patient and Partner zero-order correlations between Attachment style, Social Support provision/receipt, Support Satisfaction and Psychological Distress*

PATIENTS	**Avoidance**	**Anxiety**	**Emotional support provided**	**Emotional support received**	**Instrumental support provided**	**Instrumental support received**	**Support Satisfaction**	**CES-D**
Avoidance	-	.24†	.06	.11	-.11	.14	.15	.07
Anxiety		-	.08	.02	-.01	.25†	.03	.21
Emotional support provided			-	.74***	.52***	.62***	.51***	-.01
Emotional support received				-	.39**	.64***	.63***	-.05
Instrumental support provided					-	.26†	.37**	-.27†
Instrumental support received						-	.58***	.10
Support Satisfaction							-	-.13
CES-D								-

PARTNERS	**Avoidance**	**Anxiety**	**Emotional support provided**	**Emotional support received**	**Instrumental support provided**	**Instrumental support received**	**Support Satisfaction**	**CES-D**
Avoidance	-	.36**	-.45**	-.37**	-.13	-.42**	-.23	.17
Anxiety		-	-.23†	-.40**	-.19	-.19	-.46**	.44**
Emotional support provided			-	.67***	.45**	.48***	.48***	-.31*
Emotional support received				-	.20	.39**	.75***	-.47***
Instrumental support provided					-	.06	.11	-.19
Instrumental support received						-	.44**	-.06
Support Satisfaction							-	-.51***
CES-D								-

$^{\dagger}p < .10$. *$p<.05$. **$p<.01$. ***$p<.001$

CES-D = The Centre of Epidemiologic Studies Depression Scale

A significant correlation was also found in the partner group between psychological distress and whether their partner's cancer had metastasized. However, due to missing values on this variable the N for the regression analyses dropped to 45. The regression analyses for the partner group were run twice, with and without whether or not the cancer had metastasized as a control variable. The outcomes of these two series of regression analyses were virtually identical and it was therefore decided to report the regression analyses without this particular control variable in order to retain as much power as possible.

Variables were entered into the hierarchical regression based upon the hypothesised causal priority. Level one of the model included the control variables as discussed previously. Next the predictor variables were entered. This included attachment style at level two, and social support received or support satisfaction at level three. At level four in the model an interaction term was entered. The interaction consisted of a cross product of the predictor variables entered in that model.

Results for the regression analyses will be described for the patient group and then for the partner group. In describing the results for each group, anxious attachment will be described first, followed by avoidant attachment.

3.4.1 Patients

In predicting psychological distress in patients, time since diagnosis and patient physical wellbeing made a significant contribution. In each regression model (presented in Table 10 & 11), these variables explained 57 – 60% of the variance. Indicating that more recent time since diagnosis and lower physical wellbeing were related to higher psychological distress.

Main effects were found for avoidant attachment and anxious attachment. Avoidant attachment and anxious attachment both yielded a significant (or approaching significance at $p<.10$) beta coefficient in all regression models, explaining an additional 3 - 4% of the variance in each model. This shows that patients who were higher on the avoidance or anxiety dimensions were also higher on psychological distress.

Emotional support received, instrumental support received and support satisfaction did not add a significant amount of variance in any of the models (see also the correlations in Table 9): Psychological distress in patients was unrelated to receiving emotional and instrumental support and satisfaction with support. There were also no significant interaction effects found for patient avoidant attachment or patient anxious attachment with the support variables, all R^2change < .01, ns.

Table 10. *Hierarchical regression of patient avoidant attachment with emotional support, instrumental support and support satisfaction on psychological distress*

		Variables	**B**	**β**	***p***	R^2 Change
Avoidant Attachment	1	Time since diagnosis	-.31	-.20	.04	.58***
& Emotional Support		Physical wellbeing (patient)	-1.10	-.76	.00	
received	2	Avoidant attachment	.25	.21	.03	.04*
(N = 53)	3	Emotional support received	-.32	-.10	.30	.01
	4	Interaction – avoidant attachment	.01	.03	.76	.00
R^2 Total = .63		and Instrumental support received				
		Variables	**B**	**β**	***p***	R^2 Change
Avoidant Attachment	1	Time since diagnosis	-.28	-.19	.06	.57***
& Instrumental		Physical wellbeing (patient)	-1.11	-.80	.00	
Support received	2	Avoidant attachment	.28	.24	.01	.04*
(N = 52)	3	Instrumental support received	-.82	-.14	.15	.02
	4	Interaction – avoidant attachment	.05	.08	.44	.00
R^2 Total = .63		and Instrumental support received				
		Variables	**B**	**β**	***p***	R^2 Change
Avoidant Attachment	1	Time since diagnosis	-.33	-.18	.06	.60***
& Support		Physical wellbeing (patient)	-1.05	-.74	.00	
Satisfaction	2	Avoidant attachment	.24	.20	.05	.03†
(N= 50)	3	Support satisfaction	-1.67	-.13	.20	.02
	4	Interaction – avoidant attachment	.03	.02	.82	.00
R^2 Total = .65		and support satisfaction				

$^{\dagger}p < .10$. *$p<.05$. **$p<.01$. ***$p<.001$. Unstandardized (b) and standardized (beta) coefficients of the final equation are reported.

Table 11. *Hierarchical regression of patient anxious attachment with emotional support, instrumental support and support satisfaction on psychological distress*

		Variables	**B**	**β**	***p***	R^2 Change
Anxious Attachment & Emotional Support received (N = 53) R^2 Total = .65	1	Time since diagnosis	-.33	-.21	.03	.60***
		Physical wellbeing (patient)	-1.04	-.74	.00	
	2	Anxious attachment	.20	.17	.06	.03†
	3	Emotional support received	-.25	-.08	.39	.01
	4	Interaction – anxious attachment and emotional support received	.04	.09	.30	.01
		Variables	**B**	**β**	***p***	R^2 Change
Anxious Attachment & Instrumental Support received (N = 52) R^2 Total = .64	1	Time since diagnosis	-.31	-.20	04	.59***
		Physical wellbeing (patient)	-1.02	-.72	.00	
	2	Anxious attachment	.25	.21	.03	.03*
	3	Instrumental support received	-.79	-.13	.19	.02
	4	Interaction – anxious attachment and instrumental support received	.02	.02	.80	.00
		Variables	**B**	**β**	***p***	R^2 Change
Anxious Attachment & Support Satisfaction (N= 51) R^2 Total = .65	1	Time since diagnosis	-.31	-.17	.07	.60***
		Physical wellbeing (patient)	-1.01	-.79	.00	
	2	Anxious attachment	.20	.16	.08	.03†
	3	Support satisfaction	-1.05	-.08	.40	.01
	4	Interaction – anxious attachment and support satisfaction	.13	.08	.41	.01

†p < .10. *p<.05. **p<.01. ***p<.001 Unstandardized (b) and standardized (beta) coefficients of the final equation are reported.

3.4.2 Partners

In the partner group, correlations indicated that psychological distress was significantly related to emotional support provided and received, as well as support satisfaction (see Table 9). The relationship between psychological distress and instrumental support provision and receipt was not significant however correlations were in the same direction as that found for emotional support. Overall these correlations indicate that lower perception of support provision, receipt or satisfaction in partners was related to higher partner psychological distress. Results of the regressions conducted for the partner group, will also be separated into avoidant attachment (see Table 12) and anxious attachment (see Table 13).

In predicting psychological distress in partners, age of the partner and partner physical wellbeing made a significant contribution. In each regression model, these variables explained 34 – 36% of the variance. Indicating that a younger age, and lower physical wellbeing was related to higher psychological distress in the partner group.

There was a significant main effect for anxious attachment in all of the models indicating that partners who were higher on the anxiety dimension were also higher on psychological distress. Anxious attachment was found to explain an additional 8 – 11% of the variance across all models (see Table 13). Unlike in the patient group, there was no main effect for avoidant attachment. A main effect was found for emotional support when entered into the regression with avoidant attachment (contributing 6% of the variance see Table 12), indicating that those who perceived receiving less emotional support were higher on psychological distress (see also the correlations in Table 9). This effect was not present in the regression with anxious attachment (i.e. emotional support was unable to explain a significant amount of variance in distress over and above the control variables and anxious attachment). There were no main effects for instrumental support in any of the regression models (see also the correlations in Table 9). There was however, a main effect for satisfaction with support. This was found to explain a significant amount of variance in the regressions with anxious attachment (4%) and with avoidant attachment (8%). Overall, those who were higher on support satisfaction were lower on psychological distress.

As can be seen in Tables 12 and 13, there were three interaction effects found for the partner group. First, a significant interaction effect was found between avoidant attachment and support satisfaction (R^2change = .05, $p < .05$). Regression slopes for high and low levels of avoidance and support satisfaction were calculated one standard deviation above and below the mean (West, Aiken & Krull 1996). The interaction is presented in Figure 5 and suggests

that individuals who scored higher on avoidance experienced greater psychological distress when they perceived low support satisfaction, while individuals scoring lower on the avoidance dimension did not appear to be differentially impacted by support satisfaction (scoring at relatively similar levels on the psychological distress scale).

Table 12. *Hierarchical regression of partner avoidant attachment with emotional support, instrumental support and support satisfaction on psychological distress*

		Variables	**B**	**β**	***p***	R^2 Change
Avoidant Attachment & Emotional Support received (N = 48) R^2 Total = .43	1	Age (partner)	-.26	-.28	.03	.35***
		Physical wellbeing (partner)	-1.04	-.37	.01	
	2	Avoidant attachment	.05	.05	.73	.00
	3	Emotional support received	-1.17	-.28	.06	.06†
	4	Interaction – avoidant attachment and emotional support received	-.07	-.14	.27	.02
		Variables	**B**	**β**	***p***	R^2 Change
Avoidant Attachment & Instrumental Support received (N = 48) R^2 Total = .39	1	Age (partner)	-.34	-.37	.00	.37***
		Physical wellbeing (partner)	1.45	-.50	.00	
	2	Avoidant attachment	.16	.12	.39	.01
	3	Instrumental support received	.59	.08	.54	.00
	4	Interaction – avoidant attachment and instrumental support received	-.08	-.10	.40	.01
		Variables	**B**	**β**	***p***	R^2 Change
Avoidant Attachment & Support Satisfaction (N= 49) R^2 Total = .49	1	Age (partner)	-.23	-.24	.04	.36***
		Physical wellbeing (partner)	-1.01	-.37	.00	
	2	Avoidant attachment	.15	.11	.37	.00
	3	Support satisfaction	-3.05	-.27	.03	.08*
	4	Interaction – avoidant attachment and support satisfaction	-.35	-.25	.04	.05*

†$p < .10$. *$p<.05$. **$p<.01$. ***$p<.001$ Unstandardized (b) and standardized (beta) coefficients of the final equation are reported.

Table 13. *Hierarchical regression of partner anxious attachment with emotional support, instrumental support and support satisfaction on psychological distress*

		Variables	**B**	**β**	***p***	R^2 Change
Anxious Attachment	1	Age (partner)	-.20	-.22	.07	.34***
& Emotional Support		Physical wellbeing (partner)	-1.01	-.35	.01	
received	2	Anxious attachment	.32	.23	.06	.08*
(N = 50)	3	Emotional support received	-.78	-.19	.16	.02
	4	Interaction – anxious attachment	-.11	-.22	.05	.05*
R^2 Total = .49		and emotional support received				
		Variables	**B**	**β**	***p***	R^2 Change
Anxious Attachment	1	Age (partner)	-.27	-.29	.02	.36***
& Instrumental		Physical wellbeing (partner)	-1.33	-.46	.00	
Support received	2	Anxious attachment	.51	.35	.01	.11**
(N = 48)	3	Instrumental support received	.66	.10	.42	.01
	4	Interaction – anxious attachment	-.03	-.03	.79	.00
R^2 Total = .48		and instrumental support received				
		Variables	**B**	**β**	***p***	R^2 Change
Anxious Attachment	1	Age (partner)	-.20	-.21	.06	.34***
& Support Satisfaction		Physical wellbeing (partner)	-1.01	-.35	.00	
(N= 50)	2	Anxious attachment	.21	.15	.22	.08*
	3	Support satisfaction	-2.35	-.21	.10	.04†
R^2 Total = .53	4	Interaction – anxious attachment	-.34	-.28	.02	.07*
		and support satisfaction				

†$p < .10$. *$p<.05$. **$p<.01$. ***$p<.001$ Unstandardized (b) and standardized (beta) coefficients of the final equation are reported.

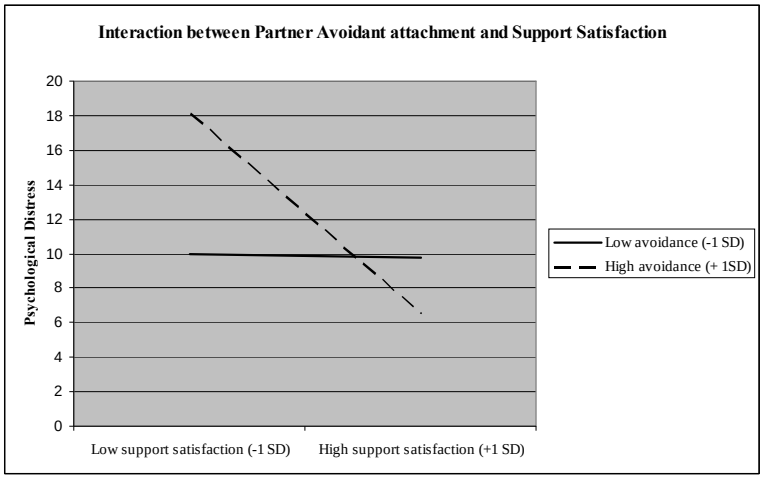

Figure 5. Interaction between partner avoidant attachment and support satisfaction. Regression line plotted one standard deviation above and below the mean for avoidance and support satisfaction.

There were also significant interactions between anxious attachment and emotional support received (R^2change = .05, $p < 05$) (see Figure 6), and between anxious attachment and support satisfaction (R^2change = .07, $p < .05$) (see Figure 7). These interactions suggest that individuals who scored higher on the anxiety dimension and perceived low emotional support or low support satisfaction experienced higher psychological distress. Individuals, who scored lower on the anxiety dimension, did not appear to be differentially impacted by support perception (scoring at relatively similar levels on the psychological distress scale).

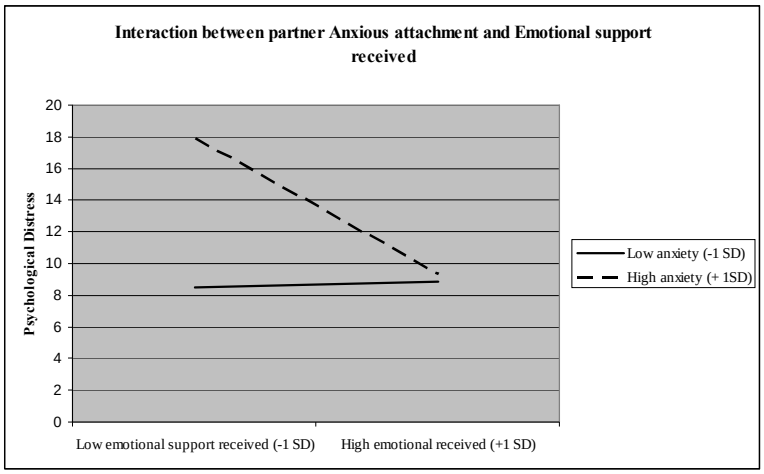

Figure 6. Interaction between partner avoidant attachment and emotional support received. Regression line plotted one standard deviation above and below the mean for anxiety and emotional support received.

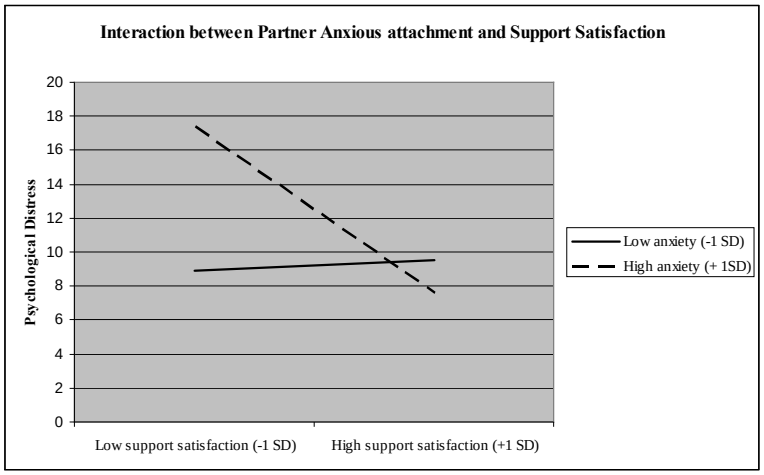

Figure 7. Interaction between partner anxious attachment and support satisfaction. Regression line plotted one standard deviation above and below the mean for anxiety and support satisfaction

3.4.3 Summary of Hypothesis Three

Attachment style was expected to play a moderating role between social support perception and depression. Specifically, highly anxious participants were not expected to benefit from receiving social support, while highly avoidant participants were not expected to be hurt by low levels of social support. In the patient group there were no relationships found between social support (emotional or instrumental) and psychological distress. In the partner group, there was a relationship between emotional support received and psychological distress but not for instrumental support and psychological distress.

3.4.3.1 Avoidant Attachment

In both the patient and partner groups, there were no significant interaction effects found for avoidant attachment and social support received on psychological distress. Of particular importance was the finding that avoidant attachment style did not moderate the relationship between partner emotional social support receipt and psychological distress.

There was however a significant interaction found for partner avoidant attachment and support satisfaction on psychological distress. This interaction suggests that individuals who were high on the avoidance dimension were more vulnerable to psychological distress when support satisfaction was low. Those who scored lower on the avoidance dimension did not appear to be differentially impacted by support satisfaction (scoring at relatively similar levels on the psychological distress scale).

3.4.3.2 Anxious Attachment

In the patient group, there were no significant interaction effects found for anxious attachment and social support received on psychological distress.

Significant interactions were found in the partner group. Those who were higher on the anxiety dimension experienced greater psychological distress when they perceived low emotional support or had lower support satisfaction. Individuals that were lower on the anxiety dimension did not appear to experience variations in psychological distress as a function of emotional support or support satisfaction.

3.5 Exploratory Analyses

In addition to the analyses described above, a number of additional exploratory analyses were conducted. These analyses were run to investigate the involvement of other variables, after finding limited support for the original hypotheses (particularly in the patient group).

As a result of physical wellbeing and time since diagnosis explaining so much of the variance in the patient regressions, a decision was made to re-run the regression analyses for patients without controlling for these variables. However, these analyses did not provide any additional significant findings and are therefore not reported in more detail.

Previous research has suggested the importance of relationship satisfaction when considering psychological distress. Although the direction of this relationship is controversial, lower relationship satisfaction and increased psychological distress are found to be related (Beach, Katz, Kim & Brody 2003; Fincham, Beach, Harold & Osborne 1997). For this reason, analyses were conducted controlling for relationship satisfaction. No significant interactions or main effects for social support were found in the patient regression analyses. For the partner group, main effects and interaction effects with attachment were virtually identical to those described previously.

Research indicates that an individual's level of psychological distress and wellbeing may also be influenced by their perception of the support they provide (Kleiboer et al. 2006). For this reason, the regression analyses were run again including support provision as the support variable instead of support receipt. Providing emotional support was found to be unrelated to psychological distress in patients (see also the correlations in Table 9). Although the correlation between providing instrumental support and psychological distress in patients was marginally significant (see Table 9), the relationship disappeared after controlling for physical impairment and time since diagnosis. No interaction effects were found.

There were however significant findings for the partner group. Providing emotional support was found to be significantly related to psychological distress in partners (see Table 9). Regression analyses indicated a main effect for anxious attachment (contributing 8% of the variance see Table 14), indicating that those who were higher on the anxiety dimensions were also higher on psychological distress. There was a significant interaction between anxious attachment and emotional support provision (R^2change = .07, $p < 05$), regression slopes for high and low levels of anxiety and emotional support provision were calculated one standard deviation above and below the mean. The interaction is presented in Figure 8 and indicates that individuals who were high on the anxiety dimension and perceived providing a low amount of emotional support, experienced higher psychological distress, than those who perceived providing a high amount of emotional support. Individuals who were low on the anxiety dimension experienced lower psychological distress overall than those who were high on the dimension. When individuals perceived providing a high amount of emotional support, the high and low anxiety dimensions scored at relatively similar levels on the psychological distress scale.

Table 14. *Hierarchical regression of partner anxious attachment with emotional support provided on psychological distress.*

		Variables	**B**	**β**	***p***	R^2 Change
Anxious attachment	1	Age (partner)	-.23	-.25	.03	.34***
& Emotional support		Physical wellbeing (partner)	-1.23	-.43	.00	
provided	2	Anxious Attachment	.43	.32	.01	.08*
(N = 51)	3	Emotional Support provided	-.12	-.03	.83	.00
	4	Interaction – anxious attachment	-.14	-.27	.02	.07*
R^2 Total = .49		and emotional support provided				

*p<.05. ***p<.001 Unstandardized (b) and standardized (beta) coefficients of the final equation are reported.

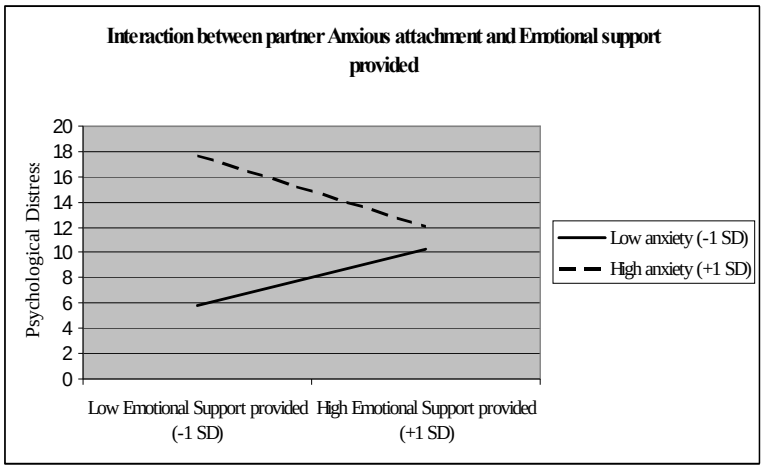

Figure 8. Interaction between partner anxious attachment and emotional support provided. Regression line plotted one standard deviation above and below the mean for anxiety and support satisfaction

The relationship between providing instrumental support and psychological distress in partners was not significant (see Table 9), however, in terms of avoidant attachment and instrumental support provision, there was a significant interaction (R^2change = .06, p < 05) (see Table 15). The interaction is presented in Figure 9 and indicates that individuals who were high on avoidance and perceived providing a low amount of instrumental support, experienced higher psychological distress than those who were high on the dimension but perceived providing a high amount of instrumental support. Individuals who were low on the avoidance dimension experienced lower psychological distress overall than those who were

high on the dimension, and showed little variation in psychological distress across high and low support provision.

Table 15. *Hierarchical regression of partner avoidant attachment with instrumental support provided on psychological distress.*

		Variables	**B**	**β**	***p***	R^2 Change
Avoidant attachment	1	Age (partner)	-.34	-.37	.00	.35***
& Instrumental		Physical wellbeing (partner)	-1.42	-.50	.00	
support provided	2	Avoidant Attachment	.08	.06	.60	.00
(N = 49)	3	Instrumental support provided	-.91	-.12	.32	.01
	4	Interaction – avoidant attachment	-.22	-.25	.04	.06*
R^2 Total = .42		and instrumental support provided				

*p<.05. ***p<.001 Unstandardized (b) and standardized (beta) coefficients of the final equation are reported.

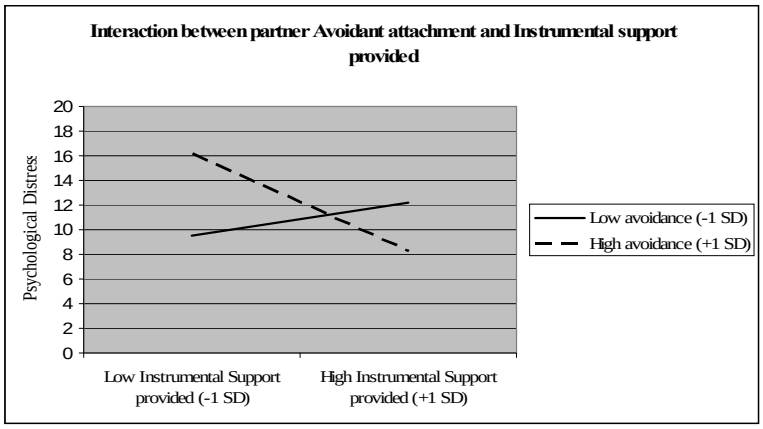

Figure 9. Interaction between partner avoidant attachment and instrumental support provided. Regression line plotted one standard deviation above and below the mean for anxiety and support satisfaction

Finally, there is some research that suggests that physical well-being may moderate the relationship between receiving support and psychological distress (Kuijer et al., 2001; Hagedoorn et al., 2000) in such a way that patients benefit more from receiving social support when they are highly physically impaired compared to when they do not experience much physical impairment. However, no significant interactions between receiving emotional or instrumental support and physical wellbeing were found in the current study.

4 Discussion

This investigation tested several hypotheses regarding the relationship between social support, attachment style and psychological distress in spouses coping with a cancer diagnosis. The study aimed to investigate how social support (emotional and instrumental) and attachment style dimensions (avoidant and anxious) may relate to each other, as well as how they may contribute to psychological distress in couples coping with a cancer diagnosis.

4.1 Social Support

Earlier research has indicated moderate agreement between spousal perceptions of emotional support provision and receipt (Abbey et al., 1995). Therefore, it was hypothesised that in the current research, there would be moderate agreement for emotional support exchange within couples coping with a cancer diagnosis. There is limited research describing spousal agreement for instrumental support exchange. Based on findings that indicate higher agreement for enacted support than perceived support (Cohen et al., 2005), and because instrumental support is more visible in nature compared to emotional support (e.g., provision of physical assistance), agreement was expected to be higher for instrumental support exchange than for emotional support.

In line with previous research, findings in the current study indeed revealed moderate levels of agreement for emotional support exchange within couples. Overall, there was an association found for emotional support provision and receipt across couples. Couples tended to agree in terms of provision and receipt. In addition those who perceived receiving higher amounts of emotional support tended to perceive providing more, and had partners who received and provided higher amounts of emotional support. It is suggested that the high correlations both between and across individuals may reflect personality factors such as

optimism or a need for equity within the relationship, resulting in couples perceiving higher, and more similar levels of emotional support provision and receipt (Abbey et al., 1995).

Contrary to predictions however, agreement for instrumental support was generally weak and weaker than for emotional support. There are a number of possibilities as to why agreement was higher for emotional support exchange compared to instrumental support exchange. Researchers have suggested that emotional support is valued most by cancer patients (Manne et al., 1999; Hunter et al., 2006). If patients and partners value emotional support more than instrumental support, they may be more aware of it, and therefore have higher agreement regarding the amount of emotional support that they exchange. Another possible reason for higher agreement regarding emotional support could be that patients and partners are both equally likely to engage in provision and receipt of this type of support. This was supported in the current findings with non-significant differences between support received by patients and partners and between support provided by patients and partners.

In contrast, research indicates that during an illness, instrumental support is more likely to be provided by partners and received by patients who may be experiencing functional impairment (Kleiboer et al., 2006). Indeed, this was supported in the current study, with patients reporting that they received more instrumental support than partners reported receiving, and partners reporting that they provided more instrumental support than patients reported providing. Compared to emotional support, there was clearly much less of an equal exchange of instrumental support. Because of the nature of the situation (patient sick with cancer), it is possible that patients and partners may have started to misconstrue the amount of support that they were receiving and providing. Patients were likely to have noticed a huge change in their ability to function independently as they had done in the past. It is possible therefore, that based on their increased need for practical assistance, patients may have started to under-estimate the amount of instrumental support they actually received. In terms of the

partner group, they would also have experienced a large shift from providing minimal practical assistance, to providing much larger amounts. Partners therefore, may have started to overestimate the amount of support they were providing, as it would have felt like so much more than they were used to. If patients and partners were under or overestimating the amount of instrumental support they exchanged, this may help to account for the lack of agreement in instrumental support exchange.

In terms of satisfaction with social support overall, patients and partners who perceived providing and receiving higher amounts of emotional and instrumental support also tended to be more satisfied with the support they received. This is to be expected. If a person perceives providing and receiving more support, they are likely to feel that their needs are being met, and that they are meeting their partners needs, therefore leading to a greater sense of satisfaction.

4.1.1 Summary

Overall, high agreement was found within couples for emotional support provision and receipt, however agreement for instrumental support was generally weak and weaker than for emotional support. Patients and partners who perceived exchanging higher amounts of support were also more satisfied with the support they received.

4.2 Attachment

The current study also investigated how attachment style may influence social support perception. Previous research has indicated that those with insecure attachment styles (highly avoidant or highly anxious) have a tendency to perceive less available support and to be less satisfied with the support they receive (Florian et al., 1995; Ognibene & Collins, 1998;

Rodkin et al., 2007; Collins & Feeney, 2000). Based on these findings, hypotheses were made regarding the specific patterns expected for avoidant attachment and anxious attachment in regard to social support perception. Individuals characterised by highly avoidant attachment styles are found to be less sensitive to their partners needs, and to have a preference for self-reliance (Feeney & Collins, 2001; Simpson et al., 1992), therefore it was hypothesised that they would report receiving and providing lower levels of support compared to less avoidant patients and partners. In relation to those individuals who were high on the anxiety attachment dimension, it was expected that they would perceive receiving less support (as no amount would meet their anxious needs), but providing more support (as they have a tendency to be over-involved) compared to less anxious patients and partners (Feeney & Collins, 2001). In terms of satisfaction with support, it was expected that patients and partners who were higher on the avoidance dimension or the anxious dimension would be less satisfied with the support they received, regardless of how much they received.

4.2.1 Patient group

In the patient group, there were generally no relationships found between insecure attachment style (avoidant or anxious) and social support perception. This indicates that at least for the patient group, attachment style does not appear to be related to the perception of social support provision and receipt or to social support satisfaction. Given that an individual's attachment system is expected to be most influential during times of adversity, stress or when threatened by separation (such as during an illness), these results are surprising. Previous research has indicated that individuals characterised by an insecure attachment style will perceive lower levels of social support to be available from others, will seek less support in times of need, and will be less satisfied with the support they receive (Florian et al. 1995; Simpson et al., 2002; Hunter et al., 2006; Collins & Feeney, 2004). In

the current study, this pattern of results was not observed in the patient group. It is possible that for the patient group, the experience of 'cancer' was over-riding the effect of attachment. In this sense, issues related to the cancer diagnosis, cancer treatments and prognosis may have been more influential and resulted in a lack of attachment effects in the current study.

4.2.2 Partner group

Despite a lack of findings for the patient group, in the partner group relationships were found between attachment style and social support perception. In line with predictions, those higher on the avoidance dimension perceived providing less emotional support and receiving less emotional and instrumental support. These results are in line with the literature that suggests those who are characterised by a highly avoidant attachment style have a restricted awareness of their feelings (Priel & Shamai, 1995), lack sensitivity to their partners needs, and prefer to be self-reliant during times of need. This includes both seeking less support when distressed, as well as offering less support when partners are distressed (Simpson et al., 2002; Mikulincer et al., 1993; Simpson et al., 1992).

Partners who were higher on the anxiety dimension displayed results that were only partially in line with predictions. As was expected, those who were higher on the anxiety dimension perceived receiving less emotional support than those who were lower on the anxiety dimension. Highly anxious attachment styles are associated with hypervigilance to negative feelings experienced and an exaggeration of adversities as threatening. As a result, these individuals have a tendency of never perceiving enough available support to meet their needs (Priel & Shamai, 1995; Simpson & Rholes, 1998). Contrary to predictions, those who were higher on the anxiety dimension perceived providing less emotional support than individuals who were lower on anxiety, although this relationship was only marginally significant. A possible explanation for this finding, may be a tendency of anxious individuals

to be extremely self-critical (Zuroff & Fitzpatrick, 1995). It may be that rather than perceiving that they provide an excess of support to others, they may hold themselves to unrealistic standards, and therefore perceive the amount of support they provide as not being enough.

As expected, partners who were higher on either the avoidant or anxious dimensions were also found to have lower support satisfaction. Specifically, highly anxious partners were found to be less satisfied with support provision, and although the relationship between avoidant partners and support satisfaction was not significant, it was in the hypothesised direction. This is in line with research that shows insecure adults experience a greater discrepancy between what they report to require in terms of support, and what they perceive that they receive (Collins & Feeney, 2004). Low support satisfaction may have been related to an individual's perception of either receiving too much support so that it was intrusive, or not receiving enough support. For individuals who were high on the avoidance dimension, it is possible that given their preference for self-reliance, a perception of too much support provision resulted in their dissatisfaction. In contrast, for individuals high on the anxiety dimension, it is more likely that a perception of not enough support contributed to their dissatisfaction with support.

4.2.3 Summary

In the patient group, attachment style was not related to social support perception. However, generally predictions for the partner group were upheld. Those who were higher on the avoidance dimension perceived providing less emotional support and receiving less emotional and instrumental support. Partners who were higher on the anxiety dimension

perceived receiving less emotional support and providing less emotional support. Overall partners who were more avoidant or anxious also had lower support satisfaction.

4.3 Social support receipt, Attachment and Psychological Distress

Individuals diagnosed with cancer and their spouses are vulnerable to psychological distress (see Hagedoorn et al. 2008 for a review of psychological distress in couples coping with cancer). Despite this, not all individuals experience the same level of distress, and research has investigated factors that may reduce distress, such as provision and receipt of social support. Although support is beneficial, not all individuals benefit from social support in the same way. Therefore, researchers have suggested that attachment style may influence the way individuals experience support provision (Simpson et al., 2003; Hunter et al., 2006; Priel & Shamai 1995; Moreira et al. 2003). Based on this suggestion, it was hypothesised that attachment style would play a moderation role between social support perception and psychological distress in couples coping with cancer.

4.3.1 Patient group

In the patient group, social support receipt was not related to patient levels of psychological distress. There was also no moderator relationship for attachment style between social support receipt and psychological distress in the patient group. Within the regression analyses, approximately 60% of the variance in psychological distress was found to be explained by time since diagnosis and particularly by the patient's physical condition. This suggests that following a cancer diagnosis, social support may not have such a large influence on patient psychological distress, but factors such as physical side effects and treatment considerations may be more influential.

Although many studies report the benefits of social support receipt for reducing psychological distress, there is also previous research that has failed to find a significant relationship in patients. A study conducted with patients following cardiac surgery found poorer functional status predicted higher mood disturbance, while there was no relationship between social support and mood disturbance (Rankin & Monahan, 1991). The authors of this study suggest that poor health status had such a large influence on the patient's mood that even high levels of social support were not able to have an impact on the patient's mood state. In other research undertaken with cancer patients, the number of patient general health complaints was found to mediate the relationship between social support and depressive symptomatology (De Leeuw et al., 2000). The study found that social support did not affect depressive symptomatology in patients with many physical complaints, while those with fewer health complaints appeared to benefit more from support. Both of these studies support the current findings, in that the patient's physical status was found to be more important in relation to psychological distress than social support factors were.

In a study undertaken with breast cancer patients, the authors focused on well-being (quality of life and self-efficacy) rather than psychological distress (Arora et al., 2007). This study also found no association between receipt of support and emotional well-being. Participants for this study were recruited during the first six months following diagnosis, the authors therefore suggest that given the high level of distress experienced during this six month period (close to diagnosis), the relationship between emotional wellbeing and support received may not be linear. For patients coping with a cancer diagnosis, there is wide variation in the process of diagnosis, and treatment phases. Although the previous study describes the first six months as being potentially very distressing, cancer patients receive treatments and are likely to experience distress for much longer than six months following diagnosis. In the current study, the mean time since diagnosis was 9.38 months, this may

indicate that even after 6 months following diagnosis patient's psychological distress may be more influenced by factors other than social support receipt (such as their physical condition). It is also likely that following a diagnosis of cancer, and during the treatment phases, patients have many issues to contend with, and therefore have limited cognitive resources to consider provision of support. If patients are consumed by the diagnosis of cancer and its associated features, they may not be so aware of support receipt, and therefore may be less likely to experience psychological distress related to it.

An additional finding from the Arora and colleagues study was that support from family members was less frequently associated with patient outcomes such as an increase in well-being, compared to support from friends and health care professionals. This is important to consider in relation to the current research which focused on family members (partners) to provide support. The authors suggest that patients may have an expectation of unconditional support from family, while they may desire support from others but not necessarily expect it. Therefore, when receiving support from family they may not experience positive outcomes (because it is expected) while support from others is experienced as a type of 'bonus' leading to more positive patient outcomes. This finding could indicate that in the current research with couples, patients may have had an 'expectation' for support, which meant that there was a limited effect of support on psychological distress levels.

In another study that also found social support was unrelated to changes in patient distress, the authors suggest supportive acts may cancel each other out (Bolger et al. 1996). Based on the idea that support can be perceived in positive (e.g., I am cared for) and negative ways (e.g., over-riding their autonomy), the authors suggest the lack of relationship may be a result of some support attempts being effective (increasing mood) and others being detrimental (decreasing mood) thereby effectively cancelling each other out.

Finally, equity theory may also help to provide some answers for the lack of relationship between patient social support receipt and psychological distress. According to equity theory, if one partner feels they are giving less than they are providing they may feel guilt associated with the support that they receive (Liang et al., 2001). In terms of the current findings, it may be that when patients received social support they were in two minds about it. On the one hand they may have felt guilty about not providing enough support to their partner, however, on the other hand, they may have realised their overriding need for it. Overall, this may have balanced out and may explain the lack of relationship in this study.

Taken together, findings of the current research, and that from previous research, indicate that cancer patient's psychological distress may be governed more strongly by factors other than social support.

4.3.2 Partner group

In contrast to the patient group, and in line with expectations, findings indicated a relationship for the partner group between emotional support receipt and psychological distress. Those who received less emotional support or had lower support satisfaction were found to experience higher psychological distress. These results support the literature, which has indicated that partners of those diagnosed with cancer are vulnerable to psychological distress related to social support exchanges (Baider et al. 2003). In addition to social support, other variables were also found to influence psychological distress in the partner group. Higher attachment anxiety was found to be related to higher psychological distress. This supports research, which has indicated that those with an insecure attachment style, and particularly those characterised as having an anxious attachment are at greater risk of experiencing depressive symptoms than those who are characterised as secure (Simpson et al.,

2003). Other factors found to predict higher psychological distress in partners were, younger age of the partner and lower physical wellbeing of the partner.

Results also indicated a moderator relationship in the partner group, where attachment style was found to moderate the relationship between social support receipt and psychological distress. As expected, partners who were higher on the avoidance or anxiety dimensions experienced higher psychological distress when support satisfaction was low. In support of the earlier suggestion that anxious individuals would not perceive receiving enough support thereby resulting in dissatisfaction, those who were higher on the anxiety dimension also experienced higher psychological distress when they perceived receiving low emotional support.

An important finding in the current research was that partners who were lower on the avoidance and anxiety dimensions (secure attachment) did not appear to experience variations in psychological distress as a function of support perception. Individuals characterised by a secure attachment are characterised by a tendency to look to others for support, and to be more satisfied with that support (Priel & Shamai, 1995; Florian et al., 1995). It is clear then how these characteristics would make secure individuals less vulnerable to psychological distress related to support perception.

In considering that most of the results described were found in the partner group, some additional differences are important to note. Although there was not a significant difference in the base-rates of psychological distress between the patient and partner groups, partners were shown to be significantly higher on the anxiety dimension than patients. Given that an anxious attachment style is associated with greater depressive symptomatology (Simpson &

Rholes, 2004), this may have left the partner group more vulnerable to experiencing psychological distress in the presence of additional factors such as support dissatisfaction.

4.3.3 Summary

For patients, social support receipt was not related to patient levels of psychological distress, and attachment did not moderate this relationship. Patient's psychological distress is therefore suggested to be more influenced other factors such as the patient's physical condition. In the partner group, a relationship was found between support receipt and psychological distress. In addition to this, attachment style also moderated the relationship between partner social support receipt and psychological distress. These results indicate the importance of support receipt and attachment for partners of those with cancer diagnosis, while highlighting that patient psychological distress may be more complex.

4.4 Social support provision, Attachment and Psychological Distress

Research has provided evidence that provision of support may be rewarding and therefore influence psychological wellbeing (Kleiboer et al., 2006; Liang et al., 2001). In the current study, there was no relationship found between support provision and psychological distress in the patient group, however, in line with expectations, partners who provided more emotional support experienced lower psychological distress. The possible moderation role of attachment on support provision and psychological distress was also investigated. There was no moderation relationship found for patients, however, once again there were findings for the partner group. Partners who were higher on the anxiety dimension and perceived providing lower amounts of emotional support, or higher on the avoidance dimension and perceived providing a lower amount of instrumental support, experienced higher psychological distress. Insecure individuals are found to lack sensitivity to their partner's needs, and to have a lack of

knowledge about how to provide the necessary support to their partner (Feeney & Collins, 2001; Feeney & Hohaus, 2001). Paired with a higher underlying vulnerability to experiencing psychological distress (Simpson et al., 2003), it is possible that when insecure individuals felt they were not providing high amounts of support to their partner, they became distressed. In contrast, when partners perceived providing a high amount of emotional or instrumental support, the high and low anxiety/avoidance dimensions scored at relatively similar levels on the psychological distress scale. This indicates that when insecure individuals felt they were providing more support, they were less likely to experience subsequent distress. It is interesting that once again, results were only found for the partner group. A possible reason for this may be that for patients there was less expectation to provide support, whereas for partners they felt pressure to support their partner through their illness. As has been described, partners are often the predominant source of support within intimate relationships. If insecure partners did not think they were living up to support expectations, they may have been more vulnerable to psychological distress.

4.4.1 Summary

For patients, social support provision was not related to patient levels of psychological distress, and attachment did not moderate this relationship. In the partner group, a relationship was found between support provision and psychological distress, and attachment style moderated this relationship. Generally, those partners who were higher on the insecure dimensions and perceived providing lower amounts of support, experienced higher psychological distress.

4.5 Strengths and Limitations

Before discussing the implications of this research, it is important to consider the strengths and limitations of the study.

4.5.1 Strengths

In terms of the sample characteristics, both the patient and partner groups showed a good representation of ages (ranging from individuals in their twenty's up to those in their seventies and eighties), employment and education status, as well as an even distribution of males and females in each group. Another strength of the sample population was that it was drawn from the community, making it more generalisable than previous attachment research, which as often been conducted with student samples. Unlike previous research, this study focused on patient and partner support exchange. This is a strength, as much of the previous literature has tended to focus predominantly on partner to patient provided support, neglecting patient provided support. The current research also focused on the presence of psychological distress in partners of those with cancer, rather than only looking at psychological distress in patients, as has been the case in much of the previous literature. As was indicated in the current research, there are likely to be different factors which are more or less important and contribute to psychological distress in partners compared to patients. This makes it extremely important to focus research on both groups, and not to generalise between them. Finally, another strength of the current research was the differentiation of social support into both emotional and instrumental support. Much of the previous research has either focused exclusively on emotional support ignoring instrumental support completely, or it has grouped the two support types together and simply labelled them emotional support. Differentiation of emotional and instrumental support allows for more specific findings on the relative implication of each support type.

4.5.2 Limitations

In terms of the limitations of this research, the overall sample size was smaller than ideal. This meant that a limited number of variables were able to be entered into the regression models. In addition to this, because of the small sample size, the study was limited in its ability to look at sex differences between attachment, social support and psychological distress. Despite this limitation, correlations suggested that few sex differences existed within either the patient or partner samples.

Other limitations of the sample were related to the cancer status of the patient group. All patients had been diagnosed and/or received cancer treatment within the previous 12 months before participation, and there was no stipulation regarding cancer type. This means that application of the results to cancers of longer duration and to specific diagnoses may not be advisable. It is also unclear how results would generalise to illnesses other than cancer. In addition to this, it is likely that those who agreed to participate in the study were experiencing a less severe cancer experience, making them more willing to participate. This limits generalisation to individuals who are experiencing more severe difficulties, thus may be experiencing higher psychological distress also. Another limitation of both the patient and partner group's was an under-representation of ethnic minority groups. Most participants were of New Zealand European decent, making generalisability to other ethnicities limited. In terms of relationship duration, most individuals were in a long-term relationship (mean length (22years), it would be interesting to see if the same pattern of results is found in relationships which are shorter in duration.

The design of this research also raises some limitations. The cross-sectional design and correlational analyses limit ones ability to make causal conclusions. In addition to this, it is difficult to draw information about how psychological distress may vary over time and across different stressful periods when social support and attachment style may be more or

less important. It is also limited by the fact that all data was collected via a self-report questionnaire format, allowing for the possibility of socially desirable answering. In addition to this, the questionnaire only included one item measuring support satisfaction, future research should include multiple support satisfaction items to gain a better understanding of this concept and how it relates to the variables being tested. When interpreting the results of this study, it is important to consider the low reliability coefficient found for the partner anxiety dimension of the AAQ.

4.6 Implications

4.6.1 Clinical Implications

Results from this research indicate the importance of considering partners of those diagnosed with cancer. Despite expectations that patients and partners would show similar patterns of results, partners were found to be more influenced by social support and attachment related factors. The implication of this is that interventions involving cancer patients and their partners need to be targeted at the different needs of each partner. Clearly partners are vulnerable to psychological distress, and in relation to social support deficiencies they may be at an even higher risk of distress. If individuals who are vulnerable to support difficulties can be identified (e.g., those with highly avoidant or anxious attachment styles) subsequent psychological distress may be minimised. In contrast, interventions targeted at psychological distress in cancer patients may need to target other factors such as distress associated with physical impairment.

4.6.2 Implications for future research

Future research is needed to confirm the results found in this study. Research undertaken with a larger sample size would increase statistical power allowing for improved

detection of interaction effects, and exploration of the interactions found in this study. Future research should also consider specifying cancer diagnoses and looking at cancers of longer duration (i.e., not just diagnosed/treated in the previous year). Research undertaken with a longitudinal design, would also allow for more causal conclusions to be made.

This study is one of very few that has considered attachment style within a population of cancer patients and their partners. Results indicated the importance of attachment in relation to social support and psychological distress. Future research should further investigate how these factors relate, and the implications of this within cancer research.

Overall results were most evident within partners of those diagnosed with cancer. This is important, as much of the previous research done in the area of cancer has neglected to look at partners. Results from this study have clearly indicated that partner's psychological distress may be even more related to factors such as social support receipt and attachment than patient's psychological distress is. Therefore, there is a need for future research to consider partners in greater detail. Based on the lack of findings for the patient group, future research should consider factors related to patient psychological distress in more detail.

4.7 Conclusion

Previous research has found that cancer patients and their partners are vulnerable to psychological distress following the cancer diagnosis. This study has indicated that when investigating psychological distress in cancer patients and their partners, different factors are important for each group. Partner's psychological distress was related to social support perception and attachment style, while for cancer patients, other factors such physical wellbeing were more important.

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Appendices

Appendix A

Information form – Christchurch residents

INFORMATION ABOUT THE STUDY

RESEARCH PROJECT "COUPLES COPING WITH CANCER: THE IMPACT OF CANCER ON THE INTIMATE RELATIONSHIP"

Research aim

When one member of a couple develops a serious illness such as cancer, the lives of both partners are likely to be substantially affected. In addition, the relationship between both partners may change as a result of the illness. The aim of this project is to study the impact cancer has on the intimate relationship. This research will contribute to our knowledge about how couples cope with a serious illness and may aid practitioners working with cancer patients and their partners (for example, therapists, and social workers) to help them deal with the illness in the future. At present not much is known about how couples cope with cancer together and how their relationship is affected by the illness. Your participation in this study is of great importance and would be greatly appreciated.

Study requirements and procedure

We are looking for people who have been diagnosed with cancer (first diagnosis) within the past 12 months and/or are currently receiving treatment for cancer, and who would be willing to participate in the present study together with their spouse or partner. If you and your spouse/partner agree to participate in this study, you will both be asked to fill out questionnaires at 4 points in time over the next 4 months. In these questionnaires, questions will be asked about your relationship (e.g., relationship satisfaction, changes in the relationship since the onset of the illness, give and take of social support) and your health and well-being.

The 1st questionnaire will take about 40 to 45 minutes to complete, the 2nd and 3rd questionnaire will take about 10 to 15 minutes to complete, and the last questionnaire will take approximately 25 to 30 minutes to complete.

The 1st questionnaire will be delivered to you by Bronwyn Trewin, research assistant on this project. She will explain the format of the questionnaires to you and will be happy to answer any queries or concerns that you may have. The 2nd, 3rd and 4th questionnaire will be sent to you by mail, at intervals of 4 weeks. Stamped return envelopes will be included every time to send the completed questionnaires back to us.

As a token of our appreciation you and your partner will each receive a $15 gift voucher of your choice (e.g. petrol voucher, grocery voucher, Westfield shopping mall gift voucher) after we receive your 1st questionnaire back and another $20 gift voucher each after completion of all the questionnaires.

The results of the study will be published in scientific journals, but you may be assured of the complete confidentiality of data gathered in the study. Thus, participation is anonymous. At any time during the study, you have the right to withdraw your participation and any information provided.

This study is being carried out by Dr Roeline Kuijer who works at the Department of Psychology, University of Canterbury. She can be contacted by phone at (03) 364 2987 ext 3401 or email roeline.kuijer@canterbury.ac.nz. She will be pleased to discuss any concerns you may have about participation in the study.

It is not anticipated that participation in this study will involve any risk to you. However, if at any time during participation in this study you experience distress of any kind and would like to talk to someone about your experiences, please contact Dr Roeline Kuijer for advice regarding psychological assistance or other forms of assistance.
The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

Appendix B

Information form – Non-Christchurch residents

INFORMATION ABOUT THE STUDY

RESEARCH PROJECT "COUPLES COPING WITH CANCER: THE IMPACT OF CANCER ON THE INTIMATE RELATIONSHIP"

Research aim

When one member of a couple develops a serious illness such as cancer, the lives of both partners are likely to be substantially affected. In addition, the relationship between both partners may change as a result of the illness. The aim of this project is to study the impact cancer has on the intimate relationship. This research will contribute to our knowledge about how couples cope with a serious illness and may aid practitioners working with cancer patients and their partners (for example, therapists, and social workers) to help them deal with the illness in the future. At present not much is known about how couples cope with cancer together and how their relationship is affected by the illness. Your participation in this study is of great importance and would be greatly appreciated.

Study requirements and procedure

We are looking for people who have been diagnosed with cancer (first diagnosis) within the past 12 months and/or are currently receiving treatment for cancer, and who would be willing to participate in the present study together with their spouse or partner. If you and your spouse/partner agree to participate in this study, you will both be asked to fill out questionnaires at 4 points in time over the next 4 months. In these questionnaires, questions will be asked about your relationship (e.g., relationship satisfaction, changes in the relationship since the onset of the illness, give and take of social support) and your health and well-being.

The 1st questionnaire will take about 40 to 45 minutes to complete, the 2nd and 3rd questionnaire will take about 10 to 15 minutes to complete, and the last questionnaire will take approximately 25 to 30 minutes to complete. The questionnaires will be sent to you by mail, at intervals of 4 weeks. Stamped return envelopes will be included every time to send the completed questionnaires back to us.

As a token of our appreciation you and your partner will each receive a $15 gift voucher of your choice (e.g. book voucher, CD voucher) after we receive your 1st questionnaire back and another $20 gift voucher each after completion of all the questionnaires.

The results of the study will be published in scientific journals, but you may be assured of the complete confidentiality of data gathered in the study. Thus, participation is anonymous. At any time during the study, you have the right to withdraw your participation and any information provided.

This study is being carried out by Dr Roeline Kuijer who works at the Department of Psychology, University of Canterbury. She can be contacted by phone at (03) 364 2987 ext 3401 or email roeline.kuijer@canterbury.ac.nz. She will be pleased to discuss any concerns you may have about participation in the study.

It is not anticipated that participation in this study will involve any risk to you. However, if at any time during participation in this study you experience distress of any kind and would like to talk to someone about your experiences, please contact Dr Roeline Kuijer for advice regarding psychological assistance or other forms of assistance.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

Appendix C

Consent Form

College of Science

Department of Psychology
Tel: +64 3 364 2902, Fax : +64 3 364 2181
Email: office@psyc.canterbury.ac.nz
www.psyc.canterbury.ac.nz

Dr Roeline Kuijer/ Bronwyn Trewin
Dept. of Psychology
University of Canterbury
Phone: 03 364 2987 ext 3401

CONSENT FORM

RESEARCH PROJECT "COUPLES COPING WITH CANCER: THE IMPACT OF CANCER ON THE INTIMATE RELATIONSHIP"

I have read and understood the description of the above-named project. On this basis I agree to participate in this project, and I consent to publication of the results of the project with the understanding that anonymity will be preserved.

I understand also that I may at any time withdraw from the project, including withdrawal of any information I have provided.

NAME (please print) ……

Signature ……

Date: ……

Appendix D

Questionnaire - Patients

Participant id number …….

COUPLES COPING WITH CANCER: THE IMPACT OF CANCER ON THE INTIMATE RELATIONSHIP

Measurement nr 1

Questionnaire for the PATIENT

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Bronwyn Trewin / Dr Roeline Kuijer
Department of Psychology
University of Canterbury
Phone: 03 364 2987 ext 3401
Email: bht19@student.canterbury.ac.nz
roeline.kuijer@canterbury.ac.nz

INSTRUCTIONS

Please read the instructions below before completing the questionnaire

This questionnaire consists of 4 sections.

1. background information
2. health and well-being
3. the relationship with your partner
4. beliefs about relationships in general

Please answer all of the questions according to the instructions. If you are unsure about how to answer, please give the best answer you can. There are no 'correct' or 'incorrect' answers: We are interested in how you feel and what you think. Don't take too long over your replies; your immediate reaction to each question will probably be more accurate than a long thought-out response.

Questions will be asked in three formats:

a) Sometimes you will be asked to write down your answer on a dotted line.

b) Most of the time you will be asked to tick a circle. For example:

	Not at all	**A little**	**Quite a bit**	**Very much**
How often in the past two weeks did you feel tense?	O	O	O	O

→ If you felt a little tense in the past two weeks then you tick "a little".

c) Sometimes you will be asked to indicate to what extent you agree with certain statements by circling a number. For example:

	I strongly disagree ↓						**I strongly agree** ↓
In uncertain times, I usually expect the best.	1	2	3	4	5	6	7

→ If you agree with that statement quite strongly but not completely, then you circle number '6'.

It is important that you and your partner each fill out the questionnaire in private and that you do not discuss any of the questions while filling out the questionnaire. Of course you are free to discuss any of the topics after you have mailed the questionnaires back to the University. The questionnaires can be mailed back in the stamped return envelope.

It is not anticipated that participation in the study will involve any risk to you. However, if at any time during participation in this study you experience distress of any kind and want to talk to someone about your experience, please contact Dr Roeline Kuijer (03 364 2987 ext. 3401) for advice regarding psychological assistance or other forms of assistance.

Thank you very much for your willingness to participate in this study.

PART 1: BACKGROUND INFORMATION

1.1 Please tick the appropriate circle or write down your answer

1. What is your gender?
   - O male
   - O female

2. What is your age? ……years

3 What is your highest school qualification?
   - O left without school certificate
   - O school certificate
   - O trade or other tertiary certificate/diploma
   - O degree or postgraduate diploma
   - O other:

   ……

4a. What is your employment status?
   - O I have a full time job
   - O I have a part time job for …..... hrs a week
   - O I am unemployed (go to 5)
   - O I am a homemaker (go to 5)
   - O I receive a disability benefit (go to 5)
   - O I am retired (go to 5)
   - O other:

   ……

4b If your answer to question 4a was that you have a full time or part time job: Are you currently on sick leave?

   - O yes
   - O no

5. What is your marital status?
   - O married
   - O defacto / living together

6. How long have you been in this relationship? ……. years

7. Do you have children?
   - O yes, ……. (number of children)
   - O no

8. How would you define your ethnic background?
   - O New Zealand European
   - O New Zealand Maori
   - O Samoan
   - O Cook Island Maori
   - O Tongan
   - O Chinese
   - O other, ……...

PART 2. HEALTH and WELL-BEING

2.1 Medical information

The following questions are about your illness. Please tick the appropriate circle or write down your answer.

1. How long ago were you diagnosed with cancer? …….. months

2. What type of cancer do you have?
……..

3. Has the cancer metastasized?
- O yes
- O no

4. Which of the following treatments for cancer did you undergo since your diagnosis?
- O surgery
- O chemotherapy
- O radiation therapy
- O hormone therapy
- O other: ……

5. Which of the following treatments for cancer do you receive at present or did you receive during the past 2 weeks?
- O surgery
- O chemotherapy
- O radiation therapy
- O hormone therapy
- O other: ……
- O no therapy at the moment

6. What did your doctor tell you about your chances on recovery from your illness?
- O there is no chance on recovery
- O there is little chance on recovery
- O there is a reasonable chance on recovery
- O there is a good chance on recovery
- O I am cured
- O he/she did not tell me

7. Do you suffer from any other illness/condition? *(please tick circle or write down your answer)*
- O arthritis
- O heart disease
- O diabetes
- O Multiple Sclerosis
- O other condition (please specify):

…….

……..

2.2 A global rating of the quality of your life

Below are two pictures of a ladder. Suppose that we say that the top of the ladder represents the best possible quality of life for you and the bottom represents the worst possible quality of life *(please circle a number in each ladder)*

All things considered, where on the ladder do you feel you stand at present?

10
9
8
7
6
5
4
3
2
1
0

All things considered, where on the ladder would you say you stood before you got ill?

10
9
8
7
6
5
4
3
2
1
0

2.3 Symptom checklist

Please indicate for all symptoms mentioned below to what extent you have been bothered by them during the past week.

During the past week I was bothered by ….		**Not at all**	**A little**	**Quite a bit**	**Very much**
1	Tiredness	O	O	O	O
2	Sore muscles	O	O	O	O
3	Lack of energy	O	O	O	O
4	Low back pain	O	O	O	O
5	Nausea	O	O	O	O
6	Headaches	O	O	O	O
7	Vomiting	O	O	O	O
8	Dizziness	O	O	O	O
9	Decreased sexual interest	O	O	O	O
10	Abdominal (stomach) aches	O	O	O	O
11	Constipation	O	O	O	O

During the past week I was bothered by ….		Not at all	A little	Quite a bit	Very much
12	Diarrhoea	O	O	O	O
13	Acid indigestion	O	O	O	O
14	Shivering	O	O	O	O
15	Tingling hands or feet	O	O	O	O
16	Difficulty concentrating	O	O	O	O
17	Sore mouth/pain when swallowing	O	O	O	O
18	Loss of hair	O	O	O	O
19	Burning / sore eyes	O	O	O	O
20	Shortness of breath	O	O	O	O
21	Dry mouth	O	O	O	O

2.4 Well-being

Please indicate for all of the following statements how often you felt or behaved this way during the past week.

During the past week …		**Rarely or none of the time** (less than 1 day)	**Some or a little of the time** (1 to 2 days)	**Occasionally or a moderate amount of the time** (3 to 4 days)	**Most or all of the time** (5 to 7 days)
1	I was bothered by things that usually don't bother me	O	O	O	O
2	I did not feel like eating: my appetite was poor	O	O	O	O
3	I felt that I could not shake off the blues even with help from my family or friends	O	O	O	O
4	I felt that I was just as good as other people	O	O	O	O
5	I had trouble keeping my mind on what I was doing	O	O	O	O
6	I felt depressed	O	O	O	O
7	I felt that everything I did was an effort	O	O	O	O
8	I felt hopeful about the future	O	O	O	O
9	I thought my life had been a failure	O	O	O	O
10	I felt fearful	O	O	O	O
11	My sleep was restless	O	O	O	O
12	I was happy	O	O	O	O
13	I talked less than usual	O	O	O	O

During the past week …		Rarely or none of the time (less than 1 day)	Some or a little of the time (1 to 2 days)	Occasionally or a moderate amount of the time (3 to 4 days)	Most or all of the time (5 to 7 days)
14	I felt lonely	O	O	O	O
15	People were unfriendly	O	O	O	O
16	I enjoyed life	O	O	O	O
17	I had crying spells	O	O	O	O
18	I felt sad	O	O	O	O
19	I felt that people disliked me	O	O	O	O
20	I could not get “going”	O	O	O	O

2.5 Health

The following questions ask for your views about your health, how you feel, and how well you are able to do your usual activities. Please answer each question by ticking one circle.

		Excellent	Very good	Good	Fair	Poor
1	In general, how would you say your health is?	O	O	O	O	O

2. The following questions are about activities you might do during a typical day. Does your health limit you in these activities? If so, how much?

		Yes, limited a lot	Yes, limited a little	No, not limited at all
a	Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	O	O	O
b	Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling or playing golf	O	O	O
c	Lifting or carrying groceries	O	O	O
d	Climbing several flights of stairs	O	O	O
e	Climbing one flight of stairs	O	O	O
f	Bending, kneeling, or stooping	O	O	O
g	Walking more than a mile	O	O	O
h	Walking several blocks	O	O	O
i	Walking one block	O	O	O
j	Bathing or dressing yourself	O	O	O

3. During the past week**,** how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
a	Accomplished less than you would like	O	O	O	O	O
b	Were limited in the kind of work or other activities	O	O	O	O	O

4. During the past week**,** how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
a	Accomplished less than you would like	O	O	O	O	O
b	Didn't do work or activities as carefully as usual	O	O	O	O	O

	Not at all	A little bit	Moderately	Quite a bit	Extremely
5. During the past week, how much did pain interfere with your normal work (including both work outside the home and housework)?	O	O	O	O	O

6. These questions are about how you feel and how things have been with you during the past week. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past week ….

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
a	Have you felt calm and peaceful?	O	O	O	O	O
b	Did you have a lot of energy?	O	O	O	O	O
c	Have you felt downhearted and depressed?	O	O	O	O	O

7. During the past week, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives)?

All of the time	Most of the time	Some of the time	A little of the time	None of the time
O	O	O	O	O

PART 3: THE RELATIONSHIP WITH YOUR PARTNER

3.1 Global relationship quality

Below are two pictures of a ladder. Suppose that we say that the top of the ladder represents the best possible quality of your relationship and the bottom represents the worst possible quality *(please circle a number in each ladder)*

All things considered, where on the ladder do you feel the relationship with your partner stands at present?

10
9
8
7
6
5
4
3
2
1
0

All things considered, where on the ladder would you say the relationship with your partner stood before you got ill?

10
9
8
7
6
5
4
3
2
1
0

3.2. The following questions are about the relationship with your partner. Please indicate what your ***current*** relationship is like, answering each question that follows. (*Please circle one number in each scale)*

		not at all ↓						**extremely** ↓
1	How satisfied are you with your relationship?	1	2	3	4	5	6	7
2	How committed are you to your relationship?	1	2	3	4	5	6	7
3	How intimate is your relationship?	1	2	3	4	5	6	7
4	How much do you trust your partner?	1	2	3	4	5	6	7
5	How much can you count on your partner?	1	2	3	4	5	6	7
6	How dependable is your partner?	1	2	3	4	5	6	7
7	How passionate is your relationship?	1	2	3	4	5	6	7
8	How much do you love your partner?	1	2	3	4	5	6	7

3.3 Giving and receiving support

The next questions are about the different types of support you and your partner may give each other. First, you are asked to rate *how often your partner has done something* in the past week. Then, you are asked to rate *how often you have done the same things* in the past week.

In the past week, how often did your partner …….		**never**	**some-times**	**often**	**very often**
1	comfort you when you were feeling down?	O	O	O	O
2	show you that he/she loved and cared for you?	O	O	O	O
3	give you practical help?	O	O	O	O
4	listen to you when you needed to talk about things that were on your mind?	O	O	O	O
5	give you information or advice?	O	O	O	O
6	show you that he/she appreciated you?	O	O	O	O
7	spend time with you?	O	O	O	O
8	take over some of your chores / responsibilities in and around the house?	O	O	O	O
9	keep you company?	O	O	O	O
10	offer suggestions or ideas as solutions to things that bothered you?	O	O	O	O

11 All things considered, how satisfied were you with the support and help you received from your partner in the past week?

not at all satisfied	**a little satisfied**	**moderately satisfied**	**quite satisfied**	**extremely satisfied**
O	O	O	O	O

In the past week, how often did you …….		**never**	**some-times**	**often**	**very often**
1	comfort your partner when he/she was feeling down?	O	O	O	O
2	show your partner that you loved and cared for him/her?	O	O	O	O
3	give your partner practical help?	O	O	O	O
4	listen to your partner when he/she wanted to talk about things that were on his/her mind?	O	O	O	O
5	give your partner information or advice?	O	O	O	O
6	show your partner that you appreciated him/her?	O	O	O	O
7	spend time with your partner?	O	O	O	O

In the past week, how often did you …….		**never**	**some-times**	**often**	**very often**
8	take over some of your partner's chores / responsibilities in and around the house?	O	O	O	O
9	keep your partner company?	O	O	O	O
10	offer suggestions or ideas as solutions to things that bothered him/her?	O	O	O	O

3.4 Balance of give-and-take

The following questions deal with the balance of give-and-take in your relationship. Every partner contributes certain things to the relationship and receives certain outcomes from the relationship. Examples of contributions are: Providing support to your partner (see previous section for examples of support), putting effort into the relationship with your partner, and listening to your partner. Examples of the things that you might get out of your relationship are: The support and help you receive from your partner, the affection your partner may show, and the concern your partner may show for your problems. Many couples experience certain periods in their relationship in which the give-and-take is out of balance for some time. These periods often alternate with more balanced ones. We would like to know how you feel about the balance of give-and-take in your relationship at present.

(please circle one number in each scale)		**very little** ↓				**very much** ↓
1a.	All things considered, how much do *you contribute* to your relationship at the moment?	1	2	3	4	5
1b.	All things considered, how much does *your partner contribute* to your relationship at the moment?	1	2	3	4	5
1c.	All things considered, how much do *you receive* from your relationship at the moment?	1	2	3	4	5
1d.	All things considered, how much does *your partner receive* from your relationship at the moment?	1	2	3	4	5

2 When you look at your relationship with your partner from a viewpoint of give-and-take, how would you describe your relationship at the moment? *(please circle one number)*

1 My partner is doing a lot more for me than I am doing for him/her
2 My partner is doing more for me than I am doing for him/her
3 My partner is doing a bit more for me than I am doing for him/her
4 My partner is doing as much for me as I am doing for him/her
5 My partner is doing a little less for me than I am doing for him/her
6 My partner is doing less for me than I am doing for him/her
7 My partner is doing a lot less for me than I am doing for him/her

If you circled number '4' as your answer to question 2, skip questions 3a to 3d and proceed with question 3e. If you circled one of the other numbers please answer the following questions (*tick a circle*)

3a. In the near future, I think that the imbalance in our relationship is likely to ……

- O increase
- O remain the same
- O decrease

3b. Who do you feel is to blame for the current imbalance in your relationship?

- O I am much more to blame for that than my partner is
- O I am a bit more to blame for that than my partner is
- O My partner and I are equally to blame
- O My partner is a bit more to blame for that than I am
- O My partner is much more to blame for that than I am

3c. The current imbalance in our relationship is caused by me being ill.

- O I disagree strongly
- O I disagree somewhat
- O I neither disagree, nor agree
- O I agree somewhat
- O I agree strongly

3d. Are there other reasons or explanations that you can think of for the current imbalance in your relationship?

……

……

……

……

……

……

Regardless of your answer to question 2, please proceed now with the following questions.

3e. The current (im)balance in our relationship is temporary.

- O I disagree strongly
- O I disagree somewhat
- O I neither disagree, nor agree
- O I agree somewhat
- O I agree strongly

3f. Who do you feel is responsible for the (im)balance in the relationship?

- O I am much more responsible for that than my partner is.
- O I am a bit more responsible for that than my partner is.
- O My partner and I are equally responsible.
- O My partner is a bit more responsible for that than I am.
- O My partner is much more responsible for that than I am.

3g. If you look at the way things are distributed in your relationship at the moment, how fair do
you feel this distribution is ?

- O not fair at all
- O hardly fair
- O somewhat fair
- O largely fair
- O very fair

3h. How satisfied are you with this distribution?

- O not satisfied at all
- O hardly satisfied
- O somewhat satisfied
- O largely satisfied
- O very satisfied

4. Finally, please indicate to what extent you experience the following emotions when you think about the current balance of give-and-take in your relationship.

	not at all	**a little**	**somewhat**	**quite a bit**	**very much**
Guilty	O	O	O	O	O
Satisfied	O	O	O	O	O
Hurt	O	O	O	O	O
Grateful	O	O	O	O	O
Sad	O	O	O	O	O
Afraid	O	O	O	O	O
Troubled	O	O	O	O	O
Happy	O	O	O	O	O
Angry	O	O	O	O	O

3.5 Things your partner may say or do

This part of the questionnaire describes things that your partner might do or say. *Imagine your partner performing each behaviour* and then read the statements that follow it. Please tick the circle that indicates how much you agree or disagree with each statement.

1. Imagine that: *Your partner doesn't pay attention to what you are saying.*

	strongly dis-agree	**dis-agree**	**agree nor disagree**	**agree**	**strongly agree**
The reason my partner did not pay attention to what I was saying was due to something about his/her personality (the type of person s/he is)	O	O	O	O	O
The reason my partner did not pay attention to what I was saying had to do with me being ill.	O	O	O	O	O
My partner did not pay attention to what I was saying on purpose, rather than unintentionally.	O	O	O	O	O
My partner deserves to be blamed for not paying attention to what I was saying	O	O	O	O	O
The reason my partner did not pay attention to what I was saying is *not* likely to change.	O	O	O	O	O

2. Imagine that: *Your partner doesn't give you the support you need*.

	strongly dis-agree	**dis-agree**	**agree nor disagree**	**agree**	**strongly agree**
The reason my partner did not give me the support I needed was due to something about his/her personality (the type of person s/he is)	O	O	O	O	O
The reason my partner did not give me the support I needed had to do with me being ill.	O	O	O	O	O
My partner did not give me the support I needed on purpose, rather than unintentionally.	O	O	O	O	O
My partner deserves to be blamed for not giving me the support I need.	O	O	O	O	O
The reason my partner did not give me the support I needed is *not* likely to change.	O	O	O	O	O

3. Imagine that: *Your partner doesn't complete his/her chores.*

	strongly dis-agree	**dis-agree**	**agree nor disagree**	**agree**	**strongly agree**
The reason my partner did not complete his/ her chores was due to something about his/ her personality (the type of person s/he is)	O	O	O	O	O
The reason my partner did not complete his/her chores had to do with me being ill.	O	O	O	O	O
My partner did not complete his/her chores on purpose, rather than unintentionally.	O	O	O	O	O
My partner deserves to be blamed for not completing his/her chores.	O	O	O	O	O
The reason my partner did not complete his/her chores is *not* likely to change.	O	O	O	O	O

4. Generally speaking, how often does it happen that your partner …..

		never	**seldom**	**now and then**	**quite often**	**very often**
a	does not pay attention to what you are saying?	O	O	O	O	O
b	does not give you the support you need?	O	O	O	O	O
c	does not complete his/her chores?	O	O	O	O	O

5. How often in the <u>past week</u> did it happen that your partner ….

		never	**seldom**	**now and then**	**quite often**	**very often**
a	criticized you?	O	O	O	O	O
b	was impatient with you?	O	O	O	O	O
c	was angry or upset with you?	O	O	O	O	O
d	seemed to avoid being around you?	O	O	O	O	O
e	made too many demands?	O	O	O	O	O
f	blamed you for things?	O	O	O	O	O

3.6 How things were…

The following statements have to do with the type of interaction you had with your partner ***before*** you became ill. For each statement, please indicate which response you feel most accurately describes how you and your partner interacted ***before*** your illness.

	How things were before you got ill:	**never**	**some-times**	**often**	**always**
1	If my partner was feeling bad, I tried to cheer him/her up	O	O	O	O
2	My partner seemed to enjoy responding to my needs	O	O	O	O
3	My partner did things just to please me	O	O	O	O
4	When my partner had a need, he/she turned to me for help	O	O	O	O
5	My partner went out of his/her way to help me	O	O	O	O
6	My partner responded to my needs	O	O	O	O
7	I enjoyed helping my partner	O	O	O	O
8	I went out of my way to help my partner	O	O	O	O
9	When making a decision, I considered my partner's needs and feelings	O	O	O	O
10	My partner would have done almost anything for me	O	O	O	O

PART 4: BELIEFS ABOUT RELATIONSHIPS IN GENERAL

4.1 Experiences in close relationships

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling one number in the scale.

		I strongly disagree ↓						**I strongly agree** ↓
1	I'm not very comfortable having to depend on other people.	1	2	3	4	5	6	7
2	I find it relatively easy to get close to others.	1	2	3	4	5	6	7
3	I'm comfortable having others depend on me.	1	2	3	4	5	6	7
4	I rarely worry about being abandoned by others.	1	2	3	4	5	6	7
5	I don't like people getting too close to me.	1	2	3	4	5	6	7
6	I'm somewhat uncomfortable being too close to others.	1	2	3	4	5	6	7
7	I find it difficult to trust others completely.	1	2	3	4	5	6	7

		I strongly disagree ↓						I strongly agree ↓
8	I'm nervous whenever anyone gets too close to me.	1	2	3	4	5	6	7
9	Others often want me to be more intimate than I feel comfortable being.	1	2	3	4	5	6	7
10	Others often are reluctant to get as close as I would like.	1	2	3	4	5	6	7
11	I often worry that my partner(s) don't really love me.	1	2	3	4	5	6	7
12	I rarely worry about my partner(s) leaving me.	1	2	3	4	5	6	7
13	I often want to merge completely with others, and this desire sometimes scares them away.	1	2	3	4	5	6	7
14	I'm confident others would never hurt me by suddenly ending our relationship.	1	2	3	4	5	6	7
15	I usually want more closeness and intimacy than others do.	1	2	3	4	5	6	7
16	The thought of being left by others rarely enters my mind.	1	2	3	4	5	6	7
17	I'm confident that my partner(s) love me just as much as I love them.	1	2	3	4	5	6	7

4.2 Ideas about relationships in general

The final part of this questionnaire is about ideas you may have about how relationships should work in general. Please indicate to what extent you agree with these statements.

		I strongly disagree ↓						I strongly agree ↓
1	Potential relationship partners are either compatible or they are not	1	2	3	4	5	6	7
2	The ideal relationship develops gradually over time	1	2	3	4	5	6	7
3	A successful relationship is mostly a matter of finding a compatible partner right from the start	1	2	3	4	5	6	7
4	A successful relationship evolves through hard work and resolution of incompatibilities	1	2	3	4	5	6	7
5	Potential relationship partners are either destined to get along or they are not	1	2	3	4	5	6	7

		I strongly disagree ↓						I strongly agree ↓
6	A successful relationship is mostly a matter of learning to resolve conflicts with a partner	1	2	3	4	5	6	7
7	Relationships that do not start off well inevitably fail	1	2	3	4	5	6	7
8	Challenges and obstacles in a relationship can make love even stronger	1	2	3	4	5	6	7
9	If a potential relationship is not meant to be, it will become apparent very soon	1	2	3	4	5	6	7
10	Problems in a relationship can bring partners closer together	1	2	3	4	5	6	7
11	The success of a potential relationship is destined from the very beginning	1	2	3	4	5	6	7
12	Relationships often fail because people don't try hard enough	1	2	3	4	5	6	7

THIS IS THE END OF THIS QUESTIONNAIRE. THANK YOU VERY MUCH FOR YOUR TIME.

The space below can be used to make comments (e.g. about the questionnaire or the research project).

……
…

……
…

……
…

……
…

……
…

……
…

……
…

……
…

Appendix E

Questionnaire - Partners

Participant id number …….

COUPLES COPING WITH CANCER: THE IMPACT OF CANCER ON THE INTIMATE RELATIONSHIP

Measurement nr 1

Questionnaire for the PARTNER

UC UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Bronwyn Trewin / Dr Roeline Kuijer
Department of Psychology
University of Canterbury
Phone: 03 364 2987 ext 3401
Email: bht19@student.canterbury.ac.nz
roeline.kuijer@canterbury.ac.nz

INSTRUCTIONS

Please read the instructions below before completing the questionnaire

This questionnaire consists of 4 sections.

5. background information
6. health and well-being
7. the relationship with your partner
8. beliefs about relationships in general

Please answer all of the questions according to the instructions. If you are unsure about how to answer, please give the best answer you can. There are no 'correct' or 'incorrect' answers: We are interested in how you feel and what you think. Don't take too long over your replies; your immediate reaction to each question will probably be more accurate than a long thought-out response.

Questions will be asked in three formats:

a) Sometimes you will be asked to write down your answer on a dotted line.

b) Most of the time you will be asked to tick a circle. For example:

	Not at all	**A little**	**Quite a bit**	**Very much**
How often in the past two weeks did you feel tense?	O	O	O	O

→ If you felt a little tense in the past two weeks then you tick "a little".

c) Sometimes you will be asked to indicate to what extent you agree with certain statements by circling a number. For example:

	I strongly disagree ↓						**I strongly agree** ↓
In uncertain times, I usually expect the best.	1	2	3	4	5	6	7

→ If you agree with that statement quite strongly but not completely, then you circle number '6'.

It is important that you and your partner each fill out the questionnaire in private and that you do not discuss any of the questions while filling out the questionnaire. Of course you are free to discuss any of the topics after you have mailed the questionnaires back to the University. The questionnaires can be mailed back in the stamped return envelope.

It is not anticipated that participation in the study will involve any risk to you. However, if at any time during participation in this study you experience distress of any kind and want to talk to someone about your experience, please contact Dr Roeline Kuijer (03 364 2987 ext. 3401) for advice regarding psychological assistance or other forms of assistance.

Thank you very much for your willingness to participate in this study.

PART 1: BACKGROUND INFORMATION

1.1 Please tick the appropriate circle or write down your answer

1. What is your gender?
   - O male
   - O female

2. What is your age? ……years

3 What is your highest school qualification?
   - O left without school certificate
   - O school certificate
   - O trade or other tertiary certificate/diploma
   - O degree or postgraduate diploma
   - O other:

   ……

4a. What is your employment status?
   - O I have a full time job
   - O I have a part time job for ……. hrs a week
   - O I am unemployed (go to 5)
   - O I am a homemaker (go to 5)
   - O I receive a disability benefit (go to 5)
   - O I am retired (go to 5)
   - O other:

   ……

4b If your answer to question 4a was that you have a full time or part time job: Are you currently on sick leave?

   - O yes
   - O no

5. What is your marital status?
   - O married
   - O defacto / living together

6. How long have you been in this relationship? ……. years

7. Do you have children?
   - O yes, ……. (number of children)
   - O no

8. How would you define your ethnic background?
   - O New Zealand European
   - O New Zealand Maori
   - O Samoan
   - O Cook Island Maori
   - O Tongan
   - O Chinese
   - O other, ……...

PART 2. HEALTH and WELL-BEING

2.1 A global rating of the quality of your life

Below are two pictures of a ladder. Suppose that we say that the top of the ladder represents the best possible quality of life for you and the bottom represents the worst possible quality of life *(please circle one number in each ladder)*

All things considered, where on the ladder do you feel you stand at present?

10
9
8
7
6
5
4
3
2
1
0

All things considered, where on the ladder would you say you stood before your partner got ill?

10
9
8
7
6
5
4
3
2
1
0

2.2 Well-being

Please indicate for all of the following statements how often you felt or behaved this way during the past week.

	During the past week …	**Rarely or none of the time** (less than 1 day)	**Some or a little of the time** (1 to 2 days)	**Occasionally or a moderate amount of the time** (3 to 4 days)	**Most or all of the time** (5 to 7 days)
1	I was bothered by things that usually don't bother me	O	O	O	O
2	I did not feel like eating: my appetite was poor	O	O	O	O
3	I felt that I could not shake off the blues even with help from my family or friends	O	O	O	O
4	I felt that I was just as good as other people	O	O	O	O
5	I had trouble keeping my mind on what I was doing	O	O	O	O

During the past week …		Rarely or none of the time (less than 1 day)	Some or a little of the time (1 to 2 days)	Occasionally or a moderate amount of the time (3 to 4 days)	Most or all of the time (5 to 7 days)
6	I felt depressed	O	O	O	O
7	I felt that everything I did was an effort	O	O	O	O
8	I felt hopeful about the future	O	O	O	O
9	I thought my life had been a failure	O	O	O	O
10	I felt fearful	O	O	O	O
11	My sleep was restless	O	O	O	O
12	I was happy	O	O	O	O
13	I talked less than usual	O	O	O	O
14	I felt lonely	O	O	O	O
15	People were unfriendly	O	O	O	O
16	I enjoyed life	O	O	O	O
17	I had crying spells	O	O	O	O
18	I felt sad	O	O	O	O
19	I felt that people disliked me	O	O	O	O
20	I could not get “going”	O	O	O	O

2.3 Health

The following questions ask for your views about your health, how you feel, and how well you are able to do your usual activities. Please answer each question by ticking one circle.

1. Do you suffer from a chronic illness / condition? *(please tick a circle or write down your answer*).

O no
O yes
- O arthritis
- O heart disease
- O diabetes
- O Multiple Sclerosis
- O other condition (please specify): ……..

		Excellent	Very good	Good	Fair	Poor
2	In general, how would you say your health is?	O	O	O	O	O

3. The following questions are about activities you might do during a typical day. Does your health limit you in these activities? If so, how much?

		Yes, limited a lot	Yes, limited a little	No, not limited at all
b	Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling or playing golf	O	O	O
d	Climbing several flights of stairs	O	O	O

4. During the past week, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
a	Accomplished less than you would like	O	O	O	O	O
b	Were limited in the kind of work or other activities	O	O	O	O	O

5. During the past week, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
a	Accomplished less than you would like	O	O	O	O	O
b	Didn't do work or activities as carefully as usual	O	O	O	O	O

	Not at all	A little bit	Moderately	Quite a bit	Extremely
6. During the past week, how much did pain interfere with your normal work (including both work outside the home and housework)?	O	O	O	O	O

7. These questions are about how you feel and how things have been with you during the past week. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past week ….

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
a	Have you felt calm and peaceful?	O	O	O	O	O
b	Did you have a lot of energy?	O	O	O	O	O
c	Have you felt downhearted and depressed?	O	O	O	O	O

8. During the past week, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives)?

All of the time	Most of the time	Some of the time	A little of the time	None of the time
O	O	O	O	O

PART 3: THE RELATIONSHIP WITH YOUR PARTNER

3.1 Global relationship quality

Below are two pictures of a ladder. Suppose that we say that the top of the ladder represents the best possible quality of your relationship and the bottom represents the worst possible quality *(please circle one number in each ladder)*

All things considered, where on the ladder do you feel the relationship with your partner stands at present?

10
9
8
7
6
5
4
3
2
1
0

All things considered, where on the ladder would you say the relationship with your partner stood before your partner got ill?

10
9
8
7
6
5
4
3
2
1
0

3.2. The following questions are about the relationship with your partner. Please indicate what your ***current*** relationship is like, answering each question that follows. (*Please circle one number in each scale)*

		not at all ↓						extremely ↓
1	How satisfied are you with your relationship?	1	2	3	4	5	6	7
2	How committed are you to your relationship?	1	2	3	4	5	6	7
3	How intimate is your relationship?	1	2	3	4	5	6	7
4	How much do you trust your partner?	1	2	3	4	5	6	7

		not at all ↓						extremely ↓
5	How much can you count on your partner?	1	2	3	4	5	6	7
6	How dependable is your partner?	1	2	3	4	5	6	7
7	How passionate is your relationship?	1	2	3	4	5	6	7
8	How much do you love your partner?	1	2	3	4	5	6	7

3.3 Giving and receiving support

The next questions are about the different types of support you and your partner may give each other. First, you are asked to rate *how often your partner has done something* in the past week. Then, you are asked to rate *how often you have done the same things* in the past week.

	In the past week, how often did your partner ……	**never**	**some-times**	**often**	**very often**
1	comfort you when you were feeling down?	O	O	O	O
2	show you that he/she loved and cared for you?	O	O	O	O
3	give you practical help?	O	O	O	O
4	listen to you when you needed to talk about things that were on your mind?	O	O	O	O
5	give you information or advice?	O	O	O	O
6	show you that he/she appreciated you?	O	O	O	O
7	spend time with you?	O	O	O	O
8	take over some of your chores / responsibilities in and around the house?	O	O	O	O
9	keep you company?	O	O	O	O
10	offer suggestions or ideas as solutions to things that bothered you?	O	O	O	O

11 All things considered, how satisfied were you with the support and help you received from your partner in the past week?

not at all satisfied	**a little satisfied**	**moderately satisfied**	**quite satisfied**	**extremely satisfied**
O	O	O	O	O

In the past week, how often did you …….		**never**	**some-times**	**often**	**very often**
1	comfort your partner when he/she was feeling down?	O	O	O	O
2	show your partner that you loved and cared for him/her?	O	O	O	O
3	give your partner practical help?	O	O	O	O
4	listen to your partner when he/she wanted to talk about things that were on his/her mind?	O	O	O	O
5	give your partner information or advice?	O	O	O	O
6	show your partner that you appreciated him/her?	O	O	O	O
7	spend time with your partner?	O	O	O	O
8	take over some of your partner's chores / responsibilities in and around the house?	O	O	O	O
9	keep your partner company?	O	O	O	O
10	offer suggestions or ideas as solutions to things that bothered him/her?	O	O	O	O

3.5 Balance of give-and-take

The following questions deal with the balance of give-and-take in your relationship. Every partner contributes certain things to the relationship and receives certain outcomes from the relationship. Examples of contributions are: Providing support to your partner (see previous section for examples of support), putting effort into the relationship with your partner, and listening to your partner. Examples of the things that you might get out of your relationship are: The support and help you receive from your partner, the affection your partner may show, and the concern your partner may show for your problems. Many couples experience certain periods in their relationship in which the give-and-take is out of balance for some time. These periods often alternate with more balanced ones. We would like to know how you feel about the balance of give-and-take in your relationship at present.

(please circle one number in each scale)		**very little** ↓				**very much** ↓
1a.	All things considered, how much do *you contribute* to your relationship at the moment?	1	2	3	4	5
1b.	All things considered, how much does *your partner contribute* to your relationship at the moment?	1	2	3	4	5
1c.	All things considered, how much do *you receive* from your relationship at the moment?	1	2	3	4	5
1d.	All things considered, how much does *your partner receive* from your relationship at the moment?	1	2	3	4	5

2 When you look at your relationship with your partner from a viewpoint of give-and-take, how would you describe your relationship at the moment? *(please circle one number)*

1 My partner is doing a lot more for me than I am doing for him/her
2 My partner is doing more for me than I am doing for him/her
3 My partner is doing a bit more for me than I am doing for him/her
4 My partner is doing as much for me as I am doing for him/her
5 My partner is doing a little less for me than I am doing for him/her
6 My partner is doing less for me than I am doing for him/her
7 My partner is doing a lot less for me than I am doing for him/her

If you circled number '4' as your answer to question 2, skip questions 3a to 3d and proceed with question 3e. If you circled one of the other numbers please answer the following questions (*tick a circle*)

3a. In the near future, I think that the imbalance in our relationship is likely to ……

O increase
O remain the same
O decrease

3b. Who do you feel is to blame for the current imbalance in your relationship?

O I am much more to blame for that than my partner is
O I am a bit more to blame for that than my partner is
O My partner and I are equally to blame
O My partner is a bit more to blame for that than I am
O My partner is much more to blame for that than I am

3c. The current imbalance in our relationship is caused by my partner being ill.

O I disagree strongly
O I disagree somewhat
O I neither disagree, nor agree
O I agree somewhat
O I agree strongly

3d. Are there other reasons or explanations that you can think of for the current imbalance in your relationship?

……

……

……

……

……

……

Regardless of your answer to question 2, please proceed now with the following questions.

3e. The current (im)balance in our relationship is temporary.

- O I disagree strongly
- O I disagree somewhat
- O I neither disagree, nor agree
- O I agree somewhat
- O I agree strongly

3f. Who do you feel is responsible for the (im)balance in the relationship?

- O I am much more responsible for that than my partner is.
- O I am a bit more responsible for that than my partner is.
- O My partner and I are equally responsible.
- O My partner is a bit more responsible for that than I am.
- O My partner is much more responsible for that than I am.

3g. If you look at the way things are distributed in your relationship at the moment, how fair do
you feel this distribution is ?

- O not fair at all
- O hardly fair
- O somewhat fair
- O largely fair
- O very fair

3h. How satisfied are you with this distribution?

- O not satisfied at all
- O hardly satisfied
- O somewhat satisfied
- O largely satisfied
- O very satisfied

4. Finally, please indicate to what extent you experience the following emotions when you think about the current balance of give-and-take in your relationship.

	not at all	**a little**	**somewhat**	**quite a bit**	**very much**
Guilty	O	O	O	O	O
Satisfied	O	O	O	O	O
Hurt	O	O	O	O	O
Grateful	O	O	O	O	O
Sad	O	O	O	O	O
Afraid	O	O	O	O	O
Troubled	O	O	O	O	O
Happy	O	O	O	O	O
Angry	O	O	O	O	O

3.5 Motivations for providing help and support

People can have different motivations for why they help or support others. Please indicate to what extent you agree with the following statements.

On occasions when I help or support my partner, I generally do so because ……..

		strongly disagree	dis-agree	agree nor disagree	agree	strongly agree
1	I want my partner to be happy	O	O	O	O	O
2	it makes me feel good about myself to know that I've helped my partner	O	O	O	O	O
3	I can't stand to see my partner hurting	O	O	O	O	O
4	my partner is very bossy and demanding; he or she makes me help	O	O	O	O	O
5	I feel obligated to help my partner; it's expected of me	O	O	O	O	O
6	I love my partner and am concerned about my partner's well-being	O	O	O	O	O
7	I truly enjoy helping my partner	O	O	O	O	O
8	he or she also helps and cares for me	O	O	O	O	O
9	I feel bad when my partner feels bad; his or her problem is my problem	O	O	O	O	O
10	I get a great deal of happiness and pleasure from making my partner happy	O	O	O	O	O
11	he or she would have done the same for me	O	O	O	O	O
12	I want to avoid negative consequences from my partner (e.g. my partner would get angry).	O	O	O	O	O
13	it is my responsibility to help my partner	O	O	O	O	O
14	my partner is not very good at handling problems on his or her own	O	O	O	O	O
15	my partner really needs my help	O	O	O	O	O
16	my partner won't be able to cope without my help	O	O	O	O	O

17	I feel guilty if I don't help my partner	O	O	O	O	O
18	my partner can be very annoying when he or she is stressed, so I help so I can get some peace	O	O	O	O	O
19	my partner might not handle the situation correctly without my help	O	O	O	O	O

On some occasions you may decide not to help your partner with something. Again, people can have different reasons for doing that. Please indicate to what extent you agree with the following statements.

On occasions when I DON'T help or give support to my partner, I generally don't do it because ……

		strongly disagree	**dis-agree**	**agree nor disagree**	**agree**	**strongly agree**
1	my partner doesn't really need my help	O	O	O	O	O
2	my partner is better at solving his or her own problems	O	O	O	O	O
3	my partner never takes my advice anyway	O	O	O	O	O
4	my partner expects me to do everything and doesn't do enough for himself/herself	O	O	O	O	O
5	my partner doesn't like my help	O	O	O	O	O
6	my partner is perfectly able to cope on his or her own	O	O	O	O	O
7	my partner is impossible to help; I can never please him or her	O	O	O	O	O
8	I think my partner should try and handle his or her own problems	O	O	O	O	O
9	my partner doesn't appreciate my helping efforts	O	O	O	O	O
10	my partner is too dependent on me	O	O	O	O	O
11	my partner is good at handling problems on his or her own	O	O	O	O	O

Supporting somebody who has a serious illness is not always an easy task. Please indicate to what extent you agree or disagree with the following statements.

		strongly disagree	dis-agree	agree nor disagree	agree	strongly agree
1	I find it difficult to figure out what kind of help my partner really needs/wants	O	O	O	O	O
2	I feel insecure because I don't really know how to help my partner	O	O	O	O	O
3	I feel powerless because I can't do much for my partner	O	O	O	O	O
4	I think I am pretty good at helping my partner	O	O	O	O	O
5	I usually know what kind of support or help my partner needs/wants.	O	O	O	O	O

3.6 Things your partner may say or do

This part of the questionnaire describes things that your partner might do or say. *Imagine your partner performing each behaviour* and then read the statements that follow it. Please tick the circle that indicates how much you agree or disagree with each statement.

1. Imagine that: *Your partner doesn't pay attention to what you are saying.*

	strongly dis-agree	dis-agree	agree nor disagree	agree	strongly agree
The reason my partner did not pay attention to what I was saying was due to something about his/her personality (the type of person s/he is)	O	O	O	O	O
The reason my partner did not pay attention to what I was saying had to do with my partner being ill.	O	O	O	O	O
My partner did not pay attention to what I was saying on purpose, rather than unintentionally.	O	O	O	O	O
My partner deserves to be blamed for not paying attention to what I was saying	O	O	O	O	O
The reason my partner did not pay attention to what I was saying is *not* likely to change.	O	O	O	O	O

2. Imagine that: *Your partner doesn't give you the support you need*.

	strongly dis-agree	**dis-agree**	**agree nor disagree**	**agree**	**strongly agree**
The reason my partner did not give me the support I needed was due to something about his/her personality (the type of person s/he is)	O	O	O	O	O
The reason my partner did not give me the support I needed had to do with my partner being ill.	O	O	O	O	O
My partner did not give me the support I needed on purpose, rather than unintentionally.	O	O	O	O	O
My partner deserves to be blamed for not giving me the support I need.	O	O	O	O	O
The reason my partner did not give me the support I needed is *not* likely to change.	O	O	O	O	O

3. Imagine that: *Your partner doesn't complete his/her chores.*

	strongly dis-agree	**dis-agree**	**agree nor disagree**	**agree**	**strongly agree**
The reason my partner did not complete his/her chores was due to something about his/her personality (the type of person s/he is)	O	O	O	O	O
The reason my partner did not complete his/her chores had to do with my partner being ill.	O	O	O	O	O
My partner did not complete his/her chores on purpose, rather than unintentionally.	O	O	O	O	O
My partner deserves to be blamed for not completing his/her chores.	O	O	O	O	O
The reason my partner did not complete his/her chores is *not* likely to change.	O	O	O	O	O

4. Generally speaking, how often does it happen that your partner …..

		never	**seldom**	**now and then**	**quite often**	**very often**
a	does not pay attention to what you are saying?	O	O	O	O	O
b	does not give you the support you need?	O	O	O	O	O
c	does not complete his/her chores?	O	O	O	O	O

5. How often in the past week did it happen that your partner ….

		never	seldom	now and then	quite often	very often
a	criticized you?	O	O	O	O	O
b	was impatient with you?	O	O	O	O	O
c	was angry or upset with you?	O	O	O	O	O
d	seemed to avoid being around you?	O	O	O	O	O
e	made too many demands?	O	O	O	O	O
f	blamed you for things?	O	O	O	O	O

3.7 How things were…

The following statements have to do with the type of interaction you had with your partner ***before*** he / she became ill. For each statement, please indicate which response you feel most accurately describes how you and your partner interacted ***before*** your partner's illness.

	How things were before your partner got ill:	never	some-times	often	always
1	If my partner was feeling bad, I tried to cheer him/her up	O	O	O	O
2	My partner seemed to enjoy responding to my needs	O	O	O	O
3	My partner did things just to please me	O	O	O	O
4	When my partner had a need, he/she turned to me for help	O	O	O	O
5	My partner went out of his/her way to help me	O	O	O	O
6	My partner responded to my needs	O	O	O	O
7	I enjoyed helping my partner	O	O	O	O
8	I went out of my way to help my partner	O	O	O	O
9	When making a decision, I considered my partner's needs and feelings	O	O	O	O
10	My partner would have done almost anything for me	O	O	O	O

PART 4: BELIEFS ABOUT RELATIONSHIPS IN GENERAL

4.2 Experiences in close relationships

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling one number in the scale.

		I strongly disagree ↓						I strongly agree ↓
1	I'm not very comfortable having to depend on other people.	1	2	3	4	5	6	7
2	I find it relatively easy to get close to others.	1	2	3	4	5	6	7
3	I'm comfortable having others depend on me.	1	2	3	4	5	6	7
4	I rarely worry about being abandoned by others.	1	2	3	4	5	6	7
5	I don't like people getting too close to me.	1	2	3	4	5	6	7
6	I'm somewhat uncomfortable being too close to others.	1	2	3	4	5	6	7

		I strongly disagree ↓						I strongly agree ↓
7	I find it difficult to trust others completely.	1	2	3	4	5	6	7
8	I'm nervous whenever anyone gets too close to me.	1	2	3	4	5	6	7
9	Others often want me to be more intimate than I feel comfortable being.	1	2	3	4	5	6	7
10	Others often are reluctant to get as close as I would like.	1	2	3	4	5	6	7
11	I often worry that my partner(s) don't really love me.	1	2	3	4	5	6	7
12	I rarely worry about my partner(s) leaving me.	1	2	3	4	5	6	7
13	I often want to merge completely with others, and this desire sometimes scares them away.	1	2	3	4	5	6	7
14	I'm confident others would never hurt me by suddenly ending our relationship.	1	2	3	4	5	6	7
15	I usually want more closeness and intimacy than others do.	1	2	3	4	5	6	7
16	The thought of being left by others rarely enters my mind.	1	2	3	4	5	6	7
17	I'm confident that my partner(s) love me just as much as I love them.	1	2	3	4	5	6	7

4.2 Ideas about relationships in general

The final part of this questionnaire is about ideas you may have about how relationships should work in general. Please indicate to what extent you agree with these statements.

		I strongly disagree ↓						I strongly agree ↓
1	Potential relationship partners are either compatible or they are not	1	2	3	4	5	6	7
2	The ideal relationship develops gradually over time	1	2	3	4	5	6	7
3	A successful relationship is mostly a matter of finding a compatible partner right from the start	1	2	3	4	5	6	7
4	A successful relationship evolves through hard work and resolution of incompatibilities	1	2	3	4	5	6	7
5	Potential relationship partners are either destined to get along or they are not	1	2	3	4	5	6	7

		I strongly disagree ↓						I strongly agree ↓
6	A successful relationship is mostly a matter of learning to resolve conflicts with a partner	1	2	3	4	5	6	7
7	Relationships that do not start off well inevitably fail	1	2	3	4	5	6	7
8	Challenges and obstacles in a relationship can make love even stronger	1	2	3	4	5	6	7
9	If a potential relationship is not meant to be, it will become apparent very soon	1	2	3	4	5	6	7
10	Problems in a relationship can bring partners closer together	1	2	3	4	5	6	7
11	The success of a potential relationship is destined from the very beginning	1	2	3	4	5	6	7
12	Relationships often fail because people don’t try hard enough	1	2	3	4	5	6	7

THIS IS THE END OF THIS QUESTIONNAIRE. THANK YOU VERY MUCH FOR YOUR TIME.

The space below can be used to make comments (e.g. about the questionnaire or the research project).

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