

SHORT-TERM REACTIONS TO THE DEATH  
OF A SPOUSE AND/OR CLOSE FRIEND IN LATER LIFE

by

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### Abstract

The death of a friend and the death of a spouse frequently accompany later life. The former has received scant empirical attention and the bereavement overload occasioned by the combination of these losses only has been addressed in the conceptual literature. This study used data from the Canadian national *Survey on Ageing and Independence* (1991), and examined the short-term reactions of women and men aged 65 and older to the death of a close friend, a spouse, or both, in comparison with a non-bereaved group. Drawing on Weiss' (1993) conceptual perspective on loss, bereaved individuals' "recovery" or adjustment to loss was assessed on multiple dimensions of effective personal and social functioning: perceived health, negative affect, positive affect, social involvement, emotional investment, family satisfaction, and friend satisfaction. Based on Weiss' (1993) model that maintains the loss of a relationship of attachment (i.e., spouse) evokes more intense bereavement reactions than the loss of a relationship of community (i.e., close friend), it was predicted that the negative effects of bereavement would be the greatest for the spouse bereaved, which would be significantly greater than the peer bereaved, which would be significantly greater than the non-bereaved. A further expectation was that reactions of the multiple bereaved individuals would be equal to or greater than the spouse bereaved. Several expected as well as unexpected findings were revealed. Four primary patterns of findings included: (a) only for the measure of negative affect were the bereavement status comparisons consistent with predictions; (b) spouse and multiple

bereaved individuals' indicated comparable levels of functioning; (c) the peer bereaved unexpectedly reported greater effective personal and social functioning than the non-bereaved; and (d) gender influenced levels of functioning, with women tending to indicate better functioning than men. This study provides a greater understanding of older adults' reactions to the loss of close interpersonal relationships and sheds light on the nature and meaning of close interpersonal ties in later life. Suggestions are offered for future research.

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### Dedication

I dedicate this thesis to the memory of my father Jim Lehman who, during his battle with Amyotrophic Lateral Sclerosis, taught me about living and dying as well as about love, compassion, and integrity. His life continues to make me ask questions and seek answers to "why?"

## Chapter I

### Introduction

The death of a spouse and the death of a friend are normative interpersonal losses that accompany later life. Over 65,000 Canadians aged 65 and older became widowed in 1993 (Statistics Canada, 1994). One-third of a sample of 10,000 Canadians aged 65 and older experienced the death of a friend in 1991 (Statistics Canada, 1993), leaving an estimated one-million older adults peer bereaved. While research into later life bereavement primarily has centered on the short-term reactions of individuals to widowhood (e.g., Gallagher-Thompson, Futterman, Farberow, Thompson, & Peterson, 1993; Lund, Caserta, & Dimond, 1993), later life peer bereavement has received scant empirical attention (Roberto & Stanis, 1994) and only a limited conceptual focus (Deck & Folta, 1989; Sklar, 1991-1992). In addition, while there is limited conceptual discussion of multiple interpersonal losses in general (Kastenbaum, 1969; Moss & Moss, 1989), no research has addressed the bereavement reactions to the loss of both a spouse and a close friend in later life.

The majority of research that examines bereavement reactions of older adults centers on widows and widowers. A review of the existing later life widowhood research reveals a focus on two main aspects of bereavement reactions: psychological and physical health consequences. Research on psychological health consequences includes examinations of depression and distress (e.g., Bruce, Kim, Leaf, & Jacobs, 1990; Gallagher, Breckenridge, Thompson, & Peterson, 1983), stress and coping (e.g., Caserta & Lund, 1992), grief (e.g., Vezina, Borque, & Belanger), life

satisfaction (e.g., Lund, Caserta, & Dimond, 1986), and morale (e.g., Scott & Kivett, 1985). Investigations of physical health consequences include examinations of medical illness and visits to physicians (e.g., Thompson, Breckenridge, Gallagher, & Peterson, 1984), and perceived health (e.g., Caserta, Lund, & Dimond, 1990). Notwithstanding this corpus of research, bereavement investigations into these reactions to loss often have lacked the guidance of an integrative theoretical framework (Stroebe, Stroebe, & Hansson, 1993) that must certainly be multidimensional in scope. Multidimensional models of bereavement reactions provide an opportunity for the examination of the range of psychological (i.e., affective, cognitive), physical (including behavioural), and social reactions of bereaved individuals.

Weiss' (1993) conceptual writings on loss provide such a multidimensional perspective. Weiss' (1993) perspective delineates specific types of interpersonal losses based on degree of attachment and predicts that the loss of a spouse (i.e., relationship of attachment) will evoke intense grief and severe distress, while the loss of a friend (i.e., relationship of community) will evoke bereavement reactions of a lesser magnitude. An exception to the above, Weiss (1993) suggests that individuals who lose entire relationships of community (e.g., all of one's friends) will experience intense bereavement reactions and face difficulty in personal and social functioning similar to individuals who lose a relationship of attachment (e.g., spouse). Still, similar to so many others in this respect, Weiss (1993) offers little by which to predict reactions to and characterize

multiple interpersonal losses that tend to accompany later life. Multiple dimensions on which individuals are affected are identified including negative and positive affect, cognitive, and behavioral domains.

This study was guided by Weiss' (1993) perspective in examining the short-term reactions to the loss of a spouse, a close friend, or both, in later life. This study provides the first empirical comparison of both spouse bereavement and peer bereavement in older women and men. In addition, this study investigates multiple bereavements (i.e., loss of both spouse and close friend) and individuals' reactions to multiple interpersonal losses in comparison to other bereaved and non-bereaved people of similar age. Examination of the bereaved and non-bereaved comparison groups are based on measures of perceived health, negative affect, positive affect, social involvement, emotional investment, satisfaction with family relationships, and satisfaction with friends. An investigation of these multidimensional facets of bereavement reactions provides a better understanding of older adults' reactions to the loss of close interpersonal relationships, as well as sheds light on the nature and meaning of interpersonal ties in later life.

#### Definition of Terms

The following sections provide an accounting of the definition of terms to be discussed in this study, as well as an overview of bereavement theories. The literature on short-term bereavement reactions to the loss of a spouse, a friend, and multiple interpersonal losses makes up the substance of the literature review that follows, encompassing both an empirical

and conceptual discussion of reactions to loss and meaning of the lost relationship.

The most commonly used definitions of terms associated with bereavement research are provided below in order to clarify what is examined. *Bereavement* refers to "the objective situation of having lost someone significant" (Stroebe et al., 1993, p. 5). *Loss* is used interchangeably with bereavement. *Bereaved* is a descriptive term for an individual who experienced the death of another person. *Grief* "is the emotional response to one's loss," and *mourning* "denotes the actions and manner of expressing grief" (Stroebe et al., 1993, p. 5). The term *bereavement reactions* refers to individuals' psychological, physical, and social functioning as a result of the loss. Recovery from or adjustment to bereavement results when an individual is able to function in daily life at levels similar to those preceding one's bereavement status (Weiss, 1993).

This study examines the short-term reactions to the death of a spouse, a close friend, and both, in a nationally representative sample of Canadians aged 65 and older. *Short-term* is defined as twelve months or less; thus, reactions to the death of a close interpersonal relationship(s) in the preceding year are investigated. *Spouse* is the term used to identify a marriage partner. For the purposes of this study, common-law-partners also are grouped under the category of spouse. *Close friend* is subjectively defined by each individual, but respondents are primed to think of someone with whom "an individual feels at ease, can talk to about private matters, or can call on for help."



### Bereavement Theories

The study of grief and bereavement has its roots in the classical psychoanalytic perspective of Freud (1917/1957), later elaborated in the attachment models of Bowlby (1969, 1980), Parkes (1972, 1993), Parkes and Weiss (1983), and Weiss (1993). The evolution of bereavement research has witnessed a movement from intrapersonal perspectives to interpersonal perspectives (Stroebe, Stroebe, & Hansson, 1988). For example, Freud (1917/1957) proposed a distinction between bereavement reactions: mourning--the normal or more natural emotional reaction to the death of a loved one (i.e., normal grief)--and melancholia--a more pathological reaction with persistent depression following the death of a loved one (i.e., chronic or clinical depression). This intrapersonal perspective emphasized that the bereaved individual must "work through the loss" and detach or relinquish his/her psychological attachment to the deceased by withdrawing energy from the image of the deceased. Freud (1917/1957) believed that after the bereaved individual had "worked through the loss," he/she then would have the emotional energy to establish new relationships.

Bowlby's (1980) attachment perspective on grief moved beyond Freud's (1917/1957) focus on the individual and into a broader, more interpersonal perspective (Stroebe et al., 1988). Central to Bowlby's theory was the relationship between child and parent in which the child exerts attachment behaviours in order to "maintain certain degrees of proximity to, or communication with, the discriminated attachment figure(s)" (1969, p. 40). With a child's loss of an attachment relationship (i.e., parent), the

child no longer feels protected and secure. Bereavement is an unwanted separation from an attachment figure that causes separation anxiety (Bowlby, 1969) and feelings of anger and depression. Unlike Freud, Bowlby believed that these attachment behaviours were normal for bereaved individuals in response to their desire for a reunion with the deceased. Bowlby (1980) identified four phases that bereaved individuals experience in reaction to the death of an attachment figure: numbness, yearning and protest, depressive withdrawal, reorganization and recovery. Recovery occurs when the bereaved individual invests in new relationships and has a return of interests that preceded the loss.

Parkes (1972, 1993; Parkes & Weiss, 1983) extended Bowlby's (1969) attachment theory into adulthood and imbued it with a more cognitive orientation. He identified losses that included not only the loss of a spouse or another loved one, but also the loss of a limb and losses that arise with a terminal illness. The experience of these losses occasion psychosocial transitions (Parkes, 1993), in which individuals are forced to readjust their assumptions about the world in coping with the loss. For example, "[t]he death of a spouse invalidates assumptions that penetrate many aspects of life. Habits of action...and thought...must be revised if the survivor is to live as a widow" (Parkes, 1993, p. 94). This coping and readjustment may negatively affect mental and physical health, particularly when there is resistance to change following the loss (Parkes, 1993). Individuals' reactions and recovery may vary depending on the type of loss, for each loss brings with it a unique meaning for

each individual (Parkes, 1993). Like Bowlby, Parkes (1993) noted that individuals go through phases of grieving--numbness, pining, disorganization and despair, and recovery. Recovery results when the bereaved individual has both accepted the loss and adjusted or revised her/his assumptions about the world.

Weiss' (1993) perspective on loss draws on Bowlby's (1969, 1980) development of attachment theory and Parkes' (1972) extension of it into adult functioning. Rooted in Bowlby's attachment theory, Weiss (1993) delineates two categories of relationships--relationships of attachment and relationships of community. Weiss' (1993) relationships of attachment include relationships between married couples or partners, parent-child relationships, transference relationships (bonds between patient and therapist), and some relationships between parents and their adult children. His second category of relationships--relationships of community--includes friendships, co-workers and colleagues, adult sibling relationships and other non-household familial relationships.

Weiss' (1993) perspective on loss holds that only the loss of an attachment relationship (e.g., spouse) will evoke a grief response and intense distress, whereas the loss of a relationship of community (e.g., close friend) will evoke much less distress and less negative bereavement reactions. Whereas attachment relationships provide feelings of security and are not replaceable, Weiss (1993) contends that the loss of a friend or relationship of community may be replaceable and evokes less intense bereavement reactions: "membership in a meaningful community will limit the distress" (Weiss, 1993, p. 272). It is

only with the "loss of all of one type of relationship of community-all friendships...", notes Weiss (1993, p. 271), that intense bereavement reactions are experienced similar to those of individuals who lose a spouse or other relationship of attachment.

Following the death of a loved one, individuals experience phases of grieving and, in the "movement to recovery" or adaptation, go through a process of cognitive acceptance, emotional acceptance, and identity change (Weiss, 1993). Weiss identifies cognitive, affective, and behavioural dimensions that are impacted following the death of an attachment relationship. Bereaved individuals' recovery following loss results when they are able to effectively function as adults; this includes the ability to (1) give energy to everyday life, (2) maintain psychological comfort, (3) experience gratification, (4) make preparations for the future, and (5) function in social roles (Weiss, 1993). This perspective on loss offers an articulation of multiple types of loss and the degree to which they evoke intense bereavement reactions as well as provides multiple dimensions on which to assess bereaved individuals' recovery and levels of effective functioning.

While others have studied bereavement reactions from a variety of disciplines including stress theory (e.g., Stroebe & Stroebe, 1987) and symbolic interactionism (Rosenblatt, 1993), Weiss' (1993) attachment perspective is the most germane to this study. Weiss' (1993) framework provides an interpersonal perspective that identifies particular types of losses and delineates multiple dimensions of bereavement reactions.

## Review of the Literature

### Death of a Spouse

The following two sections provide a review of the literature on older adults' reactions to the death of a spouse. The review of the empirical literature is restricted to the short-term reactions of older adults, and is organized by the two core areas of bereavement research investigation--psychological and physical health consequences. This empirical discussion is followed by a conceptual discussion of the meaning of a spouse in later life which offers a context for understanding the bereavement reactions to the loss of a spouse.

The early examination of bereavement was essentially the study of widowhood and tended to be problem-generated (Stroebe et al., 1988); that is, it focused on single issues. For example, early researchers investigated the relationship between widowhood and increased mortality rates in spouse bereaved individuals (Farr, 1858: cited in Stroebe et al., 1988; Shurtleff, 1955). Lindemann (1944) examined negative affect following bereavement. Research was often limited to young and middle-aged widows (e.g., Parkes, 1964). The studies that have focused on later life spousal bereavement have been composed of small and unrepresentative samples (e.g., Heyman & Gianturco, 1973), and did not compare individuals' bereavement reactions to non-bereaved individuals (e.g., Caserta, Lund, & Dimond, 1989). Consequently, sample selection often limited the generalizability of findings, while the lack of control groups minimized the understanding of bereavement reactions. Furthermore, these and other studies tended to focus on women under age 60, limiting the

understanding of bereavement reactions (and interpersonal ties) in later life women and men where the death of a spouse is statistically more common.

More recent research has moved away from the single issue-focused research on mortality or depression (with some minor exception, e.g., Bruce et al., 1990) and toward limited theoretically-driven research (e.g., Caserta et al., 1989; Reich, Zautra, & Guarnaccia, 1989). Researchers now examine widowhood in later life (e.g. Lund's, 1989, edited book, Older bereaved spouses: Research with practical implications), and recently have begun to establish and refine theoretical frameworks (see Stroebe et al., 1993) that recognize the "multidimensionality of bereavement reactions" (Stroebe et al., 1988).

Recently, more intensive attention has been paid to later life widowhood (e.g., Lund, 1989; Thompson, Gallagher-Thompson, Futterman, Gilewski, & Peterson, 1991) with larger and more representative samples including non-bereaved comparison groups (e.g., Breckenridge, Gallagher, Thompson, & Peterson, 1986; Caserta & Lund, 1992). These studies address some of the methodological limitations of earlier research and, additionally, provide a growing body of literature from which to examine the short-term bereavement reactions to the loss of a spouse in later life individuals. The following literature review of widowhood examines the psychological (i.e., affective, cognitive) and physical functioning consequences of later life bereavement.

**Empirical: Psychological and physical health consequences.**

Many studies have examined the psychological health consequences following widowhood focusing on the dependent variable of depression in the bereaved between 1 month and 1 year following the loss (Breckenridge et al., 1986; Bruce et al., 1990; Carey, 1977; Caserta et al., 1989; Gallagher et al., 1983; Reich et al., 1989) as well as throughout the first 2 years following the loss (Lund et al., 1986; Vezina et al., 1988; Zisook, Schuchter, Sledge, Paulus, & Judd, 1994). Consistently, studies comparing spouse bereaved with control or matched samples of married and non-bereaved older adults indicate that bereaved samples evidence deleterious effects following the loss. For example, Breckenridge et al. (1986) examined the bereavement reactions of 196 individuals at 2 months following the loss of their spouse. As compared to a non-bereaved comparison group of 145 older adults, the bereaved group had significantly higher levels of distress. In an earlier study by Gallagher et al. (1983) that examined bereavement reactions 2 months following the loss, 211 bereaved older individuals reported significantly more depression than a non-bereaved comparison group.

Reich et al. (1989) investigated the effects of later life spouse bereavement on psychological distress and psychological well-being between 1 and 10 months following the loss. In a sample of 58 bereaved and 59 controls matched for age, gender, and socio-economic status, the bereaved maintained significantly higher levels of depression and feelings of helplessness/hopelessness between 5 and 10 months following the loss. Similarly, the bereaved reported lower levels of psychological

well-being that were reflected in lower positive affect. However, there were no differences between the bereaved and control groups on levels of anxiety between the same period of 5 and 10 months following the loss.

Research also indicates greater levels of stress in bereaved individuals 12 to 24 months following the death (Caserta & Lund, 1992). Reich et al. (1989) reported that while bereaved individuals evidenced higher levels of psychological distress than non-bereaved controls, the distress levels of the bereaved around one year following the loss significantly lessened and approached the levels of the non-bereaved individuals. Others have found coping difficulties in older adults 2 years after bereavement. For example, Caserta and Lund (1992) found moderate to high stress levels in bereaved older adults to continue 1 to 2 years beyond the loss of a spouse. In a portion of the same sample, Lund et al. (1985) also found that nearly one-fifth of the 138 bereaved adults experienced significant levels of depression and perceived inability to cope two years after their spouses' deaths. The negative impact of loss is felt both in the immediate months following loss as well as throughout and beyond the first year of bereavement.

The effects of gender on levels of depression and distress in bereavement are mixed. Studies report that women in general have higher levels of depression than men (e.g., Gallagher et al., 1983). Similarly, in a sample of spouse bereaved older adults, Jacobs, Hansen, Berkman, Kasl, and Ostfeld (1989) found that spouse bereaved women had higher levels of depression than the bereaved men. However, other bereavement studies



incorporating control samples and longitudinal measurements indicate no significant differences between bereaved women and men in terms of levels of depression over the first 2 years following bereavement. For example, Gallagher et al. (1983) found no significant differences between bereaved men and women on levels of depression 2 months following the loss. Others have found no gender differences among the bereaved through 2 years after the death of a spouse (Lund et al., 1986; Zisook et al., 1994).

Less frequent attention has been focused on short-term physical health consequences following the loss of a spouse. Perceived health is the prototypic operationalization of physical health. Caserta et al.'s (1990) research on later life bereavement indicates that perceived health is strongly associated with physical health and the reporting of symptoms and medical conditions. A study of 212 older individuals bereft of their spouses for two months, as compared to a non-bereaved comparison group of 162 individuals, reported significantly more illnesses, increases in medication usage, and lower perceived health among the bereaved. Thompson et al. (1984) also found an increase in new or worsened illnesses in spouse bereaved women and men two months after the loss. Women, in general, reported worsened health (Thompson et al., 1984). They also found that while the bereaved individuals, as compared to non-bereaved, indicated poorer perceived physical health and poorer physical health relative to others, there were no gender differences nor gender by bereavement interactions.

**Conceptual: Spouse/partner loss in later life.** Spouses in later life "provide each other with more and more of the love, companionship, and stimulation" that individuals need, particularly as networks of friends and family diminish (Nock, 1987, p. 255). The subjective meanings that individuals attach to a spouse vary extensively. The loss of a spouse, then, is the loss of one's partner in life whose experiences and meaning are unique to each individual. Researchers only recently have begun to discuss the importance of understanding the context of a relationship in order to understand the meaning of the lost relationship (Wortman, Silver, & Kessler, 1993). As Wortman et al. (1993, p. 350) contend, "the impact of a major loss is...likely to depend on the meaning of the loss to the individual".

While current research provides little understanding of the meaning particular relationships hold for individuals, inferences about the importance of being married are drawn based on studies indicating that married individuals have greater levels of psychological and physical health than non-married adults. For example, married individuals tend to have higher life satisfaction and better health than non-married individuals (Harvey & Bahr, 1974), including those widowed (Hyman, 1983; Larson, 1978), divorced and separated (Larson, 1978). Married men and women also tend to have lower levels of depression as compared to previously and never married individuals (Pearlin & Johnson, 1981).

The causes of such differences favouring married individuals and the dynamics that bring about such changes are currently open

to speculation. The selectivity hypothesis suggests that individuals who are both mentally and physically healthier are the most likely to marry (Stroebe & Stroebe, 1983); others suggest that married individuals experience fewer life strains. Still others have posited that "married people are less emotionally responsive than nonmarried people...[and thus] life strains have less emotionally damaging effects on married than nonmarried people" (Kessler & Essex, 1982, p. 485).

While the nuances of the supportive nature of later life marital relationships remain to be further examined, research findings indicate gender differences in the receipt of social support. For example, both younger (age 65-74) and older (age 75+) married women report receiving emotional support less from their husbands (Depner & Ingersoll-Dayton, 1985) and more from their children, other family members, or both (Lowenthal & Haven, 1968), while husbands tend to report receiving more emotional support from their spouses. This, combined with men more likely reporting wives as confidants than women identifying their spouses as such (Tower & Kasl, 1996), suggest that the loss of a spouse for men may be particularly difficult given the additional loss of a primary provider of emotional support. Given that close friend network size for older married women and men has been found to be limited to a couple or none (Rubinstein, 1987), reactions to the death of a spouse may be further differentially impacted by the presence (or absence) of other close network relationships.

### Death of a Close Friend

The following three sections provide an accounting of the limited empirical attention given to the study of older adults' reactions to the deaths of close friends, and a conceptual discussion of the meaning of a close friend--and thus the meaning of the loss of a close relationship--in later life.

Empirical: Death of a friend in later life. A review of the empirical literature revealed that while some research has examined the impact of the death of a friend on young children (O'Brien & Goodenow, 1991) and adolescents (Pohlman, 1984), only three studies have examined the impact of the death of a close friend on adults. This is surprising, given the increased frequency with which older adults experience the loss of close interpersonal relationships (Johnson & Troll, 1994). Sklar and Hartley (1990) explored the bereavement reactions of 48 people who had a close friend die within the preceding five years. Thirty-five students aged 18 through 45 years completed either in-depth interviews or essays, while the remaining thirteen students, faculty, and college staff participated in a three-session mutual-support group designed specifically to focus on individuals who had a close friend die. Sklar and Hartley (1990) found that many of the reactions to the death of a close friend were similar to the bereavement patterns that follow the death of a spouse or child; that is, changes in psychological health included feelings of loss, anger, guilt, and decreased coping abilities.

In a longitudinal study, Murphy (1986) examined the stress, coping, and mental health outcomes of 69 individuals (mean age

40.5 years) following the death of a family member or friend in an unexpected natural disaster (i.e., Mount St. Helens' volcanic eruption). At both one and three years following the death, stress decreased for both the friend and family groups. However, at one year following the death, family members had significantly higher levels of depression and mental distress than did friends of the deceased. Additionally, friends were more likely to note some positive or "growth-producing" effects one-year following the loss in sharp contrast to family members. Interestingly, some of the positive effects noted by peer bereaved individuals included an increased focus on the present, preparations for one's own death, and enjoyment of the present.

Only one study has focused on peer bereavement in later life. Roberto and Stanis (1994) studied 38 women aged 67 to 92 who had experienced the death of one or more close friends within the preceding 12 years (average time since death was approximately 5 years). Even after this extended period of time, they found that the majority of bereft women (i.e., 69%) reported feelings of deep loss. One-third indicated an increased feeling of being alone. Single women (i.e., widowed, divorced, never married) aged 75 and older were significantly more likely to report a sense of loss than married women and those under age 75. The older women were significantly more likely to report a feeling of deep loss when the close friend had died within the last five years or when two close friends had died in the preceding twelve years. However, when the close friend died more than five years ago there were no age differences in feelings of loss.

Roberto and Stanis (1994) also examined the older women's perceptions of changes in other relationships and personal beliefs and feelings following the death of a close friend. Approximately half of the women reported feeling either closer to existing friends and/or a greater appreciation of life, and about a quarter of the individuals made a "new close friend." Nearly a third of the women turned to family for friendship and/or reported an increased appreciation for a family member. Married women (regardless of age) and individuals under age 75 were significantly more likely to indicate an increased reliance on family members for friendship following the death of their close friend. Several effects of a more self-evaluative nature were noted, including an increased awareness of aging and awareness of one's mortality for approximately 45% of the peer bereaved women. Similar to Murphy's (1986) findings of positive effects deriving from the experience of deaths of a close friend(s), Roberto and Stanis (1994) found that nearly 45% of the peer bereaved women reported an increased appreciation for life.

**Conceptual: Death of a friend in later life.** The discussion about peer bereaved individuals is illuminated by two conceptual articles (Deck & Folta, 1989; Sklar, 1991-1992). Deck and Folta (1989) articulate some of the macro-social issues involved with peer bereavement, highlighting the role society plays in structuring individual and group reactions to bereavement and the prescribed grief patterns. "Friend-grievors," Deck and Folta (1989) note, tend to be ignored or to have their experiences negated by family, doctors, and the legal system when addressing issues of the deceased person's wishes, funeral arrangements,

disposal of the body, property rights, and access to social support. Close friends are not recognized as griever, not identified by a term, norms, expectations, or rights; all of this may contribute to increased levels of distress and grief.

Similar to Kastenbaum and Aisenberg's (1972) discussion of older adults' increased recognition of their own mortality, Deck and Folta (1989) suggest that the death of a close friend, someone of similar age, gender, and socio-economic standing, confronts an individual with one's own death and questions of meaning about the future. There may be tension between feelings regarding the close friend's death in that there may be both fear that "it could have been me" and relief that "it wasn't me" (Deck & Folta, 1989).

Similarly, Sklar (1991-92; Sklar & Hartley, 1990) underscores the need to recognize that friends also are bereaved when families experience death, and bereft friends may experience profound loss and have intense grief reactions similar to family members. "Grief," Sklar comments, "is an emotional role whose rights, privileges, restriction, obligation, and entry requirements tend to be confined to family members" (1991-92, p. 110). Close friends are not recognized as having lost something and their affective bond to the deceased tends to preclude any legal right to tangible property. Sklar (1991-92) suggests that the legal institution makes peer bereaved individuals a hidden population, further failing to recognize close friends' rights to grieve.

**Conceptual: Friendship in later life.** The examination of the meaning or importance of friendships to individuals is a

neglected area by researchers (Matthews, 1986). While "close friend" denotes a particular type of relationship, the meaning derived from the relationship varies across individuals, just as the meaning of a spouse varies. For some, a close friend is a confidante and sharer of emotions, for others a close friend is a companion and sharer of activities. It appears that the meaning and the role of a friend are often inferred from studies of numbers of friends in an individual's network or frequency of contact with friends (de Vries, 1996). However, just as a high frequency of receipt of social support does not necessarily imply positive or "meaningful" support (e.g., Wortman & Lehman, 1985), much contact with and/or many friends may not warrant the assumption that they are highly supportive (Crohan & Antonucci, 1989).

Although investigations of the meaning of friendship are limited, research does reveal that close friendships, particularly in later life, have a positive effect on well-being, life satisfaction and morale (Crohan & Antonucci, 1989; Mancini, 1980). With increased losses and diminishing networks in later life, friends take on a greater role and importance than family (Arling, 1976; Wood & Robertson, 1978), often providing emotional support and assistance in adjusting to new roles (Bankoff, 1983; Lopata, 1977). Furthermore, close friends in later life tend to have shared decades of experiences together, providing a sense of continuity between the past, present, and future (Matthews, 1986), as well as opportunities for self-evaluation and self-assessment (Roberto & Stanis, 1994).



Unlike the ascribed status of familial relationships, friendships are more voluntary in nature (e.g., Allan & Adams, 1989; Rook, 1989). While this presents a richness and diversity in the composition and function of friendships across the life course, research findings reveal a homosociality (Lipman-Bluman, 1977) in later life friendships; that is, friends usually choose others of similar socio-demographic dimensions--age, gender, race, marital status, social class or socio-economic status, and religion (e.g., Adams, 1989). Particularly in later life, cross-gender relationships are rare (Chown, 1981). Both the demographics of later life individuals (more women than men with increasing age) and marital status (more women widowed/single than men) impact the opportunity for cross-gender relationships (Allan & Adams, 1989). Widowed individuals, note Bankoff (1983) and Lopata (1977), have much contact with other widowed friends. Similarly, Richardson (1984) reported that older women indicate that same-gender friendships are more important than cross-gender relationships.

### **Multiple Bereaved**

The limited focus of research on reactions to multiple interpersonal losses in later life is reflected in the following section; this includes a review of the empirical work in the area as well as a conceptual accounting of the meaning of multiple interpersonal losses in later life and their impact on older adults.

**Empirical.** No studies to date have explicitly examined individuals' reactions to multiple interpersonal losses in later life. Past studies have focused on multiple losses in the

context of catastrophes and violent deaths. For example, there have been studies or discussions of individuals' reactions to the death of multiple numbers of family and friends in the context of the Mt. St. Helens' volcanic eruption (Murphy, 1986), the Hiroshima atomic bomb blast (e.g., Lifton, 1967) and the Holocaust (e.g., Dimsdale, 1980). More recent studies have examined multiple losses among gay men in young- and middle-adulthood. For example, Biller and Rice (1990) note that many gay men can witness the "destruction of entire friendship networks" due to death from AIDS (p. 283). In a qualitative study of gay individuals under age 60 who experienced the deaths of multiple close friends from AIDS, Carmack (1992) found that individuals' bereavement reactions and grieving after successive losses grew more intense. Difficulty in coping with loss for some gay men is compounded by dealing with the multiple loss of individuals with AIDS and by not having time to recover from each death. This may represent not only the loss of a relationship of community for some gay men, but rather the loss of a *total* community as entire networks of friends die. Reactions to multiple interpersonal losses that tend to accompany later life (i.e., death of spouse and friends) have yet to be investigated.

Conceptual. Increased numbers of interpersonal losses accompany later life (Allan, 1989; Johnson & Troll, 1994). Older adults' communities of friends and family may greatly diminish in size with the deaths of friends and spouses, particularly for men (Allan & Adams, 1989). Kastenbaum (1969) suggests that it is likely that an older individual who experiences multiple bereavements will show some cumulative effect and be

"particularly vulnerable to the psychological effects of loss" (p. 47). This bereavement overload (Kastenbaum, 1969) arising from a succession of losses in later life is likely associated with decrements in the psychological, physical, and social domains of functioning.

Moss and Moss (1989) suggest that the experience of family deaths and other close interpersonal losses (M.A. Moss, personal communication, September, 1995) over a lifetime may create a "personal pool of grief" that persists over time and intensifies with added familial losses. While this is different than bereavement overload occurring with multiple losses in a short period of time, the pool of grief concept may be extended to include the losses of networks or large portions of one's relationships of community. The intense distress and severe grief that will likely accompany the experience of being multiple bereaved in a short period of time and losing one's entire community of relationships is similar to that associated with losing one's spouse or attachment relationship (Weiss, 1993) in that the recipients of one's confidences and providers of support and security fostering feelings are gone.

### Summary

Recently widowed women and men differed significantly from the non-bereaved on a host of dimensions including perceived health, depression, and positive affect. While similarities exist between women and men in terms of the intensity of reactions to loss, some studies indicate significant gender differences on levels of perceived health and depression. The reactions of peer bereaved individuals are not well articulated

in the empirical literature due to the limited number of studies. Research suggests that women and men whose close friends die experience mixed reactions of depression and sadness. Interestingly, some indicators of positive affect are evidenced. The reactions of multiple bereaved individuals in later life have not been examined. The bereavement overload occasioned by the loss of multiple numbers of family and friends suggests that significant decrements to psychological health will result. All three losses--spouse, close friend, both spouse and close friend--suggest significant impacts on individuals' effective functioning in the psychological, physical, and social domains. Reactions to specific losses may be differentially impacted by gender, close relationship network size (i.e., number of close friends, number of close family members, or both), and age. Many of these dimensions, however, have not been examined nor controlled for in later life bereavement research. The degree to which bereaved women's and men's reactions to various types of interpersonal loss are different or similar is yet to be examined.

### Theoretical Framework

Weiss' (1993) perspective on loss provides a framework to examine both the death of a spouse and the death of a close friend. Weiss' (1993) perspective articulates different types of loss and delineates multiple dimensions on which individuals are affected. Drawing on attachment theory, Weiss (1993) delineates two categories of relationships--relationships of attachment and relationships of community. The death of a spouse or partner is considered a loss of an attachment relationship. The death of a

close friend is considered the loss of a relationship of community.

Weiss' (1993) perspective on loss holds that the death of an individual embedded in a relationship of attachment (e.g., spouse) will evoke a grief response and intense distress. By contrast, the death of an individual embedded in a relationship of community (e.g., close friend) will provoke less intense distress and will tend not to evoke intense grief reactions. Weiss' reasoning follows from his attachment perspective in which the "[o]ne common element of relationships of attachment is their linkage to feelings of security" (1993, p. 272). Weiss (1993) believes that relationships of attachment are not replaceable, and the loss of an attachment relationship will present strong feelings of separation distress, pining, and despair. Whereas close friendships and other relationships of community may be highly valued and their loss evokes some distress, "grief," Weiss notes, "does not ordinarily follow the loss of a friend" (1993, p. 273); friendships and other losses of community are replaceable. It is only when entire relationships of community are lost, notes Weiss (1993), that the losses are comparable to the loss of a relationship of attachment; thus, intense bereavement reactions may be evoked.

Weiss (1993) provides a multidimensional model to assess individual's reactions to bereavement. He believes that individuals' recovery and aspects of their personal and social functioning can be assessed on several cognitive, affective, and behavioral dimensions (Weiss, 1993). A return of the following five abilities, or partial return, is necessary for an individual

to "function as an adult and as a member of society" (Weiss, 1993, pp. 277-278):

1. *Ability to give energy to everyday life.* Effective functioning requires investment in the present, with adequate energy to meet current challenges...

2. *Psychological comfort, as demonstrated by freedom from pain and distress.* Effective functioning requires freedom from disturbing thoughts and feelings...

3. *Ability to experience gratification - to feel pleasure when desirable, hoped-for, or enriching events occur.* Effective functioning requires the ability to experience pleasure as well as to anticipate pleasure should hoped-for events occur...

4. *Hopefulness regarding the future; being able to plan and care about plans.* Effective functioning requires being able to give meaning to activity, and... a sense of a future that may bring with it something desirable...

5. *Ability to function with reasonable adequacy in social roles as spouse, parent, and member of the community.* Effective functioning requires meeting social expectations well enough to maintain emotionally significant relationships...

### Hypotheses

This study compared the short-term reactions of peer bereaved, spouse bereaved, and multiple bereaved women and men with a similar aged non-bereaved comparison group. Additionally, the interaction between bereavement status and gender was investigated. Such a focus is unique in that most studies of later life bereavement have examined only one type of loss. The two primary questions addressed were: (a) What are the differences in effective personal and social functioning in peer bereaved, spouse bereaved, multiple bereaved, and non-bereaved older adults? (b) Are there gender differences in short-term reactions to different types of interpersonal losses?

The primary hypotheses regarding individuals' reactions to the loss of different types of close interpersonal relationships were guided by Weiss' (1993) perspective on loss--that is, the identification of specific types of loss and a multidimensional model to assess individuals' effective personal and social functioning. In addition to bereavement group comparisons on multidimensional measures of psychosocial functioning, hypotheses about gender differences were presented based on empirical and conceptual literature. As well, research expectations were presented based on limited conceptual literature. Research questions that addressed the interplay between gender and multiple types of loss also were offered where there was no substantial empirical nor conceptual literature to posit a relationship between variables a priori.

Weiss' (1993) conceptual perspective on loss holds that bereaved individuals' recovery or return to ordinary functioning following loss may be assessed on several dimensions of effective functioning. Individuals' experiencing the loss of a relationship of attachment (i.e., spouse) are expected to experience lower levels of functioning due to intense distress and severe grief reactions as compared to individuals who lose a relationship of community (i.e., close friend) and experience less impact on personal and social functioning. Gerontology and bereavement research has consistently revealed that widowed individuals are negatively affected in terms of health, depression and psychological distress, and social functioning (e.g., Breckenridge et al., 1986; Lund et al., 1993; Reich et al., 1989). The loss of a spouse presents an individual with the

loss of a key component of one's identity (Lopata, 1973). Short-term adjustment or adaptation to widowhood entails numerous life changes (physical, psychological, and social), many that negatively impact the bereaved individual.

The paucity of research on older adults' reactions to the death of a close friend limits the body of empirical literature from which to draw. The loss of a close friend represents a void in an individual's life--a sharer of life experiences, activities, and confidences is gone. Friends can act as yardsticks by which to measure how one is doing--achieving goals, maintaining good health and well-being--or act as mirrors in reflecting the similarities that one sees in one's self--shared values, interests, and experiences. Research indicates that peer bereaved individuals, like spouse bereaved individuals, report poorer psychological and physical health (Roberto & Stanis, 1994; Sklar & Hartley, 1990). A comparison of a limited number of young and mid-life spouse and peer bereaved individuals revealed that widowed women and men reported poorer mental and physical health than peer bereaved individuals (Murphy, 1986).

Weiss (1993) also posits that individuals who lose an entire community of relationships (i.e., loss of all friends) will tend to experience severe distress and reduced levels of effective functioning comparable to those of individuals who lose a spouse. The loss of both a spouse and a close friend may approximate this type of total community loss, as the main recipients of confidences and providers of feelings of security are gone. The "bereavement overload" occasioned by multiple interpersonal losses in a short period of time, notes Kastenbaum



(1969), may negatively impact individuals' psychological health. As individuals experience successive deaths of friends and family, a "pool of grief" develops which causes each additional death to be a reminder of past ones and influence one's ability to adjust or adapt to the loss (Moss & Moss, 1989). Given such a significant loss of one's social network, multiple bereaved individuals may experience as much, if not more, negative personal and social functioning than spouse bereaved individuals.

The following hypotheses (H) and research expectations (E) about bereavement reactions to different types of interpersonal loss were proposed:

- H1:** Spouse bereaved individuals will report the lowest levels of perceived health, which will be significantly lower than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.
  - E1:** Perceived health scores for the multiple bereaved group will be equal to, or even less than, the spouse bereaved group; multiple bereaved individuals' scores also will be significantly less than those of the peer bereaved and non-bereaved individuals.
- H2:** Spouse bereaved individuals will report the highest levels of negative affect (i.e., low negative affect scores), which will be significantly greater than the peer bereaved, which will be significantly greater than the non-bereaved comparison group.
  - E2:** Negative affect levels for the multiple bereaved group will be equal to, or even greater than, the spouse bereaved group; multiple bereaved individuals' levels of negative affect also will be significantly greater than those of the peer bereaved and non-bereaved individuals.
- H3:** Spouse bereaved individuals will report the lowest levels of positive affect, which will be significantly lower than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.
  - E3:** Positive affect scores for the multiple bereaved group will be equal to, or even less than, the spouse bereaved group; multiple bereaved individuals' scores also will be significantly less than those of the peer bereaved and non-bereaved individuals.

- H4:** Spouse bereaved individuals will report the lowest levels of preparation for the future, which will be significantly lower than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.
- E4:** Preparation for the future scores for the multiple bereaved group will be equal to, or even less than, the spouse bereaved group; multiple bereaved individuals' scores also will be significantly less than those of the peer bereaved and non-bereaved individuals.
- H5:** Spouse bereaved individuals will report the lowest levels of social functioning, which will be significantly lower than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.
- E5:** Social functioning scores for the multiple bereaved group will be equal to, or even less than, the spouse bereaved group; multiple bereaved individuals' scores also will be significantly less than those of the peer bereaved and non-bereaved individuals.
- H5A:** Spouse bereaved individuals will report significantly less social involvement than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.
- H5B:** Spouse bereaved individuals will report significantly lower levels of emotional support than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.
- H5C:** Spouse bereaved individuals will report significantly lower levels of satisfaction with family relationships than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.
- H5D:** Spouse bereaved individuals will report significantly lower levels of satisfaction with friend relationships than the peer bereaved, which will be significantly lower than the non-bereaved comparison group.

Gender is socially constructed, and its examination allows for placing individuals' personal and social functioning in a cultural context. In general (regardless of bereavement status) women report greater levels of depression than men (Gallagher et al., 1983). The expressivity factor may account for some of the greater reporting of affect by women (both bereaved and non-bereaved), in that women tend to report greater degrees of

affect. This may also be due to women's greater level of intimacy and connectedness with relationships (e.g., Gilligan, 1982). Consistent with other studies that have found women to indicate poorer health than men (e.g., Thompson et al., 1984), women are predicted to have lower perceived health than men. Men are expected to report lower levels of social functioning than women (Stroebe & Stroebe, 1983): decreased social involvement, less emotional investment in relationships, and less satisfaction both with friendships and relationships with family.

The following hypotheses (H) about women's and men's effective personal and social functioning were proposed:

- H6: Men will have significantly higher levels of perceived health than women.
- H7: Men will have significantly lower levels of negative affect than women.
- H8: Women will have significantly higher levels of positive affect than men.
- H9: Women will have significantly higher levels of preparation for the future than men.
- H10: Women will have significantly higher levels of social functioning than men.
  - H10A: Women will have significantly higher levels of social involvement than men.
  - H10B: Women will have significantly higher levels of emotional investment than men.
  - H10C: Women will have significantly higher levels of satisfaction with family relationships than men.
  - H10D: Women will have significantly higher levels of satisfaction with friend relationships than men.

Individuals' reactions to close interpersonal loss are expected to vary by gender. Drawing from the widowhood literature (e.g., Jacobs et al, 1989; Thompson et al, 1984), bereaved women tend to report greater levels of psychological

distress and poorer physical health than widowed men. The more normative nature (and greater expectation) of becoming a widow as opposed to a widower also suggests that spouse bereaved women will report greater levels of preparation for the future than widowed men. While it is expected that women's and men's reactions to specific interpersonal losses will be consistent with widowhood empirical findings and conceptual literature--women reporting poorer health and greater distress, while men reporting poorer social functioning--the examination of the interaction between gender and different bereavement statuses are more exploratory. Given the limited empirical attention to later life peer bereavement and the absence of literature on multiple bereaved older individuals, the following research questions were examined:

- Q1: Does gender interact with bereavement status to influence levels of perceived health?
- Q2: Does gender interact with bereavement status to influence levels of negative affect?
- Q3: Does gender interact with bereavement status to influence levels of positive affect?
- Q4: Does gender interact with bereavement status to influence levels of preparation for the future?
- Q5A: Does gender interact with bereavement status to influence levels of social involvement?
- Q5B: Does gender interact with bereavement status to influence levels of emotional investment?
- Q5C: Does gender interact with bereavement status to influence levels of family satisfaction?
- Q5D: Does gender interact with bereavement status to influence levels of friend satisfaction?

Further exploratory analyses were conducted within the peer bereaved group of individuals. While this was outside the

context of the proposed comparison study, the lack of attention peer bereavement has received (particularly in contrast to widowhood) combined with the large sample size of peer bereaved individuals, calls attention to this understudied large group of individuals. Given the growing body of later life friendship literature that sheds light on the value of close interpersonal relations, research expectations were drawn about individuals' reactions to the death of a close friend.

Exploratory analyses within the peer bereaved group were conducted using gender, as well as close friendship number, close family relationship number, and age, as independent variables. Thus, it was anticipated that the potential interplay between gender, close friendship network size, family network size, and age would be elucidated and shed light on the understanding of reactions to later life friendship loss. A sampling of the research questions follows.

The number of friends an individual maintains is related to a host of characteristics including greater well-being, life satisfaction, and health (Crohan & Antonucci, 1989). Would losing one of many friends or many of all friends differentially impact an individual? It is expected that losing all of one's friendship network (i.e., losing one's only close friend) will negatively impact individuals more than those who have one or several remaining friends. Would the effects be the same for women and men? On the one hand, women tend to report greater involvement and intimacy in relationships (Gilligan, 1982), particularly outside of marriage; thus, the reactions to the loss of a close friend may be greater for women than men. On the

other hand, women's embeddedness in a more interconnected social network may offer the opportunity for greater support than men's close relationships. Regardless of gender, though, the number of close family relationships is expected to moderate the effects of friendship loss.

The normativeness of loss is associated with age; increased losses are expected with increasing age. However, the normative nature of loss for the old-old (age 75 and older) as compared to the young-old (age 65 - 74) may not warrant the assumption that the death of a close friend evokes greater negative psycho-social reactions in the old-old. The combined losses associated with having more experiences may cause greater difficulties. Thus, is age associated with levels of negative reactions to the loss of a close friend? And will the size of one's close relationship network, either friend, family, or both, interact with age to account for differences in peer bereavement reactions? Will this be further moderated by gender?

## Chapter II

### Method

#### Sample

The sample on which the following analyses are based was drawn from a large representative Canadian study entitled *Survey on Ageing and Independence* (SAI; Statistics Canada, 1991). Twenty thousand Canadians aged 45 and older responded to interviews that were about 30 minutes in length, with approximately 90% of them being conducted over the telephone and the rest conducted in respondents' homes. The content of the questionnaire was diverse, addressing aspects of health, activity, independence, and retirement. A response rate of 81% was obtained for the total sample of individuals aged 45 and over: those aged 65-79 had a response rate between 81%-84%, and individuals aged 80 or older had a response rate of 74%. Individuals excluded from the SAI included people living in the Yukon and Northwest Territories, on First Nation's reservations, as well as Armed Force's members and institutionalized adults (i.e., an estimated 8% of those aged 65 to 79 and 24% of individuals aged 80 and older, Statistics Canada, 1991).

Given the focus of this study, only women and men aged 65 and older ( $N = 10,059$ ) were included due to the normative nature of interpersonal losses in later life: age is associated both with mortality rates and the experience of being bereft of a spouse or friend. Data then were compiled on individuals who had experienced the death of a spouse, the death of a close friend, or both, in the preceding twelve months. As well, data were compiled on non-bereaved individuals (i.e., no death of a spouse

or close friend in the preceding twelve months); individuals who responded that they "did not know" if they had experienced the particular type of loss were excluded from the study due to the suspected unreliability of the data. The non-bereaved comparison group also excluded individuals whose marital status had changed in four or fewer years (e.g., no individuals widowed for fewer than five years); empirical evidence suggests that adjustment to (or partial return to ordinary levels of functioning) following such losses as widowhood and divorce may be accomplished within such a time frame (e.g., Lund et al., 1993).

The total study sample consisted of 8,878 adults aged 65 and older who experienced the death of a close friend, the death of a spouse, or both the death of a close friend and a spouse, within the last year as well as non-bereaved individuals who had no change in marital status for five or more years. Approximately 43% of the sample were men and 57% women. The non-bereaved were the single largest group, comprising approximately 60% of the total study sample,  $n = 5358$  (2275 men, 3083 women). Each of the bereaved groups were mutually exclusive: 36.0% of the participants recently experienced the death of a close friend and no death of a spouse in the last four years (i.e., peer bereaved),  $n = 3198$  (1468 men, 1730 women); 2.3% of the participants recently experienced the death of a spouse (i.e., spouse bereaved),  $n = 204$  (64 men, 140 women); and 1.3% of the participants recently experienced the death of both a spouse and a close friend (i.e., multiple bereaved),  $n = 118$  (35 men, 83 women).



The average age of the total study sample was 74.77 years, with no significant age differences between bereavement statuses,  $F(3,8877) = 1.34$ ,  $p = .26$ . Most participants had some secondary schooling, with values ranging from eight or less years of schooling through a university degree. Bereavement status differences on levels of schooling,  $F(3,8877) = 3.14$ ,  $p < .05$ , were not significant between groups on follow-up analyses using Scheffe,  $p < .05$ . The number of other losses experienced in the preceding year (e.g., loss of residence, illness/injury of respondent) differed between bereavement statuses,  $F(3,8777) = 95.96$ ,  $p < .05$ , ranging from 0 to 4, with an average of .46. Follow-up analyses with Scheffe,  $p < .05$ , revealed that the non-bereaved reported the fewest number of other losses compared to the peer, spouse, and multiple bereaved. As well, the peer bereaved reported fewer losses than the multiple bereaved. While respondents tended not to have any health limitations that hampered their involvement in physical activities, differences between the bereavement statuses existed,  $F(3,8877) = 5.67$ ,  $p < .001$ . Scheffe,  $p < .05$ , follow-up analyses revealed that the peer bereaved tended to experience health limitations more than the non-bereaved. Participants reported on average three to four close family relationships and three to four close friends. Peer bereaved and multiple bereaved individuals identified maintaining more close family relationships than the spouse bereaved and non-bereaved. The peer bereaved also reported having a greater number of close friends than the non-bereaved. See Table 1, for socio-demographic characteristics of the sample.

Table 1

Characteristics Of Bereaved and Non-Bereaved Adults

	Multiple Bereaved	Spouse Bereaved	Peer Bereaved	Non- bereaved
n	118	204	3198	5358
Gender				
Men	35	64	1468	2275
Women	83	140	1730	3083
Age <sup>a</sup>				
M	75.56a	75.36a	74.80a	74.72a
SD	6.70	6.23	6.34	6.45
Education <sup>b</sup>				
M	2.29a	2.07a	2.34a	2.25a
SD	1.54	1.41	1.56	1.54
No. Close Family <sup>c</sup>				
M	4.14a	3.04b	3.79a	3.21b
SD	3.73	3.32	3.49	3.19
No. Close Friends <sup>d</sup>				
M	3.80ab	3.48ab	4.28a	2.95b
SD	5.08	5.59	7.27	5.89
Other Losses <sup>e</sup>				
M	.85a	.64ab	.59b	.37
SD	.84	.73	.70	.61
Health Limitation <sup>f</sup>				
M	.31ab	.32ab	.39a	.35b
SD	.47	.47	.49	.48

Note. Any row means that do not share subscripts differ at  $p < .05$ , with Scheffe procedure.

<sup>a</sup> Ranges 65-102; aged 80 and older given mean of 84. <sup>b</sup> Ranges from 1 = (8 years or less), 2 = (some high school), through 6 = (university degree). <sup>c</sup> Ranges 0-30. <sup>d</sup> Ranges 0-98.

<sup>e</sup> Ranges 0-4. <sup>f</sup> 0 = presence of health limitation, 1 = no health limitation.

## Measures

### Dependent Variables

The items for the seven dependent measures are included in Appendix A. Drawing on Weiss' (1993) articulation of the multidimensional criteria for effective personal functioning, a perceived health index, a negative affect scale, and a positive affect scale were used to parallel Weiss' (1993) first three dimensions of effective functioning--ability to give energy to everyday life, freedom from disturbing thoughts and feelings, ability to experience gratification, respectively. A preparation for the future index was guided by Weiss' (1993) fourth dimension of effective functioning--hopefulness for the future--but was not assessed. Items intended to measure preparation for the future failed to form a unidimensional index and did not approximate Weiss' (1993) related dimension of hopefulness for the future as closely as did the other dependent measures and their respective dimensions of effective functioning. Specifically, the preparation for the future items assessed more long-term financial planning and activity levels than did Weiss' (1993) concepts of "being able to plan and care about plans" (p. 278) and maintain a hopefulness for desirable things to come. Social functioning, approximating Weiss' (1993) fifth dimension of effective functioning, was assessed with indices of social involvement, emotional investment, family satisfaction, and friend satisfaction.

A principal components factor analysis with varimax rotation was conducted on all individual scale/index items. High factor loadings were evident on all scales/indices (see Appendix B,

Table 1). There were no high cross loadings among the variables; the factor analysis revealed all scales/indices to be distinct. Additionally, low intercorrelations among dependent measures evidenced the need to keep the conceptually distinct factors of effective functioning independent of one another (see Appendix B, Table 2).

**1. Perceived health: "to give energy to everyday life".**

Weiss (1993) describes effective functioning as the ability to give energy to everyday life. A measure of perceived health was created to approximate this dimension. It is believed that individuals who view themselves as healthy and possessing adequate physical energy will have the ability to meet the challenges of daily living and be capable of giving energy to everyday life. Caserta et al. (1990) found that older adults' ratings of their own health closely represented the level of the physical symptoms and physical health of the individuals. A composite measure of one 4-point and two 3-point Likert-type scales was used. The measure of respondents description of their own health was condensed from a 4-point Likert response (1 = poor, 2 = fair, 3 = good, 4 = excellent) to a 3-point Likert scale (1 = poor/fair, 2 = good, 3 = excellent). This 3-point range paralleled the response scale of the other two perceived health items: (a) respondents rated their physical activity level as compared to others of the same age (1 = less active, 2 = as active, 3 = more active) and (b) respondents rated their health compared to others of the same age (1 = worse, 2 = same, 3 = better). Scores were summed and averaged, yielding a range from 1 to 3. Higher scores reflected greater levels of perceived

health. The internal consistency of the perceived health index was moderately high (Cronbach's alpha = .74) for the total study sample.

**2. Negative affect: "freedom from disturbing thoughts and feelings".** Weiss (1993) notes that effective functioning requires, among other things, freedom from disturbing thoughts and feelings. A measure of negative affect, that is, an indicator of individuals' psychological discomfort and distress, was used to approximate this dimension. The negative affect scale was composed of five 3-point Likert-type items. Four items came from the Bradburn Affect Scale-Negative (1969). Individuals rated the relative presence or absence of four specific feelings and emotions during the past few weeks (1 = often, 2 = sometimes, 3 = never): loneliness, sadness, boredom, and restlessness. On the fifth item, participants rated the stressfulness of their life (1 = very stressful, 2 = not very stressful, 3 = not at all stressful). Scores were summed and averaged, yielding a range from 1 to 3; higher scores represented a greater absence of negative affect (i.e., less negative affect). Analyses of the total study sample revealed a Cronbach's alpha of .69.

**3. Positive affect: "to experience gratification".** Weiss (1993) also identifies an individual's ability to experience gratification as an indicator of effective functioning following bereavement. Closely approximating the degree to which individuals experience gratification and pleasure was a measure of positive affect. This was assessed with a composite of four 3-point Likert-type scales taken from the Bradburn Affect Scale-Positive (1969). Individuals rated the relative presence or

absence of specific feelings and emotions during the preceding few weeks (1 = never, 2 = sometimes, 3 = often): top of the world, excited, pleased, proud. The four items were summed and averaged, yielding a range from 1 to 3. Higher scores represented greater levels of positive affect. Examination of the total study sample revealed the scale to be internally consistent, with a Cronbach's alpha of .68.

**4. Social involvement: "to function with reasonable adequacy in social roles"**. Weiss (1993) identifies the "ability to function with reasonable adequacy in social roles" as a dimension of effective functioning. Guided by this dimension, a composite index of social involvement was used to assess social functioning. Four 3-point Likert-type scales assessed the frequency an individual goes to visit friends/relatives, talks with others on the telephone, has family and friends over to their residence for a visit, and plays cards or other games. Responses ranged from 1 'never', 2 'sometimes', and 3 'often'. Scores were summed and averaged, yielding a range from 1 to 3, with higher scores indicating a greater level of social investment. The internal consistency of the index for the total study sample, as measured by Cronbach's alpha, was .55.

**5. Emotional investment: "to function with reasonable adequacy in social roles"**. Weiss (1993) also identifies the dimension of functioning in social roles as including "meeting social expectations well enough to maintain emotionally significant relationships" (p. 278). Guided by this dimension, a measure of emotional investment was constructed to assess the level of emotional support received and provided in close

interpersonal relationships. Two items comprised the measure of emotional investment. The first item assessed whether or not an individual received emotional support in the previous twelve months. The second item assessed whether or not an individual provided emotional support in the previous twelve months. These two dichotomous items were summed and then averaged, yielding values of 0, .5, and 1; higher scores indicated greater levels of emotional investment. The internal consistency for the measure of emotional investment, as measured by Cronbach's alpha, was .49.

**6. Satisfaction with family relationships: "to function with reasonable adequacy in social roles"**. Also guided by Weiss' (1993) dimension of social functioning, a measure was used to assess individuals' overall satisfaction with the kind and number of family relationships. Frequency of interaction and satisfaction with relationships are conventional methods of assessing relationships (Adams, 1989; de Vries, 1996). The degree to which one adequately functions in social roles may be reflected in the levels of satisfaction or dissatisfaction with one's close interpersonal relationships. A six-point Likert-type scale, ranging from very dissatisfied to very satisfied, assessed participants' satisfaction with the kind and frequency of contact with family relationships. Due to poor psychometric properties (i.e., a trimodal distribution), the measure was condensed to a 3-point Likert scale (1 = dissatisfied, 2 = satisfied, 3 = very satisfied).

**7. Satisfaction with friends: "to function with reasonable adequacy in social roles"**. Drawing on Weiss' (1993) dimension of

social functioning, a conventional measure was used to assess satisfaction with close friend relationships. A six-point Likert-type scale, ranging from very dissatisfied to very satisfied, assessed respondents' satisfaction with the kind and frequency of contact with friends. Due to poor psychometric properties (i.e., a trimodal distribution), the measure was condensed to a 3-point Likert scale (1 = dissatisfied, 2 = satisfied, 3 = very satisfied).

### **Independent Variables**

The independent variables consisted of bereavement status and gender. Bereavement status was a nominal level variable coded into four levels: 1 = non-bereaved (individuals who had neither experienced the death of a close friend or spouse in the preceding twelve months nor a change in marital status for over four years), 2 = peer bereaved (individuals who experienced the death of a close friend in the preceding twelve months and no death of a spouse in the last four years), 3 = spouse bereaved (individuals who experienced the death of a spouse in the preceding twelve months and no death of a close friend in the last year), and 4 = multiple bereaved (individuals who experienced the death of both a spouse and a close friend in the preceding twelve months). All four levels of bereavement status were mutually exclusive.

Gender was a nominal level variable and coded 1 = male, 2 = female.

### **Control Variables**

Six variables were used as controls: total number of other losses experienced in the preceding twelve months, health



limitations, age, education, number of close family relationships, and number of close friends (see Appendix A). Total number of losses in the preceding 12 months included the change or loss of a job, change in residence, a person moving into or leaving the respondents' house, serious illness or injury of the respondent, or the serious illness or injury of a family member or friend (potential range was 0 - 5). The total number of losses were used as a control variable in order to assess the unique impact of specific losses. Health limitations (assessed with a forced choice item indicating whether or not there were any limitations in the amount or kind of activity that one could undertake) was controlled for, as older adults' declines in physical health may be associated with limitations in social interactions and "limit opportunities for servicing friendships and developing new ties" (Allan & Adams, 1989, p. 57). Age was treated as a control variable as there is known variability across older adults. As well, controlling for age is consistent with the study of bereavement reactions in later life. Education also was controlled for, as it potentially influences opportunities for interaction with others, friendship networks, and ability to afford or obtain services. Education represents the highest level of formal education an individual received, ranging from 1 (eight years or less of schooling) to 6 (a university degree). While the education levels represent ordinal level data, education was treated as an interval level variable given that, conceptually, there was an ordering of education from lowest to highest. Both the number of close family members and number of close friends an individual identified was controlled

for as individuals with larger networks have a greater likelihood of experiencing the death of a friend; additionally, having larger networks is associated with positive psychological health outcomes (e.g., Johnson, 1983). (Appendix B, Tables 3 and 4 present correlations between the control and dependent variables, as well as the intercorrelations among the control variables, respectively).

### Analyses

A 4 (Bereavement status: Non-bereaved, Peer bereaved, Spouse bereaved, Multiple bereaved) X 2 (Gender: Male, Female) Analysis of Covariance (ANCOVA), covarying total number of losses experienced in the preceding twelve months, health limitations, age, education, number of close family relationships, and number of close friends, was used to test the relationships between the independent and dependent variables. Seven ANCOVAs were conducted on the dependent variables assessing perceived health, negative affect, positive affect, social involvement, emotional investment, family satisfaction, and friend satisfaction.

Regression analyses were conducted for two reasons: first, to identify the significant predictors of functioning across bereavement statuses; and second, to uncover patterns of socio-demographic characteristics within bereavement statuses. Gender, number of other losses, health limitations, age, education, number of close family relations, and number of close friends were treated as predictor variables and entered simultaneously into a regression equation predicting each outcome measure within each bereavement status. Thus, for each of the four bereavement statuses, regression equations were conducted to predict

perceived health, negative affect, positive affect, social involvement, emotional investment, satisfaction with family relationships, and satisfaction with friendships.

## Chapter III

### Results

#### Univariate Distributions

The distributions of the dependent measures were examined for normality, skewness, and kurtosis. Although the index for perceived health was slightly negatively skewed and leptokurtic, the distribution appeared to be normal. The measure for negative affect was leptokurtic and negatively skewed, with individuals reporting relatively low levels of negative affect. Although the measures of positive affect and social involvement were kurtotic, the distributions appeared to be normal. The distribution for emotional investment was kurtotic and positively skewed, with more individuals reporting no receipt and no provision of emotional support. Consistent with measures of satisfaction, both the measure of satisfaction with family relationships and the measure of satisfaction with friends were kurtotic and skewed, with individuals tending to report much satisfaction with the kind and frequency of contact with close interpersonal relationships.

#### Hypothesis Testing

The assumption of homogeneity of variance--an underlying assumption of analysis of covariance--was not met for the measures of negative affect, emotional investment, family satisfaction, friend satisfaction, and approached meeting the assumption on positive affect (Bartlett's  $p = .033$ ). Analysis of covariance is a robust statistical procedure even when cell sizes are unequal and distributions non-normal, given there is homogeneity of variance (Kerlinger, 1986). Even in cases where

there is heterogeneity of variance, ANCOVA proves to be robust given comparable cell sizes (Kerlinger, 1986). Less is known about the robustness of ANCOVA when cell sizes are unequal and both normality and homogeneity assumptions are violated. Consequently, in an effort to evidence the robustness of ANCOVA, the results of this study were compared with a manipulated sample in which the cell sizes were forced to be more comparable. A smaller random sample of the peer bereaved, as well as a smaller random sample of the non-bereaved, were drawn and used in conjunction with the original sample of spouse bereaved and multiple bereaved. As a result, the cell sizes of the two drawn subsamples were comparable (250 non-bereaved, 250 peer bereaved) with those of the spouse bereaved ( $n = 204$ ) and multiple bereaved ( $n = 118$ ) groups. Even though, in this smaller sample, the homogeneity of variance assumption was violated on 4 of the 7 dependent measures, Harris (1975) suggests that the robustness of ANOVA is ensured given the large sample and the fact that "the ratio of largest to smallest sample size for groups [is] greater than 4:1...and the variance between the largest and smallest group is no greater than approximately 20:1" (as cited in Tabachnick & Fidell, 1989, p. 324). Given the robustness of ANCOVA with comparable cell sizes in the smaller sample, there was confidence in not committing an increased number of Type I errors. The vast majority (i.e., 13 of the 14 reported effects) of the larger sample's findings were replicated with the smaller sample. Consequently, analyses were conducted and reported on the more representative, larger sample of individuals.

Most analyses revealed significant bereavement status main effects. The traditional multiple comparison approach (e.g., Scheffe) using one-way ANOVAs to discern which bereavement groups significantly differed from one another was inappropriate. Specifically, one-way analysis of variance does not allow for the inclusion of covariates; thus, analyses are computed on raw data means rather than adjusted means that have accounted for covariates. Consequently, a series of six ANCOVAs were used to examine pairs of bereavement status (i.e., six pair-wise comparisons, selecting out two levels of bereavement status for each analysis). A Bonferroni procedure was used to reduce the likelihood of committing Type I errors; thus, an alpha level of  $p = .008$  (i.e.,  $.05/6$ ) was used to determine statistical significance of test results.

Analyses of bereaved and non-bereaved adults' effective personal and social functioning are presented in this section. Results of hypotheses testing are organized by each of the seven dependent measures. Next presented, are results of regression analyses conducted within each bereavement group to determine significant predictors of effective personal and social functioning. The final section of results presents findings from exploratory analyses of the peer bereaved group.

**Perceived Health: "giving energy to everyday life"**

Hypothesis 1 predicted that the spouse bereaved would experience the lowest level of perceived health, followed by the peer bereaved, followed by the non-bereaved. As well, it was expected (E1) that multiple bereaved individuals would experience similar or even lower levels of perceived health as compared to

the spouse bereaved. Hypothesis 6 predicted that women would express lower levels of perceived health than men.

Table 2 presents results of an ANCOVA of perceived health by bereavement status and gender, covarying number of other losses, health limitations, age, education, number of close family relationships, and number of close friends. Table 3 includes adjusted means and standard deviations of the perceived health measure both by bereavement status and gender. All six covariates significantly affected levels of perceived health; a fewer number of other losses, the absence of health limitations, being older, higher levels of education, a greater number of close family relationships, and a greater number of close friends were associated with greater levels of perceived health. Bereavement status and gender did not interact to affect levels of perceived health. Contrary to the predictions, gender did not significantly affect levels of perceived health; there was a trend ( $p = .10$ ), however, for women to report lower levels of perceived health than men. Although a significant main effect for bereavement status was found, no bereavement status hypotheses were supported. Surprisingly, the peer bereaved experienced greater levels of perceived health than the non-bereaved. Only the expectation that multiple bereaved individuals would experience levels of perceived health comparable to the spouse bereaved was supported.

**Negative Affect: "freedom from disturbing thoughts and feelings"**

Hypothesis 2 predicted that the spouse bereaved would experience the greatest levels of negative affect, followed by the peer bereaved, followed by the non-bereaved. As well, it was

Table 2

Analysis of Covariance on Perceived Health.

Source	<u>DF</u>	<u>F</u>
Covariates	6	555.192***
Total other losses	1	10.294**
Health limitations	1	2640.322***
Age	1	59.309***
Education	1	354.623***
Number close family	1	45.126***
Number close friends	1	49.596***
Main Effects	4	6.146***
Bereavement status	3	7.227***
Gender	1	2.344
2-Way Interactions	3	.675
Bereavement status X Gender	3	.675

\*\*p < .01.   \*\*\*p < .001.



Table 3

Adjusted Means and Standard Deviations of Perceived Health for Bereaved and Non-bereaved Adults

	Total <sup>a</sup>			Men			Women		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Multiple	113	2.15 <sub>bc</sub>	.51	34	2.17	.55	79	2.14	.49
Spouse	200	2.09 <sub>bc</sub>	.57	63	2.14	.57	137	2.03	.55
Peer	3105	2.13 <sub>b</sub>	.56	1426	2.14	.56	1679	2.13	.57
Non-bereaved	5219	2.08 <sub>c</sub>	.57	2205	2.09	.58	3014	2.08	.56
Total	8637	2.10	.57	3728	2.11	.58	4909	2.10	.56

Note. The higher the score is, the greater the perceived health. No significant interactions were found between bereavement status and gender.

<sup>a</sup> Bereavement status main effect,  $p < .001$ . Follow-up ANCOVAs with Bonferroni method were conducted on significant bereavement status main effects. Any means in the Total column that do not share subscripts differ at  $p \leq .008$ .

expected (E2) that multiple bereaved individuals would experience similar or even greater levels of negative affect as compared to the spouse bereaved. Hypothesis 7 predicted that women would report greater levels of negative affect than men.

Table 4 presents results of an ANCOVA of negative affect by bereavement status and gender, covarying number of other losses, health limitations, age, education, number of close family relationships, and number of close friends. Table 5 includes adjusted means and standard deviations of the negative affect measure both by bereavement status and gender. All covariates, with the exception of age, significantly related to levels of negative affect; a greater number of other losses, the presence of health limitations, less education, a fewer number of close family relationships, and a fewer number of close friends were associated with higher levels of negative affect. Gender and bereavement status did not interact to influence levels of negative affect. A main effect was uncovered for gender, with women expressing greater levels of negative affect than men. There also was a bereavement status main effect. The multiple and spouse bereaved experienced comparable levels of negative affect, while both of these bereavement groups reported greater levels of negative affect than the peer bereaved and non-bereaved. The peer bereaved, however, did not express greater levels of negative affect than the non-bereaved.

**Positive Affect: "to experience gratification"**

Hypothesis 3 predicted that the spouse bereaved would experience the lowest level of positive affect, followed by the peer bereaved, followed by the non-bereaved. As well, it was

Table 4

Analysis of Covariance on Negative Affect.

Source	<u>DF</u>	<u>F</u>
Covariates	6	145.212***
Total other losses	1	180.679***
Health limitations	1	362.529***
Age	1	2.099
Education	1	127.616***
Number close family	1	45.330***
Number close friends	1	35.292***
Main Effects	4	51.036***
Bereavement status	3	33.244***
Gender	1	95.891***
2-Way Interactions	3	1.006
Bereavement status X Gender	3	1.006

\*\*\*p &lt; .001.

Table 5

Adjusted Means and Standard Deviations of Negative Affect for Bereaved and Non-bereaved Adults

	Total <sup>a</sup>			Men			Women		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Multiple	111	2.36a	.43	33	2.34	.46	78	2.38	.42
Spouse	194	2.33a	.48	61	2.36	.46	133	2.31	.48
Peer	3067	2.57b	.39	1409	2.62	.37	1658	2.53	.41
Non-bereaved	5143	2.58b	.40	2169	2.62	.36	2974	2.54	.42
Total <sup>b</sup>	8515	2.57	.40	3672	2.61	.37	4843	2.53	.42

Note. The higher the score is, the greater the absence of negative affect (i.e., low levels of negative affect). No significant interactions were found between bereavement status and gender.

<sup>a</sup> Bereavement status main effect,  $p < .001$ . Follow-up ANCOVAs with Bonferroni method were conducted on significant bereavement status main effects. Any means in the Total column that do not share subscripts differ at  $p \leq .008$ . <sup>b</sup> Gender main effect,  $p < .001$ .

expected (E3) that multiple bereaved individuals would experience similar or even lower levels of positive affect as compared to the spouse bereaved. Hypothesis 8 predicted that women would experience higher levels of positive affect than men.

Table 6 presents results of an ANCOVA of positive affect by bereavement status and gender, covarying number of other losses, health limitations, age, education, number of close family relationships, and number of close friends. Table 7 includes adjusted means and standard deviations of the positive affect measure both by bereavement status and gender. All six covariates significantly affected levels of positive affect among the participants; a greater number of other losses, the absence of health limitations, being younger, higher levels of education, a greater number of close family relationships, and a greater number of close friends were associated with higher levels of positive affect. No interaction existed between bereavement status and gender. A main effect for gender supported the hypothesis that women would report greater levels of positive affect than men. A significant bereavement status main effect revealed that those bereft of a spouse experienced lower levels of positive affect than the non-bereaved and peer bereaved. Unexpectedly, the spouse bereaved also evidenced lower levels of positive affect than the multiple bereaved. More surprisingly, the peer bereaved individuals reported greater levels of positive affect than the non-bereaved comparison group.

Table 6

Analysis of Covariance on Positive Affect.

Source	<u>DF</u>	<u>F</u>
Covariates	6	82.769***
Total other losses	1	11.024**
Health limitations	1	125.342***
Age	1	41.107***
Education	1	102.046***
Number close family	1	84.151***
Number close friends	1	53.878***
Main Effects	4	44.199***
Bereavement status	3	44.204***
Gender	1	51.803***
2-Way Interactions	3	.766
Bereavement status X Gender	3	.766

\*\*p < .01.   \*\*\*p < .001.

Table 7

Adjusted Means and Standard Deviations of Positive Affect for Bereaved and Non-bereaved Adults

	Total <sup>a</sup>			Men			Women		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Multiple	110	1.96ac	.51	34	1.87	.43	76	2.05	.53
Spouse	195	1.81	.43	62	1.79	.47	133	1.82	.41
Peer	3053	2.05ab	.49	1400	2.02	.48	1653	2.08	.49
Non-bereaved	5135	1.94bc	.48	2170	1.90	.49	2965	1.98	.47
Total <sup>b</sup>	8493	1.98	.49	3666	1.94	.49	4827	2.01	.48

Note. The higher the score is, the greater the positive affect. No significant interactions were found between bereavement status and gender.

<sup>a</sup> Bereavement status main effect,  $p < .001$ . Follow-up ANCOVAs with Bonferroni method were conducted on significant bereavement status main effects. Any means in the Total column that do not share subscripts differ at  $p \leq .008$ . <sup>b</sup> Gender main effect,  $p < .001$ .

**Social Involvement: "to function with reasonable adequacy in social roles"** Hypothesis 5A predicted that the spouse bereaved would experience the lowest levels of social involvement, followed by the peer bereaved, followed by the non-bereaved. As well, it was expected (E5) that multiple bereaved individuals would experience similar or even lower levels of social involvement as compared to the spouse bereaved. Hypothesis 9 predicted that women would experience greater levels of social involvement than men.

Table 8 presents results of an ANCOVA of social involvement by bereavement status and gender, covarying number of other losses, health limitations, age, education, number of close family relationships, and number of close friends. Table 9 includes adjusted means and standard deviations of the social involvement measure both by bereavement status and gender. Levels of social involvement were significantly affected by all six covariates; a greater number of other losses, the absence of health limitations, being younger, higher levels of education, a greater number of close family relationships, and a greater number of close friends were associated with higher levels of social involvement. There was no interaction between gender and bereavement status on levels of social involvement. A gender main effect revealed that women reported greater levels of social involvement than men. A bereavement status main effect also was found on levels of social involvement. As hypothesized, the peer bereaved individuals experienced higher levels of social involvement than the spouse bereaved. There were no differences between the multiple bereaved and peer bereaved, nor between the



Table 8

Analysis of Covariance on Social Involvement.

Source	<u>DF</u>	<u>F</u>
Covariates	6	98.748***
Total other losses	1	14.366***
Health limitations	1	7.076***
Age	1	62.198***
Education	1	46.135***
Number close family	1	176.177***
Number close friends	1	113.765***
Main Effects	4	191.639***
Bereavement status	3	71.599***
Gender	1	574.942***
2-Way Interactions	3	.999
Bereavement status X Gender	3	.999

\*\*\*p &lt; .001.

Table 9

## Adjusted Means and Standard Deviations of Social Involvement for Bereaved and Non-bereaved Adults

	Total <sup>a</sup>			Men			Women		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Multiple	112	2.13ab	.53	34	1.98	.46	78	2.28	.53
Spouse	200	2.04bc	.49	63	1.97	.50	137	2.11	.48
Peer	3095	2.14a	.49	1425	2.02	.46	1670	2.26	.49
Non-bereaved	5210	1.98c	.51	2200	1.85	.48	3010	2.11	.50
Total <sup>b</sup>	8617	2.04	.51	3722	1.92	.48	4895	2.16	.51

Note. The higher the score is, the greater the social involvement. No significant interactions were found between bereavement status and gender.

<sup>a</sup> Bereavement status main effect,  $p < .001$ . Follow-up ANCOVAs with Bonferroni method were conducted on significant bereavement status main effects. Any means in the Total column that do not share subscripts differ at  $p \leq .008$ . <sup>b</sup> Gender main effect,  $p < .001$ .

peer bereaved and the spouse bereaved. Contrary to what was predicted, both the peer bereaved and multiple bereaved expressed greater levels of social involvement than the non-bereaved.

**Emotional Investment: "to function with reasonable adequacy in social roles"**

Hypothesis 5B predicted that the spouse bereaved would experience the lowest levels of emotional investment, followed by the peer bereaved, followed by the non-bereaved. As well, it was expected (E9B) that multiple bereaved individuals would experience similar or even lower levels of emotional investment as compared to the spouse bereaved. Hypothesis 10B predicted that women would express greater levels of emotional investment than men.

Table 10 presents results of an ANCOVA of emotional investment by bereavement status and gender, covarying number of other losses, health limitations, age, education, number of close family relationships, and number of close friends. Table 11 includes adjusted means and standard deviations of the emotional investment measure both by bereavement status and gender. Five covariates significantly affected levels of emotional investment--total number of losses, health limitations, age, education, and number of close family members; a greater number of other losses, the presence of health limitations, being younger, higher levels of education, and a greater number of close family relationships were associated with higher levels of emotional investment. Bereavement status did not interact with gender to effect levels of emotional investment. Significant main effects included both gender, with women expressing greater

Table 10

Analysis of Covariance on Emotional Investment.

Source	<u>DF</u>	<u>F</u>
Covariates	6	92.271***
Total other losses	1	318.369***
Health limitations	1	14.370***
Age	1	9.925**
Education	1	68.040***
Number close family	1	67.948***
Number close friends	1	3.106
Main Effects	4	33.054***
Bereavement status	3	26.054***
Gender	1	55.608***
2-Way Interactions	3	1.702
Bereavement status X Gender	3	1.702

\*\*p < .01.   \*\*\*p < .001.

Table 11

Adjusted Means and Standard Deviations of Emotional Investment for Bereaved and Non-bereaved Adults

	Total <sup>a</sup>			Men			Women		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Multiple	111	.49ab	.40	33	.42	.40	78	.57	.38
Spouse	194	.45ac	.41	61	.46	.39	133	.45	.42
Peer	3029	.43bc	.40	1385	.39	.39	1644	.47	.40
Non-bereaved	5095	.36	.39	2150	.33	.38	2945	.38	.38
Total <sup>b</sup>	8429	.39	.39	3629	.36	.39	4800	.42	.39

Note. The higher the score is, the greater the emotional investment. No significant interactions were found between bereavement status and gender.

<sup>a</sup> Bereavement status main effect,  $p < .001$ . Follow-up ANCOVAs with Bonferroni method were conducted on significant bereavement status main effects. Any means in the Total column that do not share subscripts differ at  $p \leq .008$ . <sup>b</sup> Gender main effect,  $p < .001$ .

levels of emotional investment than men, and bereavement status. Follow-up ANCOVAs revealed that all three bereaved groups--peer, spouse, and multiple bereaved--reported higher levels of emotional investment than the non-bereaved. Contrary to the hypotheses, no significant differences on levels of emotional investment existed between the peer, spouse, and multiple bereaved groups.

**Satisfaction With Family Relationships: "to function with reasonable adequacy in social roles"**

Hypothesis 5C predicted that the spouse bereaved would experience the lowest levels of family satisfaction, followed by the peer bereaved, followed by the non-bereaved. As well, it was expected (E9C) that multiple bereaved individuals would experience similar or even lower levels of family satisfaction as compared to the spouse bereaved. Hypothesis 10C predicted that women would express greater levels of satisfaction with family members than men.

Table 12 presents results of an ANCOVA of satisfaction with family relationships by bereavement status and gender, covarying number of other losses, health limitations, age, education, number of close family relationships, and number of close friends. Table 13 includes adjusted means and standard deviations of the satisfaction with family members measure both by bereavement status and gender. Three of the covariates significantly affected levels of family satisfaction--total number of losses, health limitations, and number of close family members; a fewer number of other losses, the absence of health limitations, and a greater number of close family relationships

Table 12

Analysis of Covariance on Satisfaction with Family Relationships.

Source	<u>DF</u>	<u>F</u>
Covariates	6	26.682***
Total other losses	1	8.241**
Health limitations	1	5.368***
Age	1	.127
Education	1	1.724
Number close family	1	115.894***
Number close friends	1	.174
Main Effects	4	.663
Bereavement status	3	.764
Gender	1	.392
2-Way Interactions	3	1.158
Bereavement status X Gender	3	1.158

\*\*p < .01.   \*\*\*p < .001.

Table 13

Adjusted Means and Standard Deviations of Satisfaction with Family Relationships for Bereaved and Non-bereaved Adults

	Total			Men			Women		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Multiple	107	2.74	.44	33	2.66	.54	74	2.82	.38
Spouse	188	2.69	.56	57	2.73	.48	131	2.66	.58
Peer	2881	2.72	.53	1315	2.72	.51	1566	2.72	.54
Non-bereaved	4694	2.71	.52	1944	2.71	.50	2750	2.72	.53
Total	7870	2.71	.52	3349	2.71	.50	4521	2.72	.53

Note. The higher the score is, the greater the satisfaction with family relationships. Sample size is reduced due to some participants reporting no close family relationships.



were associated with higher levels of satisfaction with family relationships. No interaction between bereavement status and gender was uncovered on levels of family satisfaction. Contrary to the predictions, neither a bereavement status nor gender main effect was found on levels of family satisfaction.

**Satisfaction With Friendships: "to function with reasonable adequacy in social roles"**

Hypothesis 5D predicted that the spouse bereaved would experience the lowest levels of friendship satisfaction, followed by the peer bereaved, followed by the non-bereaved. As well, it was expected (E9D) that multiple bereaved individuals would experience similar or even lower levels of friendship satisfaction as compared to the spouse bereaved. Hypothesis 10D predicted that women would express greater levels of satisfaction with friends than men.

Table 14 presents results of an ANCOVA of satisfaction with friends by bereavement status and gender, covarying number of other losses, health limitations, age, education, number of close family relationships, and number of close friends. Table 15 includes adjusted means and standard deviations of the satisfaction with friends measure both by bereavement status and gender. Participants' levels of satisfaction with friends were significantly affected by all covariates, with the exception of age; a fewer number of other losses, the absence of health limitations, higher levels of education, a greater number of close family relationships, and a greater number of close friends were associated with higher levels of satisfaction with friends. There was no interaction between bereavement status and gender.

Table 14

Analysis of Covariance on Satisfaction with Friends.

Source	<u>DF</u>	<u>F</u>
Covariates	6	12.851***
Total other losses	1	7.683**
Health limitations	1	5.812*
Age	1	.051
Education	1	4.385*
Number close family	1	36.848***
Number close friends	1	13.898***
Main Effects	4	12.057***
Bereavement status	3	7.408***
Gender	1	26.912***
2-Way Interactions	3	.869
Bereavement status X Gender	3	.869

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

Table 15

Adjusted Means and Standard Deviations of Satisfaction with Friends for Bereaved and Non-bereaved Adults

	Total <sup>a</sup>			Men			Women		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
Multiple	88	2.73bde	.42	28	2.61	.50	60	2.85	.36
Spouse	147	2.76abc	.44	50	2.74	.44	97	2.79	.45
Peer	2441	2.74ad	.47	1078	2.71	.48	1363	2.77	.47
Non-bereaved	3632	2.68ce	.51	1476	2.65	.52	2156	2.71	.50
Total <sup>b</sup>	6308	2.71	.49	2632	2.68	.50	3676	2.74	.48

Note. The higher the score is, the greater the satisfaction with friends. Sample size is reduced due to some participants reporting no close friends. No significant interactions were found between bereavement status and gender.

<sup>a</sup> Bereavement status main effect,  $p < .001$ . Follow-up ANCOVAs with Bonferroni method were conducted on significant bereavement status main effects. Any means in the Total column that do not share subscripts differ at  $p \leq .008$ . <sup>b</sup> Gender main effect,  $p < .001$ .

As predicted, a main effect for gender revealed that women indicated greater levels of friendship satisfaction than men. A main effect for bereavement status and subsequent follow-up ANCOVAs revealed that there was no support for any of the hypotheses about friend satisfaction. Unexpectedly, the peer bereaved reported greater satisfaction with friends than the non-bereaved. Only support for the expectation that the multiple and spouse bereaved would express comparable levels of friendship satisfaction was found.

### Regression Analyses

Regression analyses were conducted on the seven measures of effective personal and social functioning. These analyses provided the opportunity to: (a) look within each bereavement status, and (b) address differences between bereavement statuses evidenced in the preceding ANCOVAs. The standardized beta weights were examined for each bereavement group: non-bereaved, peer bereaved, spouse bereaved, and multiple bereaved. The results are organized by each dependent measure.

Significant predictors of functioning varied by bereavement status. Nevertheless, a fairly common pattern was evidenced differing only in the strength of the predictors. Together, these observations suggest that sample size and measurement error may account for some of the differences. However, the possibility also exists that these results may be a function of different processes occurring within each bereavement status; thus, this mandates some caution in the interpretation of the preceding ANCOVAs in that the covariates may have manifested themselves in different ways in the measures of psycho-social

functioning. Table 16 includes all standardized beta weight predictors for the four bereavement statuses on each of the outcome measures: perceived health, negative affect, positive affect, social involvement, emotional investment, satisfaction with family relationships, and satisfaction with friends.

### **Perceived Health**

The variance accounted for in predicting levels of perceived health in each of the bereavement group regression equations was 28% for the non-bereaved, 28% for the peer bereaved, 38% for the spouse bereaved, and 20% for the multiple bereaved. Health limitations and education were the two strongest predictors of perceived health across all bereavement groups. Interestingly, no other variables predicted levels of perceived health for the multiple bereaved. The number of close family relations, close friends, and other losses were predictive of perceived health for the spouse, peer, and non-bereaved groups.

### **Negative Affect**

The predictor variables accounted for 11% of the variance in negative affect scores for the non-bereaved group, 10% for the peer bereaved, 13% for the spouse bereaved, and 8% for the multiple bereaved. Health limitations was the strongest predictor of negative affect for the non-bereaved and peer bereaved. Gender, education, number of other losses, and number of close network relationships also were predictive of negative affect for the non-bereaved and peer bereaved. Interestingly, only education and number of close family relations were predictors of negative affect for the spouse bereaved, while age was the sole predictor for the multiple bereaved.

Table 16

## Standardized Beta Weights For Predictors Of Dependent Measures By Bereavement Status

Dependent Variable	Non-Bereaved	Peer Bereaved	Spouse Bereaved	Multiple Bereaved
Perceived Health				
	-.48 Health Lim***	-.48 Health Lim***	-.44 Health Lim***	-.29 Health Lim**
	.17 Education***	.17 Education***	.21 Education***	.20 Education*
	.08 Age***	.06 Age***	.18 No. Friend**	.17 No. Friend
	.06 No. Friend***	.05 No. Friend***	.18 No. Family**	.13 No. Family
	.06 No. Family***	-.04 No. Losses**	-.12 No. Losses*	.10 Age
	-.03 No. Losses**	.04 No. Family**	.09 Age	-.08 Gender
	-.01 Gender	-.01 Gender	-.07 Gender	.06 No. Losses
Negative Affect				
	-.21 Health Lim***	-.20 Health Lim***	.23 Education**	.26 Age**
	-.13 No. Losses***	-.11 Gender***	.21 No. Family**	.13 Education
	-.12 Education***	-.12 No. Losses***	-.13 Health Lim	.09 No. Losses
	-.10 Gender***	.10 Education***	-.08 No. Losses	.02 Gender
	.06 No. Friend***	.07 No. Family***	.06 No. Friend	.02 No. Friend
	.06 No. Family***	.05 No. Friend**	-.05 Gender	.02 No. Family
	.02 Age	.03 Age*	.03 Age	-.00 Health Lim

Table 16 (Continued)

Dependent Variable	Non-Bereaved	Peer Bereaved	Spouse Bereaved	Multiple Bereaved
Positive Affect				
	-.13 Health Lim***	-.12 Health Lim***	-.17 Health Lim*	.28 Education**
	.11 Education***	-.08 Age***	.13 No. Friend	.21 Gender*
	.10 No. Family***	.08 Education***	.12 Education	-.20 Health Lim*
	.09 No. Friend***	.07 No. Family***	.07 No. Family	.14 No. Family
	.08 Gender***	.06 Gender***	.05 Gender	.10 Age
	-.08 Age***	.05 No. Friend**	.03 Age	.09 No. Friend
	.03 No. Losses*	.00 No. Losses	.02 No. Losses	.08 No. Losses
Social Involve.				
	.25 Gender***	.24 Gender***	.19 No. Friend**	.29 Gender**
	.14 No. Family***	.12 No. Family***	.19 No. Family**	-.21 Health Lim*
	.12 No. Friend***	-.11 Age***	.17 Gender*	.18 No. Family*
	-.11 Age***	-.09 Health Lim***	-.16 Health Lim*	.16 Education
	-.10 Health Lim***	.09 No. Friend***	-.06 No. Losses	-.08 Age
	.09 Education***	.02 Education	-.04 Age	.05 No. Friend
	.01 No. Losses	-.01 No. Losses	.02 Education	-.01 No. Losses
Emotional Investment				
	.18 No. Losses***	.16 No. Losses***	-.22 No. Family**	.32 Education***
	.11 No. Family***	.10 Gender***	.10 Education	.19 Gender*
	.09 Education***	.07 Education***	.09 No. Losses	-.17 Age
	.07 Gender***	.06 No. Family***	.09 Health Lim	.16 No. Losses
	.05 Health Lim***	-.03 Age	-.08 No. Friend	-.10 Health Lim
	-.05 Age***	.02 Health Lim	-.03 Gender	.08 No. Friend
	.02 No. Friend	.01 No. Friend	.00 Age	.01 No. Family

Table 16 (Continued)

Dependent Variable	Non-Bereaved	Peer Bereaved	Spouse Bereaved	Multiple Bereaved
Family Satisfact.				
	.12 No. Family***	.12 No. Family***	.15 Education*	.19 Age
	-.06 No. Losses***	-.08 Health Lim***	.10 Age	.17 No. Family
	-.04 Health Lim**	.01 No. Friend	.08 No. Family	.15 Gender
	.02 Education	.01 Age	.07 No. Friend	.12 No. Friend
	.01 Gender	-.00 Gender	-.05 Gender	.11 No. Losses
	-.01 Age	-.00 Education	-.04 Health Lim	-.03 Education
	-.00 No. Friend	-.00 No. Losses	.02 No. Losses	-.02 Health Lim
Friend Satisfact.				
	.08 No. Family***	.07 No. Family***	.21 Education*	.27 Gender*
	.06 Gender***	.06 Gender**	.10 No. Family	-.14 No. Losses
	.06 No. Friend***	-.05 No. Losses*	.05 No. Friend	.10 No. Friend
	-.05 No. Losses**	.03 No. Friend	-.05 Age	.09 No. Family
	-.03 Health Lim*	-.03 Health Lim	-.04 No. Losses	-.07 Health Lim
	.03 Education	.01 Education	.02 Gender	-.06 Age
	-.01 Age	.01 Age	-.02 Health Lim	-.00 Education

\*p &lt; .05. \*\*p &lt; .01. \*\*\*p &lt; .001.



### Positive Affect

The predictor variables accounted for 7% of the variance in positive affect scores for the non-bereaved, 4% for the peer bereaved, 7% for the spouse bereaved, and 20% for the multiple bereaved. Health limitations was the only predictor of positive affect for the spouse bereaved, and it also was the strongest predictor for the peer bereaved and non-bereaved; education and gender were stronger predictors of positive affect for the multiple bereaved. Interestingly, only age and number of close interpersonal relationships (i.e., number of friends and family) were predictive of positive affect among the non-bereaved and peer bereaved. Gender was predictive of positive affect for the non-bereaved and peer bereaved, while number of other losses was only a significant predictor for the non-bereaved.

### Social Involvement

The variance accounted for in predicting levels of social involvement was 13% for the non-bereaved, 9% for the peer bereaved, 13% for the spouse bereaved, and 21% for the multiple bereaved. Gender, health limitations, and number of close family relationships all significantly accounted for levels of social involvement across all bereavement groups, with gender being most predictive of social involvement for the multiple, peer, and non-bereaved groups. The number of close friend relationships was the strongest predictor of social involvement for the spouse bereaved. Surprisingly, the number of close friendships was not a predictor of social involvement for the multiple bereaved. Age was a moderately strong predictor of social involvement for the

non-bereaved and peer bereaved groups, while education was only predictive of social involvement for the non-bereaved.

### Emotional Investment

The predictor variables accounted for 7% of the variance in emotional investment for the non-bereaved, 5% for the peer bereaved, 9% for the spouse bereaved, and 25% for the multiple bereaved. The number of other recent losses was the strongest predictor of emotional investment for the non-bereaved and peer bereaved, but was not a factor for the spouse or multiple bereaved. Gender and education were the only two significant predictors of emotional investment for the multiple bereaved. Interestingly, the number of close family relations was the sole predictor of emotional investment for the spouse bereaved. Gender, education, and number of close family relationships were all predictive of social involvement for the peer and non-bereaved, while health limitations and age were only significant predictors for the non-bereaved group.

### Satisfaction With Family Relationships

The variance accounted for in predicting levels of satisfaction with family relationships was 2% for each of the non-bereaved and peer bereaved groups, 5% for the spouse bereaved, and 11% for the multiple bereaved. The number of close family members was the strongest predictor of satisfaction with family relations for the non-bereaved and peer bereaved, with health limitations being of less importance. Surprisingly, no variables were significant predictors of family satisfaction for the spouse and multiple bereaved.

### Satisfaction With Friends

Two percent of the variance in satisfaction with friends was explained by the predictor variables for the non-bereaved; 1% was explained for the peer bereaved, 6% for the spouse bereaved, and 12% for the multiple bereaved. The number of close family relationships and gender were the two strongest predictors of satisfaction with friends for the non-bereaved and peer bereaved groups. Interestingly, gender was the sole predictor of friendship satisfaction for the multiple bereaved. Education predicted satisfaction with friends for the spouse bereaved only. The number of other losses was a predictor for the peer and non-bereaved, while number of close friends and health limitations were predictive of satisfaction with friends for only the non-bereaved.

### Exploratory Analyses Of The Peer Bereaved

Additional exploratory analyses focused particularly on the recently peer bereaved ( $N = 3198$ ). This bereavement group, unlike the multiple and spouse bereaved groups, was composed of a large number of individuals which afforded the opportunity for more detailed analyses. To maintain consistency with the previous investigation and address the importance of network influences, independent variables included measures of gender, number of close friends, number of close family relationships, and age. Total number of close friends was dichotomized (0 = no close friends, 1 = one or more close friends), as was total number of close family members (0 = no close family members, 1 = one or more close family member). Age also was dichotomized into (a) those aged 65-74 and (b) those aged 75 and older. A 4 factor

(Gender X Number of Close Friends X Number of Close Family Relationships X Age) ANCOVA, covarying the total number of other losses experienced in the preceding twelve months (e.g., loss of home, illness of family member), health limitations, and education, was used to further examine the understudied large group of peer bereaved individuals. Five dependent measures used in the primary study previously presented were examined: perceived health, negative affect, positive affect, social involvement, emotional investment. The measure of satisfaction with family relationships and the measure of satisfaction with friends were excluded from analyses as individuals with no close family members or no close friends did not respond to family or friend satisfaction measures, respectively (i.e., resulting in empty cells).

Given the exploratory nature of these analyses, only significant main effects and interactions are reported; adjusted means (accounting for covariates) are reported in text, as are standard deviations. Sample sizes for particular independent variables varied according to the dependent measure: the number of men ranged from 1400 to 1445, while the number of women ranged from 1669 to 1704; the number of individuals with no close friends ranged from 621 to 666, while the number of participants with one or more close friends ranged from 2416 to 2448; participants with no close family relationships ranged in number from 194 to 224, while the number of participants with one or more close family relationships ranged from 2865 to 2913; the number of younger individuals aged 65-74 ranged from 1583 to

1615, while the number of individuals aged 75 and older ranged from 1486 to 1534.

### Perceived Health

All three covariates--total number of other losses, health limitations, and education--were significant in accounting for levels of perceived health; fewer losses, the absence of health limitations, and higher levels of education were associated with greater levels of perceived health. Gender, the number of close friendships, the number of close family relationships, and age did not interact in any way to affect levels of perceived health. A main effect for both friendship number and age revealed that individuals with one or more friends ( $M = 2.12$ ,  $SD = .56$ ) reported greater levels of perceived health than individuals with no close friends ( $M = 2.01$ ,  $SD = .57$ ), as did older individuals (i.e., aged 75 and older,  $M = 2.09$ ,  $SD = .57$ ) compared to younger individuals ( $M = 2.04$ ,  $SD = .56$ ). See Table 17 for the ANCOVA F-ratios and degrees of freedom.

### Negative Affect

All covariates were significant in influencing negative affect scores; fewer losses, the absence of health limitations, and higher levels of education were associated with less negative affect. A 4-way interaction between gender, number of close friends, number of close family relationships, and age revealed that older women with both no close friends and no close family relationships reported the most negative affect. Subsequent analyses of simple main effects revealed that this was the significant difference to which this interaction was attributed. A 2-way interaction between number of close friends and age

Table 17

Analysis of Covariance on Perceived Health for Peer Bereaved Adults (N = 3105).

Source	<u>DF</u>	<u>F</u>
Covariates	3	390.413***
Total other losses	1	6.956**
Health limitations	1	960.105***
Education	1	122.909***
Main Effects	4	9.205***
Gender	1	2.037
Number of close friends	1	27.704***
Number of close family	1	.081
Age	1	9.081**
2-Way Interactions	6	1.098
Gender X No. Friends	1	2.029
Gender X No. Family	1	.599
Gender X Age	1	.345
No. Friends X No. Family	1	.015
No. Friends X Age	1	2.451
No. Family X Age	1	.517
3-Way Interactions	4	.705
Gender X Friends X Family	1	.043
Gender X Friends X Age	1	1.986
Gender X Family X Age	1	.989
Friends X Family X Age	1	.122
4-Way Interactions	1	.000
Gender X Friends X Family X Age	1	.000

\*\*p < .01.   \*\*\*p < .001.

revealed that older individuals with one or more close friends had the least amount of negative affect. A main effect for gender indicated that women ( $\bar{M} = 2.45$ ,  $SD = .41$ ) reported higher levels of negative affect than men ( $\bar{M} = 2.56$ ,  $SD = .37$ ). A main effect for number of close friends and a main effect for number of close family relationships indicated that individuals with no close interpersonal relationships ( $\bar{M} = 2.46$ ,  $2.47$ , respectively,  $SD = .44$ ,  $.44$ , respectively) expressed more negative affect than individuals with one or more close friends ( $\bar{M} = 2.55$ ,  $SD = .38$ ) or family relationships ( $\bar{M} = 2.55$ ,  $SD = .39$ ). As well, an age main effect revealed that older individuals ( $\bar{M} = 2.49$ ,  $SD = .39$ ) expressed more negative affect than the younger individuals ( $\bar{M} = 2.52$ ,  $SD = .39$ ). See Table 18 for the ANCOVA F-ratios and degrees of freedom.

### Positive Affect

Two covariates--health limitations and education--significantly influenced levels of positive affect; the absence of health limitations and higher levels of education were associated with greater levels of positive affect. Interestingly, a 4-way interaction between gender, number of close friends, number of close family relationships, and age revealed that younger women with both no close family relationships and no close friends reported the greatest levels of positive affect. Main effects for both gender and age indicated that women ( $\bar{M} = 2.00$ ,  $SD = .49$ ) reported greater levels of positive affect than men ( $\bar{M} = 1.98$ ,  $SD = .48$ ), and adults aged 65-74 expressed greater levels of positive affect than the older adults ( $\bar{M} = 2.02$ ,  $1.96$ , respectively,  $SD = .49$ ,

Table 18

Analysis of Covariance on Negative Affect for Peer Bereaved Adults (N = 3067).

Source	DF	F
Covariates	3	86.709***
Total other losses	1	54.193***
Health limitations	1	138.755***
Education	1	30.838***
Main Effects	4	20.014***
Gender	1	54.212***
Number of close friends	1	20.911***
Number of close family	1	5.447**
Age	1	4.774*
2-Way Interactions	6	2.015
Gender X No. Friends	1	.363
Gender X No. Family	1	.009
Gender X Age	1	2.873
No. Friends X No. Family	1	.682
No. Friends X Age	1	5.578*
No. Family X Age	1	1.223
3-Way Interactions	4	.948
Gender X Friends X Family	1	.924
Gender X Friends X Age	1	.315
Gender X Family X Age	1	1.391
Friends X Family X Age	1	.316
4-Way Interactions	1	10.175**
Gender X Friends X Family X Age	1	10.175**

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



.48, respectively). As well, there were main effects for both number of close friends and number of close family; individuals with one or more close friends ( $M = 2.02$ ,  $SD = .48$ ) reported higher levels of positive affect compared to those with no close friends ( $M = 1.95$ ,  $SD = .50$ ), as did individuals with one or more family relationships compared to those with no close family relationships ( $M = 2.02$ ,  $1.96$ , respectively,  $SD = .48$ ,  $.51$ , respectively). See Table 19 for the ANCOVA F-ratios and degrees of freedom..

### **Social Involvement**

Levels of social involvement were influenced by two covariates--health limitations and education; the absence of health limitations and higher levels of education were associated with greater levels of social involvement. No significant interactions occurred between the independent variables. However, as was the case with positive affect, there were main effects for gender, age, number of close friends, and number of close family relationships. See Table 20 for the ANCOVA F-ratios and degrees of freedom. Women reported greater levels of social involvement than men ( $M = 2.14$ ,  $1.96$ , respectively,  $SD = .49$ ,  $.46$ , respectively), as did the young-old (i.e., aged 65-74) compared to the old-old ( $M = 2.09$ ,  $2.00$ , respectively,  $SD = .48$ ,  $.49$ , respectively). Individuals with one or more close friends ( $M = 2.12$ ,  $SD = .47$ ) or one or more close family members ( $M = 2.11$ ,  $SD = .48$ ) were characterized by greater levels of social involvement than individuals with no close friends ( $M = 1.97$ ,  $SD = .50$ ) or no close family relationships ( $M = 1.99$ ,  $SD = .54$ ).

Table 19

Analysis of Covariance on Positive Affect for Peer Bereaved Adults (N = 3053).

Source	DF	F
Covariates	3	23.470***
Total other losses	1	.097
Health limitations	1	44.337***
Education	1	22.439***
Main Effects	4	16.507***
Gender	1	7.203**
Number of close friends	1	29.507***
Number of close family	1	7.073**
Age	1	14.170***
2-Way Interactions	6	.638
Gender X No. Friends	1	.366
Gender X No. Family	1	.768
Gender X Age	1	1.033
No. Friends X No. Family	1	1.215
No. Friends X Age	1	.087
No. Family X Age	1	.527
3-Way Interactions	4	1.164
Gender X Friends X Family	1	.867
Gender X Friends X Age	1	1.431
Gender X Family X Age	1	.901
Friends X Family X Age	1	1.431
4-Way Interactions	1	4.392*
Gender X Friends X Family X Age	1	4.392*

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

Table 20

Analysis of Covariance on Social Involvement for Peer Bereaved Adults (N = 3095).

Source	DF	F
Covariates	3	10.177***
Total other losses	1	.367
Health limitations	1	24.200***
Education	1	5.195*
Main Effects	4	80.097***
Gender	1	161.057***
Number of close friends	1	83.443***
Number of close family	1	20.147***
Age	1	25.348***
2-Way Interactions	6	1.254
Gender X No. Friends	1	1.505
Gender X No. Family	1	1.948
Gender X Age	1	3.568
No. Friends X No. Family	1	.679
No. Friends X Age	1	.756
No. Family X Age	1	.120
3-Way Interactions	4	2.654*
Gender X Friends X Family	1	2.851
Gender X Friends X Age	1	2.925
Gender X Family X Age	1	.240
Friends X Family X Age	1	2.442
4-Way Interactions	1	1.805
Gender X Friends X Family X Age	1	1.805

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

### Emotional Investment

Two covariates--the number of other losses experienced and education--significantly influenced levels of emotional investment, with a greater number of losses and higher levels of education accounting for higher levels of emotional investment. Gender, the number of close friends, the number of close family relationships, and age did not interact in any way to significantly affect levels of emotional investment. A gender main effect revealed that women ( $\bar{M} = .41$ ,  $SD = .40$ ) expressed greater levels of emotional investment than men ( $\bar{M} = .35$ ,  $SD = .39$ ). A main effect for close family network size indicated that the presence of one or more close family relationships was associated with higher levels of emotional investment than was the absence of any close family network members ( $\bar{M} = .43$ ,  $.33$ , respectively,  $SD = .40$ ,  $.37$ , respectively). See Table 21 for the ANCOVA F-ratios and degrees of freedom.

Interpretations of the results of the bereavement status comparisons, the significant predictors of personal and social functioning for each bereavement status, and exploratory analyses of the peer bereaved are presented in the next section.

Table 21

Analysis of Covariance on Emotional Investment for Peer Bereaved Adults (N = 3029).

Source	DF	F
Covariates	3	36.673***
Total other losses	1	86.908***
Health limitations	1	1.002
Education	1	14.880***
Main Effects	4	12.759***
Gender	1	27.049***
Number of close friends	1	2.770
Number of close family	1	15.379***
Age	1	3.031
2-Way Interactions	6	1.094
Gender X No. Friends	1	.483
Gender X No. Family	1	.027
Gender X Age	1	2.021
No. Friends X No. Family	1	.093
No. Friends X Age	1	3.070
No. Family X Age	1	.668
3-Way Interactions	4	1.461
Gender X Friends X Family	1	.086
Gender X Friends X Age	1	1.908
Gender X Family X Age	1	.078
Friends X Family X Age	1	2.997
4-Way Interactions	1	.027
Gender X Friends X Family X Age	1	.027

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

## Chapter IV

### Discussion

This study compared the short-term reactions of women and men aged 65 and older who were bereft of a close friend, a spouse, or both a close friend and a spouse, with the functioning of a group of similarly aged non-bereaved adults. Guided by Weiss' (1993) perspective on loss which delineates multiple dimensions of effective personal and social functioning--ability to give energy to everyday life, psychological comfort, ability to experience gratification, and ability to function with reasonable adequacy in social roles--this study examined individuals' levels of functioning on perceived health, negative affect, positive affect, and social involvement, respectively. In addition to social involvement, three other facets of social functioning were examined with measures of emotional investment, family satisfaction, and friend satisfaction. Another dimension, hopefulness for the future, was not assessed because the measure of preparation for the future had poor psychometric properties and did not adequately approximate Weiss' (1993) concept.

Drawing on Bowlby's (1969) attachment theory, Weiss (1993) notes that the loss of a relationship of attachment (e.g., spouse) evokes distress and lower levels of effective personal and social functioning than the loss of a relationship of community (e.g., close friend). The combination of loss of a spouse and a close friend are believed to approximate the *total* loss of community; Weiss (1993) suggests that a loss of all of one's friends or all relationships of community will evoke grief reactions similar to those evoked by a loss of an attachment

relationship. Multiple bereaved individuals were expected to have levels of functioning similar to or even lower than spouse bereaved. Spouse bereaved adults were predicted to have lower levels of functioning than peer bereaved individuals, who would have lower functioning than non-bereaved adults.

The comparison of individuals' reactions to different types of loss revealed several expected as well as unexpected findings. Significant and non-significant bereavement status differences on levels of effective personal and social functioning are presented in Figure 1. Three primary patterns of findings illustrated in Figure 1 include: (a) multiple and spouse bereaved individuals reported similar levels of personal and social functioning; (b) only predictions about bereaved and non-bereaved individuals' levels of negative affect were consistently supported; and (c) unexpectedly, peer bereaved adults indicated better personal and social functioning than non-bereaved individuals. As Figure 2 illustrates, there was a common pattern of gender differences with women reporting more negative affect and greater positive affect than men, as well as better social functioning.

The discussion which follows is organized around four areas. First, the differences and similarities between bereavement statuses are presented. This includes a comparison of: (a) spouse and non-bereaved, (b) peer and non-bereaved, (c) multiple and non-bereaved, and (d) multiple, spouse, and peer bereaved. Also included in the comparisons of the bereaved groups are the significant predictors of effective functioning. Second, gender and the context of loss are discussed; that is, gender, the interaction between type of loss and gender, as well as the other

Figure 1

## Hypothesis Testing Of Bereavement Status Differences On Measures Of Effective Functioning

Bereavement Status Comparison	Perceived Health	Negative Affect <sup>a</sup>	Positive Affect	Social Involve.	Emotional Invest.	Family Satif. <sup>b</sup>	Friend Satisf.
Spouse - Multiple	=	=	<	=	=	=	=
Spouse - Peer	=	<	<	<	=	=	=
Spouse - Non-berv	=	<	<	=	>	=	=
Multiple - Peer	=	<	=	=	=	=	=
Multiple - Non-berv	=	<	=	>	>	=	=
Peer - Non-berv	>	=	>	>	>	=	>

Note: Higher scores ">" reflect greater levels of effective functioning. Non-significant differences are represented by "=".

<sup>a</sup> Greater functioning on negative affect reflects greater freedom from negative affect (i.e., less negative affect). <sup>b</sup> No bereavement status difference.

□ = hypothesis not supported

■ = hypothesis supported




Figure 2


Hypothesis Testing Of Gender Differences On Measures Of Effective Functioning

Gender Comparison	Perceived Health	Negative Affect <sup>a</sup>	Positive Affect	Social Involve.	Emotional Invest.	Family Satisf.	Friend Satisf.
Women - Men	=	<	>	>	>	=	>

Note: Higher scores ">" reflect greater levels of effective functioning. Non-significant differences are represented by "=".

<sup>a</sup> Greater functioning on negative affect reflects greater freedom from negative affect (i.e., less negative affect).

 = hypothesis not supported

 = hypothesis supported

context variables of close network size, education, other losses, and health limitations are discussed as they relate to personal and social functioning following bereavement. Third, Weiss' (1993) perspective on loss is discussed and evaluated in the context of the foregoing study. Finally, the limitations, conclusions, and implications of this study are discussed.

#### **Bereaved and Non-bereaved Adults' Effective Functioning Spouse and Non-bereaved Comparison**

There was marginal support for the hypotheses that widowed individuals would report lower levels of functioning than non-bereaved individuals. On the dimension of negative affect, recently spouse bereaved adults reported poorer functioning than non-bereaved adults. The loss of a spouse represents the loss of part of one's self, as identities and roles change (Lopata, 1973). This result of poorer negative affect is consistent with other widowhood research that indicates widowed individuals experience greater levels of distress and depression than non-bereaved older adults (Gallagher et al., 1983; Lund, 1989). As well, an analysis of a rarely addressed dimension--positive affect--revealed that widowed individuals expressed less positive affect than non-bereaved adults. This poorer affect, both negative and positive, may be indicative of the grief that arises from the absence of security fostering feelings typically associated with one's spouse.

On other dimensions of effective functioning, widowed individuals reported similar levels of functioning to non-bereaved adults. For example, recently widowed individuals reported their perceived health to be comparable to non-bereaved

adults. This similarity between the spouse bereaved and non-bereaved adults is contrary to predictions and stands in contrast to other research. For example, Thompson et al. (1984) found recently widowed adults to indicate lower levels of self-reported health (both perceived health and perceived health relative to others of the same age) than non-bereaved individuals. Perhaps the discrepancy between the findings of this study and Thompson et al.'s (1984) study resides in the sample of individuals investigated. Specifically, while Thompson et al.'s (1984) study recruited widowed individuals via death certificates, the non-bereaved comparison group was recruited through senior centres and a university mailing list. These non-bereaved individuals were all volunteers and were generally well-educated and of middle to upper socioeconomic status. This sample may represent a more healthy and socially advantaged group of individuals, in contrast to Thompson et al.'s (1984) bereaved sample and the highly representative sample of individuals on which this study is based.

Also, contrary to the prediction that widowed individuals would indicate less social involvement than non-bereaved adults, similar levels of involvement in relationships were reported by these two groups. Instead of social isolation resulting, the "social network crises" of bereavement may "draw the entire group [of family and friends] into distress" (Stylianios & Vachon, 1993, p. 397). Perhaps this drawing in of others accounts for the similarity in social involvement between the recently widowed and non-bereaved.

Corresponding with this interpretation and counter to expectations, widowed individuals reported more emotional investment in relationships than did non-bereaved adults. While there was no difference in the frequency of involvement or contact with others between the widowed and non-bereaved, there appears to be a difference in the content or function of the interactions with family and friends. The spouse bereaved tended to receive more emotional support from close interpersonal relationships, as well as provide more emotional support to members of their relationship network. Frequency of interactions or involvement with family and friends may not be indicative of social support (Crohan & Antonucci, 1989) or emotional investment; Johnson and Troll (1994) write that "contact variables are not the best indicators of the functions of friendship, because the emotional benefits may be independent of the number of face-to-face interactions" (p. 80).

Recently widowed individuals' satisfaction with family relationships and satisfaction with friendships was expected to be lower than that of the non-bereaved adults. However, no differences between the two bereavement statuses were found. Perhaps the two global measures of family satisfaction and friend satisfaction were not able to discern the degree of satisfaction with particular family members and friends. Given that older adults tend to express much satisfaction with their interpersonal relationships (Field & Minkler, 1988), these findings may reflect this greater overall contentment in later life. More specific measures of satisfaction may reveal differences in relations with sons and daughters, siblings, or close friends.

### Peer Bereaved and Non-bereaved Comparison

The examination of recently peer bereaved individuals' levels of functioning in comparison with similarly aged non-bereaved older adults revealed several unexpected and intriguing findings. Individuals bereft of a close friend in the preceding twelve months did not report greater levels of negative affect than a non-bereaved comparison group of adults. More interesting, peer bereaved individuals reported better perceived health, greater positive affect, and more social involvement than non-bereaved adults, as well as greater emotional investment and satisfaction with friendships. These provocative results provide the first empirical insight into the psycho-social functioning of recently friend bereaved older women and men.

These intriguing findings are contrary to expectations and may be the consequence of methodological nuances, conceptual subtleties, or both. For example, previous research attests to the mental and physical health benefits of social activity, particularly in later life; that is, individuals embedded in a social network tend to fare better than those without satisfactory access to such social relationships (Johnson, 1983). This is especially true of those individuals whose social skills and mobility permit easy friendship formation and maintenance. A correlate of both network size and age, however, is mortality; that is, those older individuals who know more people are also more likely to know someone who has died. Perhaps the salutogenic effects noted above, then, are the outcomes of social participation and not the death of a close friend; people who have friends are both more likely to have lost friends and to

have benefited from their friends they have (and have had). However, attempts to control for this interpretation were made by covarying both friendship number and number of kin.

A social-cognitive interpretation of recently peer bereaved adults reporting higher levels of functioning than non-bereaved individuals revolves around the meaning or definition of close friend and the appraisal of loss. In contrast to the more ritualized, structured, socially and legally defined family relationships, friendships are subjectively defined with criteria that vary from individual to individual (de Vries, in press). The responses to the loss of a friend, then, may speak more to the social-cognitive organization of individuals than the psychological reactions to death.

A similar interpretation, framed in the terms of social comparison theory (Festinger, 1954), targets the ways in which the self is seen and evidenced in the company it keeps. Individuals tend to choose friends who are similar to themselves on a host of psychological and physical dimensions, including age, gender, and socio-economic status (Adams, 1989). These friends provide individuals with a yardstick to help construct who they are and measure how they are doing. The death of such a referent may well initiate fears that "it could have been me" and relief "that it wasn't" (Deck & Folta, 1989). This information may be taken in a couple of ways. On the one hand, individuals may realize that, given their comparison point, they are not doing too badly; at least they are still alive. As such, their perceived health and positive affect should reflect this appraisal. In fact, Murphy (1986) found that peer bereaved

adults (mean age 40.5 years) reported an increased enjoyment of the present. On the other hand, individuals may see their friend's death as an omen of their own mortality and respond to the finitude of their time with a greater investment in life--living each day to its fullest. Consistent with this, Roberto and Stanis' (1994) examination of older peer bereaved women indicated that many individuals reported an increased awareness of their own mortality and a greater appreciation for life.

Further investigations of peer bereaved individuals may reveal differences in adjustment based on the nature and quality of the relationship lost, as well as socio-demographic characteristics of gender and age. Exploratory analyses of the peer bereaved individuals in this study revealed that adults who had no close network relationships of family or friends indicated poorer personal functioning (i.e., more negative affect, less positive affect) and poorer social functioning (i.e., less social involvement) than adults who had close family or friend relationships. This depletion of all of one's social resources, particularly in later life, offers an avenue of exploration in future peer bereavement studies.

Gender also was affiliated with peer bereaved individuals' levels of functioning, with women indicating more negative affect and higher levels of social functioning (i.e., social involvement, emotional investment) than men. However, older women with no close interpersonal ties expressed the greatest distress. Johnson and Troll (1994) found, in an examination of adults aged 85 and older, that many individuals commented, "I've outlived everybody" (p. 82). This experience of living without

close peers and kin is inherently ambivalent; it may be very distressing, as the high negative affect scores from this study reflect, but there may also be a feeling of resiliency or hardiness associated with outliving one's family and friends. This latter experience, in particular, may be most pronounced by some younger older adults (i.e., aged 65-74); exploratory analyses revealed that younger women with no close family relationships or friends reported the highest levels of positive affect. These and other interpretations of adjustment to later life peer bereavement remain to be examined in more qualitative research.

#### Multiple Bereaved and Non-bereaved Comparison

Older adults recently bereft of both a spouse and a close friend were expected to indicate poorer functioning than non-bereaved adults on a host of dimensions. However, only in terms of distress did multiple bereaved adults indicate poorer functioning than non-bereaved adults. Indicative of Kastenbaum's (1969) bereavement overload, those who suffered successive losses of emotionally significant relationships in a short period of time reported more negative affect than non-bereaved individuals. The distress caused by losing both one's spouse and close friend in a relatively short period of time may drastically change an individual's roles, identity, and available support and companionship. That is, accompanying the loss of a spouse is the loss of a partner with whom experiences and desires were shared, as well as the loss of a primary figure intricately linked to one's roles and identity; accompanying the loss of a close friend is likely the loss of a companion in shared experiences, as well



as a provider of emotional and instrumental support (de Vries, 1996).

Given the importance of close interpersonal relationships to individuals, particularly in later life (Blieszner, 1988), it was surprising to find there were few deleterious social, mental, or physical health consequences following the death of both a spouse and a close friend. That is, recently multiple bereaved adults reported their health and positive affect to be similar to that of non-bereaved adults. Perhaps the similarity in positive affect between the two groups is rooted in the reference points the two groups use while responding to a measure of positive affect. It may be that in the short-term, the multiple bereaved, in contrast to the non-bereaved, experience a greater fluctuation in levels of affect--much like the ups and downs of a roller coaster as suggested by Lund et al. (1993), for the recently widowed. This variability in multiple bereaved individuals' functioning may provide the backdrop or reference point against which individuals interpret their levels of functioning. Multiple bereaved adults' points of reference--"do I feel happy...relative to how I felt months ago?"--may be much different than those of non-bereaved individuals who have not recently experienced similar losses. The reference to negative feelings which accompanied previous losses may make present feelings seem more positive in nature, which, in turn, results in unexpectedly high levels of reported positive affect.

Another interpretation of this apparent similarity in terms of positive affect and perceived health may lie in a social comparison framework. As was discussed in the interpretation of

peer bereavement and its salutogenic effects of loss, death may cause a change in a frame of reference in interpreting life events or meanings or view of one's self. For example, the death of a close friend may evoke fears that "it could have been me," and, at the same time, it may evoke "relief that it wasn't" (Deck & Folta, 1989). The loss of a spouse, though, more likely evokes the questioning of "why not me?" and rather than any sense of relief, it may produce thoughts of "I wish it was me." Given this, the thoughts that might be provoked following the recent loss of both a close friend and a spouse are less evident. It was expected that the combination of being widowed and peer bereaved in a relatively short period of time would lead to even lower levels of positive affect. However, this was not the case. Are the effects of friendship loss and spousal loss counteractive in some way? Perhaps the coping mechanisms one draws on or the social comparison points one uses are such that measures of functioning, particularly positive affect and health, may be elevated. Are the losses of a spouse and a close friend additive in some way? The pool of grief or bereavement overload individuals experience in dealing with successive losses in a short period of time confronts individuals with the challenges of change in dealing with the circumstances of loss. However, it may be that these challenges in coping with multiple loss result in a heightened existential awareness or have salutogenic effects.

Perhaps older adults who experience increasing numbers of losses are more resilient than many believe. McCrae's and Costa's (1993) examination of the long-term effects of widowed

suggest that older adults indeed are very resilient; widowed individuals did not evidence poorer psychological adjustment than other non-bereaved adults. While research still needs to examine personality dimensions that might be associated with greater hardiness (Kobasa, Maddi, & Kahn, 1982) or resiliency following loss, it may be the case that older adults in general, and the multiple bereaved individuals in this study specifically, are resilient people. While negative affect may be a dimension on which poorer functioning is evidenced, resiliency may be more embedded in one's sense of positive affect and perceptions of health (e.g., pleased about having accomplished something, viewing health as good; these very same items assessed in this study's measures of positive affect and perceived health).

Or, it may be that positive affect is not a dimension of functioning impacted following the experience of multiple loss. Positive affect might be more of a personality characteristic that is independent of loss and other life events. The examination of positive affect following loss remains to be further examined as does the examination of reactions and coping with multiple interpersonal losses in later life.

The multiple bereaved differed from the non-bereaved in terms of social involvement and emotional investment in relationships. In fact, individuals recently bereft of both a spouse and a close friend appeared to resemble the peer bereaved in that they reported greater levels of social involvement and emotional investment in interpersonal relationships than did non-bereaved adults. This might not reflect higher levels of effective functioning; rather, the higher frequency of

interaction or involvement with family and friends, as well as the increased component of emotional investment, may be indicative of increases in social support following loss.

#### Comparison Between Multiple, Spouse, and Peer Bereaved

This study's multidimensional examination of older adults psycho-social functioning revealed both similarities and differences in reactions to the recent death of a close friend, a spouse, or both. As well, several patterns of socio-demographic predictors of functioning for these bereaved adults were revealed. Individuals recently bereft of a spouse or both a spouse and a close friend indicated comparable levels on measures of perceived health, negative affect, social involvement, emotional investment in relationships, and satisfaction with friends and family. The commonality of the loss of a spouse for these two bereaved groups, then, may be the central driving force in determining levels of functioning. Differences between the spouse and multiple bereaved individuals only emerged on the measure of positive affect, with multiple bereaved individuals interestingly expressing greater functioning than recently widowed adults. Fostering positive affect may be a role unique to the domain of friends: that is, the primary role of friends is not as caregivers or supporters, but rather of a sociable nature--they are ones with whom to recreate and socialize (de Vries, 1996).

This sociability factor may underlie the greater positive affect expressed by peer bereaved individuals. Interestingly, and contrary to predictions, recently peer bereaved adults reported similar levels of health, emotional investment in

relationships, and satisfaction with close network ties, as compared to widowed and multiple bereaved individuals. The groups were similar in terms of predictions of perceived health, with the absence of health limitations and more education most strongly affecting levels of health for all groups. Even given these similarities, though, the regression models for each bereavement group did not strongly account for variations in health. Other factors still remain to be accounted for.

Perhaps one such factor, less embedded in socio-demographic variables and more rooted in a psychological or cognitive context, is an individual's frame of reference. It may be that bereaved individuals view their health both in relation to themselves shortly after experiencing a significant interpersonal loss and in relation to others: relative to both other older adults who have not recently experienced such a loss and how the bereaved individual has coped with the loss in the past, they are doing well; relative to the deceased friends, the bereaved adults are doing better. Future studies that examine multiple types of later life loss should include more qualitative aspects that offer the opportunity to more fully understand the context of loss and what factors play a role in individuals assessment of their own functioning.

Emotional investment in relationships is a general measure of the "give and take" nature of supportive relationships. As reported earlier, the three bereaved groups indicated more emotional investment than the non-bereaved. The finding of no significant differences in emotional investment among the peer, spouse, and multiple bereaved may be indicative of the quality of

relationships with family and friends. Close network representatives provide emotional support, and bereaved individuals also may see themselves as providing support to members of their close networks. This suggests that the players and patterns of support that are called into action in dealing with loss may be independent of the type of loss suffered. However, future studies are needed to provide additional information as to which individuals in a bereaved adult's close interpersonal network are called upon and what those individuals offer.

This study revealed that all bereaved groups reported similar, moderate to high levels of satisfaction with both family and friends. This may attest to the overall efficacy of social support during a crisis (Stylianios & Vachon, 1993). Or, it may reflect a lack of specificity in the measure of satisfaction with particular interpersonal relationships. For example, fewer close family members was the only predictor of emotional investment for widowed individuals, whereas a greater number of close family members was a strong predictor of emotional investment for the non-bereaved. Lopata (1979) suggests that widows may rely more on their daughters for support (i.e., a fewer number of close family members); non-bereaved individuals' may rely on a more broad group of family members (i.e., a greater number of family), which yields high levels of emotional investment in social ties. Future studies that assess the nature of specific relationships may further enhance the understanding of later life family relationships and friendships, and their importance in adjusting to loss.

Bereaved adults' levels of social and personal functioning in terms of social involvement and affect provided moderate support for the hypotheses. In terms of social involvement, being a woman was most predictive of higher levels, although the absence of health limitations and having more close family members also were significant predictors for both the multiple bereaved and peer bereaved individuals. Conversely, large numbers of close network relationships were the strongest predictors of social involvement for the widowed individuals. In terms of affect the recently peer bereaved expressed less negativity than both spouse and multiple bereaved adults. While Sklar's and Hartley's (1990) examination of 48 young and middle-aged adults who experienced the death of a friend in the previous five years suggests that peer bereaved individuals experience distress that might be comparable to familial bereavement, this study's examination of 3,198 peer bereaved older adults revealed that, consistent with Weiss' (1993) framework on loss, the distress or negative affect following the loss of a close friend is less intense than that which follows the loss of an attachment relationship (i.e., spouse).

As expected, multiple bereaved and widowed individuals indicated similar levels of negative affect. Less education and fewer close family members were the most predictive (and only predictors) of more negative affect for the widowed, in contrast to the other bereaved and non-bereaved groups. Interestingly, education, often associated with greater access to resources (Lopata, 1993), did not predict the negative affect experienced by multiple bereaved adults. For the multiple bereaved (and in

contrast to the other bereaved and non-bereaved groups), being younger was the sole predictor of more distress. For the multiple bereaved, then, the normativeness--and perhaps expectedness--of the losses may be more relevant in the experience of distress than access to resources and interpersonal ties.

Adults bereft of a close friend expressed greater levels of positive affect than recently widowed individuals. This is consistent with Murphy's (1986) finding based primarily on young and middle-aged adults in which individuals whose friend died in a natural disaster reported "growth-producing" effects following the loss (e.g., increased focus on and enjoyment of the present), in contrast to widowed individuals. In this study, peer bereaved adults also reported more social involvement than widowed individuals. Widowhood brings an initial flurry of friendship activity which then subsides yielding to family interaction. Friend loss may bring more ongoing activity as friendship groups struggle with support and reconstruction.

#### Context of Loss

The experience of loss occurs in a social context (Rosenblatt, 1993). Individuals' reactions and adjustment to loss in general, and multiple losses in particular, also must be examined in the context of individuals' other psycho-social losses. A pool of grief may persist and intensify with added interpersonal losses (Moss & Moss, 1989). Individuals' grief reactions to these losses are shaped by a variety of factors, including family, friends, and one's culture (Averill & Nunley, 1993; Rosenblatt, 1993). For example, in North American society,



the loss of a close friend tends not to be even recognized as a significant loss; there is no term used to identify an individual bereft of a close friend, no norms for peer bereaved individuals' grief experiences. This study addressed different later life losses in the context of gender and a host of socio-demographic characteristics that influence personal and social functioning. The discussion that follows is organized around gender differences on dimensions of effective functioning, context effects of other socio-demographic factors, and reactions to loss in the context of gender and other socio-demographic factors.

In general, women tend to report greater depression (Nolen-Hoeksma, 1987) and more negative affect than men, as well as emphasize expression of feelings and intimacy in relationships (Gilligan, 1982). Given the North American cultural context in which gender is embedded, individuals' levels of personal and social functioning were expected to be influenced by gender. The findings of this study, with the exception of those pertaining to perceived health and family satisfaction, revealed that gender significantly effected all dimensions of personal and social functioning. Women reported greater levels of affect than men. One explanation for these findings is the socio-cultural context of these women and men. Traditional norms, particularly for the older cohort of this study, tend to encourage expressiveness in women and discourage emotional expressiveness in men (Lowenthal & Haven, 1968). This expressivity factor would account for the findings of both greater negative affect and more positive affect for women than for men. Similarly, consistent with women's tendency to value intimacy in relationships and be more invested

in interpersonal relationships than men, the findings of this study revealed that women indicated greater social involvement and emotional investment in relationships than men. Perhaps reflecting men's tendency to be less expressive than women, women also indicated greater satisfaction with close interpersonal relationships.

Individuals' levels of personal and social functioning also were influenced by other socio-demographic variables. Specifically, the absence of health limitations, more education, experiencing a fewer number of other recent physical and social losses, and greater numbers of close family relationships and close friends tended to be associated with greater levels of personal and social functioning. Freedom from health limitations gives individuals added flexibility in participating in social relationships and activities. More education affords greater access to resources and knowledge of how to utilize resources (Lopata, 1993), both of which may facilitate adjustment to change. As previously discussed, individuals' experiences with other recent losses as well as the availability of close interpersonal relationships may influence their ability to cope with death.

The findings of this study indicated the importance of studying loss in the context of gender and other social-demographic factors. While bereavement status and gender did not interact to influence levels of personal and social functioning, gender, recent experience of other losses, health limitations, education, and close network size significantly influenced bereaved and non-bereaved individuals' personal and social

functioning. Particularly evident across the bereavement statuses was the importance of accounting for physical health limitations and levels of education. In order to more fully understand individuals' bereavement reactions and adjustment, loss must be examined in the context of other socio-cultural factors.

#### Weiss' Framework On Loss

Weiss' (1993) framework on loss identifies different types of relationships and delineates multiple dimensions of functioning used to assess individuals "recovery" or adjustment to loss. Weiss' (1993) perspective on loss maintains that the loss of an attachment relationship (e.g., spouse) will tend to evoke greater distress, grief, and poorer functioning than the loss of a relationship of community (e.g., close friend). Furthermore, the loss of all relationships of community (approximated here by the loss of both a spouse and a close friend) will tend to evoke similar levels of functioning as the loss of an attachment relationship. Weiss' (1993) model provided a framework for comparing multiple types of loss with a non-bereaved comparison group on several dimensions of effective personal and social functioning.

The results of this study only marginally supported the predictions and expectations derived from Weiss' (1993) perspective on loss. Results of comparisons between the widowed and non-bereaved individuals revealed that while two of the three findings on personal functioning dimensions (i.e., negative affect, and positive affect) were as expected, none of the four findings pertaining to social functioning were consistent with

predictions. Most surprisingly, none of the findings from the peer and non-bereaved comparisons supported the hypotheses; in fact, on five of the seven dimensions of functioning (i.e., perceived health, positive affect, social involvement, emotional investment, and friend satisfaction), the peer bereaved reported better functioning than the non-bereaved. Only the expectation that multiple bereaved and widowed individuals would indicate comparable levels of functioning was evidenced, with the two groups only differing on a single dimension of personal functioning (i.e., positive affect).

The unexpected findings of this study suggest that Weiss' (1993) framework on loss may need to be modified to account not only for the negative consequences of loss, but also the ranges in the salutogenic effects of loss. The framework assumes bereaved individuals experience only decrements in personal and social dimensions of functioning. Weiss' (1993) framework is based on a *hierarchy* of relationships (i.e., attachment or community) in which the degree of poorer functioning following loss corresponds with the type of relationship that was lost. However, such a hierarchical conceptualization of relationships is unable to account for the ranges in negative and positive functioning following loss, as well as the unique attributes of different types of close interpersonal ties. There is limited discrimination between relationship types in Weiss' (1993) model: marital relationships certainly vary in the degree they can be classified as attachment, while some close friendships and sibling relationships--relationships of community as defined by Weiss (1993)--may better be characterized as fostering feelings

of security and confidence typical of attachment relationships. While Weiss (1993) does recognize that different types of loss (e.g., death, divorce) and different modes of death (e.g., suicide, murder) influence reactions to loss, he does not differ between the meanings of relationships.

This suggests that the nature and quality (i.e., meaning) of relationships needs to be identified and perhaps be more appropriately conceptualized in terms of a *typology*, rather than *hierarchy*, of relationships. A typology of relationships does not inherently predict a degree of negative functioning following loss for all interpersonal ties. Rather, it allows for both more or less negative functioning and more or less positive functioning in bereaved individuals across multiple dimensions. Such an accounting of relationships that discriminates the quality or nature of close interpersonal ties might better serve in the multidimensional examination of bereavement adjustment. While such a typology remains to be fleshed out, such an approach would further classify relationship types while also recognizing the meaning of particular relationships that would likely influence individuals' adjustment to bereavement (Wortman et al., 1993).

Weiss' (1993) perspective on loss also does not account for the socio-cultural context in which grief and bereavement adjustment occur. Although Weiss' (1993) perspective provides a multidimensional framework that delineates criteria for effective functioning, it neglects to consider individuals' functioning in the context of a host of other factors. For example, movement toward recovery or adjustment is likely influenced by individual

differences, gender, and age (see Arbuckle & de Vries, 1995). This study also revealed that, among other things, education and recent experience with other types of loss influenced individuals' short-term personal and social functioning. Future examinations of the context of loss and other potentially mediating or moderating variables may inform both Weiss' (1993) framework on loss and the understanding of close interpersonal relationships in later life.

Weiss' (1993) identification of different types of interpersonal relationships offers a framework from which to examine reactions to different types of loss. While Weiss' (1993) delineation of relationships into two broad categories (i.e., relationships of attachment vs. relationships of community) is parsimonious, an understanding of the nature and quality of specific spousal or friend relationships may shed further light on particular reactions to loss. For example, close adult siblings or close friends may serve as strong attachment figures in older adults' lives, particularly if single. Future bereavement research that examines the nature and quality of the relationship lost may yield a greater accounting of the differences and similarities in functioning between individuals bereft of a spouse, a close friend, or both.

#### Limitations

While this study is believed to be the first to examine individuals' reactions to multiple interpersonal losses in later life, as well as compare reactions of peer and spouse bereaved individuals, an understanding of the temporal dynamics of bereavement reactions is limited. For example, the degree to

which bereavement reactions vary in type and intensity across different psychological, physical, and social domains at particular points in time cannot be assessed with the *Survey on Ageing and Independence* data set due to its focus on loss in a 12 month period of time. More prospective and longitudinal bereavement research in the area of spouse, peer, and multiple loss is needed so that these issues may be examined.

A second limitation of this study is that indicators of coping or adjustment rooted in personality characteristics were not examined. Given the nature of this study and its reliance on secondary data, individual differences in personality characteristics could not be examined. For example, investigations of individuals' degree of optimism, locus of control, hardiness or sense of coherence, extroversion, or existential awareness may have accounted for more of the differences between bereavement statuses, as well as predicted which individuals were functioning better than others. Longitudinal research that accounts for individual differences may better yield predictions on what individual characteristics are associated with more successful coping, both in the short-term and over time.

A third limitation of this study is that it does not address phenomenological aspects of individuals' lives. Specifically, the meaning that a spouse, a close friend, or both held for an individual is not assessed in the *Survey on Ageing and Independence*. Consequently, an interpretation of individuals' bereavement reactions is based on an understanding only of the nature of the relationship(s) lost: the intimate and ascribed

nature of spousal relationships and the companionate and voluntary nature of friendships (de Vries, 1996). This study relies on more conventional definitions and nature of these relationships. A more fully informed understanding of the meaning individuals attach to these relationships would enhance one's understanding of individuals' reactions to loss (Wortman et al., 1993).

Understanding the social context of loss also requires considering other factors that may influence world views or nature of dealing with loss. Two such factors that were not assessed in this study were ethnicity and religion. A recent examination of friendship among Canadian seniors provides evidence of ethnic differences in the definition and constitution of friendship (de Vries, Jacoby, & Davis, 1996). Explorations of such differences in meaning and type of relationship may provide insight into differences in grief reactions. This study also was limited in its ability to examine age differences in bereavement adjustment. Specifically, due to Statistics Canada's need to guarantee that participants' responses remain anonymous, individuals aged 80 and older were given the mean age of 84. Thus, these older adults were treated as a homogenous group of individuals even though this assumption may be unfounded (Johnson & Troll, 1994).

Another limitation of this study was the degree to which the measures of personal and social functioning adequately approximated Weiss' (1993) multidimensional model on loss. While the measures of personal functioning--perceived health, negative affect, positive affect--had moderately high alphas and were



believed to conceptually parallel Weiss' (1993) effective personal functioning dimensions, the measures of social functioning--social involvement, emotional investment, family satisfaction, friend satisfaction--had either lower alpha levels or atypical distributions and may not have closely approximated Weiss' (1993) conceptualization of social functioning.

A final limitation of this study, and a surprisingly common limitation of bereavement research in general, is that items necessary for a measure of grief were not included in the questionnaire. This prevents comparison of findings on grief with other widowhood studies, as well as limits the understanding of grief as an emotional reaction to different types of later life interpersonal losses.

### Conclusions and Implications

This study provides the first empirical comparison between individuals' short-term reactions to specific familial and non-familial interpersonal losses in later life. This study examines older adults' functioning following the recent loss of a spouse, a close friend, or both. Importantly, it draws attention to bereavement experiences other than widowhood.

A nationally representative sample of nearly 9,000 older Canadian women and men afforded the opportunity to compare individuals who recently had experienced various types of interpersonal losses with a non-bereaved group of individuals unaffected by similar recent losses. The questionnaire used for this study was embedded in a context of health, activity, retirement, and independence. Consequently, individuals examined in this study were identified independent of their bereavement

status. Such inclusion of individuals minimized the context effects and "bereavement priming" often associated with bereavement research; participants were not forewarned that they were participating in bereavement research, nor were participants recruited from bereavement self-help or support groups, both of which tend to limit the generalizability of findings (Stroebe & Stroebe, 1989).

The generalizability of this study's findings is enhanced by the large representative sample size, random selection of individuals, use of a non-bereaved comparison group, and high response rate. Furthermore, the socio-demographic variables used as controls increased the ability to account for other contextual variables in which close interpersonal losses take place.

A unique feature of this study, as compared to other empirical examinations of later life bereavement reactions (see Arbuckle & de Vries, 1995, for an exception), is that a multidimensional conceptual framework guided the research. Researchers now recognize that bereaved individuals' movement toward recovery is multifaceted in nature and impacts various aspects of personal and social functioning--psychological and cognitive, behavioural and physical, and social dimensions (Stroebe, Stroebe, & Hansson, 1993). The multidimensional perspective of Weiss (1993) provided a framework to assess these multiple dimensions of bereavement reactions associated with spouse and peer loss.

The growing body of literature attesting to the importance of close interpersonal relationships, particularly in later life (Johnson, 1983), suggests that the loss of a close friend, the

loss of a spouse, or the loss of both may greatly impact one's ability to function. While this study indicates that bereaved individuals tend to experience some lower levels of personal functioning (i.e., more negative affect), it also indicates that bereaved individuals are comparable to non-bereaved adults in terms of other personal and social functioning dimensions. This resiliency in older adults may reflect the normativeness of later life losses as well as previous experience in coping with loss.

Interestingly, both peer and multiple bereaved individuals revealed greater positive affect than non-bereaved adults. Moreover, individuals recently bereft of a close friend indicated greater personal functioning (i.e., perceived health, positive affect) and social functioning (i.e., social involvement, emotional investment, friend satisfaction) than non-bereaved individuals. These intriguing findings suggest that, not only is there resiliency in later life, but there also may be salutogenic effects of loss.

The multidimensional examination of short-term reactions to the death of a spouse, a close friend, or both, suggest that researchers and counselors must examine more than just the negative consequences of later life loss. Individuals working with bereft adults should not presume that the bereaved only experience distress and grief. Also, as Wortman and Silver (1987) identify, individuals grieve differently and may follow different trajectories in adjusting to loss. As such, it is important for bereavement practitioners, educators, the bereaved, and family and friends of the bereaved to know that loss is not a homogeneous phenomenon; reactions to loss vary, meanings of

relationships are unique, and loss is interpreted in a variety of ways.

Losses occur in the context of other losses (M.A. Moss, personal communication, September, 1995), both in terms of time and meaning. Investigations of individuals' reactions to loss should focus both on negative and positive effects in the psychological, physical, social, and perhaps spiritual domains. Future research that examines these multifaceted dimensions and the more qualitative aspects of relationships (i.e., meaning) and contextual aspects of interpersonal ties (i.e., family and friends, socio-historical environment) may provide additional insight into the meaning of interpersonal losses in later life and the implications of such losses. Prospective research that accounts for both individual differences (e.g., personality factors) and social contexts may provide a further avenue for accounting for the differences and similarities in individuals' reactions to later life interpersonal losses and predictors of the variety of recovery or adjustment trajectories.

The examination of adjustment or recovery to loss must account for the family as well as the socio-cultural context of loss. An accounting of how this context and other bio-psycho-social aspects of individuals' lives may mediate or moderate individuals' bereavement adjustment is necessary. Future research should adopt a multidimensional framework and appreciate the many forms bereavement may take over time. Additionally, the inclusion of more qualitative research in future research designs would allow for the exploration of meaning of interpersonal relationships and the context of loss. A combination of

quantitative and qualitative research strategies provides the tools necessary for the exploration of the meaning individuals attach to close interpersonal relationships and the multidimensional reactions that are evidenced following their loss.

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**Appendix A**  
**Questionnaire Items**

Independent Variables

**Gender**

[SEX]

Based on interviewer's observations:

1. Respondent's gender is male or female.

**Marital Status**

[A\_1]

1. What is your current marital status? Are you...
  - a. married or living common-law
  - b. separated
  - c. divorced
  - d. widowed
  - e. single (never married)

**Duration of Marital Status**

[A\_2]

1. How long have you been \_\_\_\_\_? (number of years)

**Recent Death of a Close Friend**

[F\_3\_E]

1. How one feels at any particular time is affected by life experiences. In the past twelve months have you...  
[yes, no, don't know]
  - a. had a death of a close friend?

Dependent Variables

**Perceived Health Index**

[E\_1, F\_1, F\_2]

1. Compared to other people your age, would you say that you are physically...
  - a. more active
  - b. as active
  - c. less active
  - d. don't know

2. How would you describe your state of health? Would you say, in general, your health is...

- a. excellent
- b. good
- c. fair
- d. poor
- e. don't know

3. Compared to other people your age, would you say your health is...

- a. better
- b. about the same
- c. worse
- d. don't know

#### **Negative Affect Scale**

[F\_18\_B, F\_18\_D, F\_18\_F, F\_18\_H, F\_18\_J, F\_16]

1. Here is a list that describes some of the ways people feel at different times. During the past few weeks, how often have you felt...

often-----sometimes-----never

- a. very lonely or remote from other people?
- b. depressed or very unhappy?
- c. bored?
- d. so restless you couldn't sit long in a chair?
- e. upset because someone criticized you?

2. Would you describe your life as...

- a. very stressful
- b. not very stressful
- c. not at all stressful

[Item '1d' was excluded from the Negative Affect Scale]

#### **Positive Affect Scale**

[F\_18\_A, F\_18\_C, F\_18\_E, F\_18\_G, F\_18\_I]

1. Here is a list that describes some of the ways people feel at different times. During the past few weeks, how often have you felt...

often-----sometimes-----never

- a. on top of the world?
- b. particularly excited or interested in something?
- c. pleased about having accomplished something?
- d. proud because someone complimented you on something you had done?
- e. that things were going your way?

[Item 'd' was excluded from the Positive Affect Scale]

### **Preparation For The Future Index**

[DVPREP\_B, DVPREP\_C, DVPREP\_F, E\_5]

1. There are many preparations that people make for their future. Please tell me if you have done any or are currently doing any of the following...

- a. developed physical activities?
- b. developed other leisure activities or hobbies?
- c. built up your savings?

2. Now I am going to ask you a few questions about your activities. Physical activity includes activities you do at work, at home and in your leisure time. It includes activities like walking, gardening, washing windows, dancing and golf.

- a. In the next year, do you intend to be more physically active, as active, or less active than you are now?

[Preparation for the Future Index was not used in analyses]

### **Social Involvement Index**

[E\_6\_C, E\_6\_F, E\_7\_A, E\_7\_G, E\_7\_I]

1. During a typical month, do you often, sometimes or rarely ...

- a. have a chat with others on the phone?
- b. have family or friends over?
- c. go to visit friends or relatives?
- d. go to clubs, church or a community centre?
- e. play cards or other games?

[Item 'd' was excluded from the Social Involvement Index]

### **Emotional Investment Index**

[G\_1\_I, G\_4\_I]

1. During the past twelve months, have you regularly provided any of the following types of assistance to others, either living with you or outside your home? Have you provided help with...

[responses recorded as yes, no, or don't know]

- a. emotional support?

2. During the past twelve months, have you regularly received any of the following types of assistance from



others either living with you or from outside your home?  
 Have you received help with...  
 [responses recorded as yes, no, or don't know]

a. emotional support?

### **Satisfaction with Family Relationships**

[G\_13]

1. I would like you to think now about your family and close friends. By family, I mean spouse or partner, children, and other relatives.

Are you satisfied or dissatisfied with the kind and frequency of contact you have with family members, including personal contact, phone calls and letter?

a. satisfied

b. dissatisfied

Is that very or somewhat?

1) very

2) somewhat

### **Satisfaction with Friendships**

[G\_18]

1. Are you satisfied or dissatisfied with the kind and frequency of contact you have with friends, including personal contact, phone calls and letters?

a. satisfied

b. dissatisfied

Is that very or somewhat?

1) very

2) somewhat

### Control Variables

#### **Number of Recent Losses**

[F\_3\_A, F\_3\_B, F\_3\_C, F\_3\_D, F\_3\_E, F\_3\_F, F\_3\_G]

1. How one feels at any particular time is affected by life experiences. In the past twelve months have you...

[yes, no, don't know]

a. changed or lost a job?

b. changed residences?

c. had a person move into or leave your home?

d. had a death in the family?

e. had a death of a close friend?

f. had a serious illness or injury?

g. had a family member or a friend seriously ill or injured?

[Items 'd' and 'e' were excluded from total number of recent losses]

**Health Limitation**

[F\_8]

1. Are you at all limited in the kind or amount of activity you can do because of a long-term illness, physical condition or health problem? By long term I mean a condition that lasted or is expected to last more than 6 months?

- a. yes
- b. no

**Age**

[AGE]

1. What is the date of your birth?

**Education**

[F03Q381, F03Q382]

1. Highest grade in elementary/high school...

- a. Grade 8 or lower
- b. Grade 9-10
- c. Grade 11-13 (did not graduate)
- d. High school graduate

2. Highest degree, certificate, diploma...

- a. No post secondary education
- b. Took some post secondary
- c. Trades certificate or diploma
- d. Non-university certificate or diploma
- e. University certificate below bachelors
- f. Bachelor degree
- g. Degree/certificate greater than bachelors

**Close Family Network Size**

[G\_10\_A, G\_10\_B]

1. I would like you to think now about your family and close friends. By family, I mean spouse or partner, children and other relatives.

Do you have any family members you feel close to? That is, family members you feel at ease with, can talk to about private matters, or can call on for help?

- a. Yes
- b. No

2. How many close family members do you have?

**Close Friend Network Size**

[G\_14, G\_15]

1. Not counting family members, do you have any close friends? That is, do you have any friends with whom you feel at ease, can talk to about private matters, or can call on for help?

- a. Yes
- b. No

2. How many close friends do you have?

## Appendix B

Table 1

Factor Analysis with Varimax Rotation

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
E_1	-.10252	.13013	<b>.76834</b>	.08239	.00403
F_1	-.08681	.10769	<b>.82655</b>	.06294	.02487
F_2	-.16951	.12537	<b>.76586</b>	.06318	-.01420
F_16	<b>.48515</b>	-.08847	-.24420	-.00937	.22303
F_18_B	<b>.77345</b>	-.10674	-.06205	-.03106	.01148
F_18_D	<b>.77193</b>	-.10799	-.12507	-.02927	.07764
F_18_F	<b>.72374</b>	-.10155	-.10763	-.04554	-.04645
F_18_H	<b>.51449</b>	.21174	.01690	-.02647	-.05997
F_18_A	-.19497	<b>.60690</b>	.22808	.10466	-.03427
F_18_C	-.02787	<b>.67062</b>	.07281	.11589	.04427
F_18_E	-.04093	<b>.75867</b>	.09716	.07736	.09738
F_18_G	.05863	<b>.71529</b>	.04145	.14403	.09410
E_6_C	.11249	.04991	.01441	<b>.58296</b>	.08513
E_6_F	-.13891	.13795	.01234	<b>.68442</b>	.09824
E_7_A	-.09704	.13573	.14442	<b>.72129</b>	.00540
E_7_I	-.03129	.07437	.04105	<b>.57612</b>	-.05625
G_1_I	-.02992	.18773	.15269	.14135	<b>.75685</b>
G_4_I	.09499	.02496	-.11886	-.01497	<b>.82159</b>

Note. Analysis excludes family satisfaction and friend satisfaction items due to large numbers of participants with no close family members or close friends.

## Appendix B

Table 2

Intercorrelations between Dependent Variables for Study Sample

	2	3	4	5	6	7
Variables						
1. Perceived health	.30***	.32***	.19***	.03**	.08***	.09***
2. Negative affect		.16***	.11***	-.08***	.21***	.17***
3. Positive affect			.31***	.20***	.10***	.08***
4. Social involve.				.15***	.14***	.14***
5. Emotional invest.					.03**	.03*
6. Family satisf.						.42***
7. Friend satisf.						

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

## Appendix B

Table 3

Correlations between Control Variables and Dependent Variables  
for Study Sample

	Percv. Health	Neg. Affect	Posit. Affect	Social Involv.	Emot. Invest.	Family Satisf.	Friend Satisf.
Variables							
Total losses	.10***	-.16***	.03*	.04**	.20***	-.03**	-.04**
Health limit.	-.49***	-.23***	-.13***	-.09***	.06***	-.06***	-.04**
Age	.01	-.02*	-.10***	-.11***	-.05***	-.01	-.01
Education	.19***	.12***	.12***	.09***	.09***	.02	.02
No. close family members	.07***	.07***	.12***	.16***	.10***	.12***	.08***
No. close friends	.08***	.08***	.10***	.14***	.04***	.03*	.06***

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

## Appendix B

Table 4

Intercorrelations between Control Variables for Study Sample

	2	3	4	5	6
Variables					
1. Total losses	.17***	.00	.04***	.04***	.01
2. Health limitation		.07***	-.05***	.00	.00
3. Age			-.10***	-.08***	-.04***
4. Education				-.01	.05***
5. No. of close family members					.17***
6. No. of close friends					

\*\*\*p &lt; .001.