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THE LONG-TERM EFFECTS OF BEREAVEMENT  
A LONGITUDINAL STUDY

DISSERTATION

Presented to the Graduate Council of the  
University of North Texas in Partial  
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Laura McCoy Roberts, B.S., M.S.

Denton, Texas

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The purpose of the present study was to examine the applicability of a model of bereavement to the long-term adjustment to loss. Based on Allen's (1990) model, it was predicted that the variables experienced competence, perceived resources, and the impact of the loss would contribute strongly to overall long-term bereavement adjustment. It was also predicted that time and multiple losses would impact adjustment to loss.

Subjects were 193 individuals who volunteered to participate in the study by completing a packet of questionnaires at three points in time; six months and three years apart. Findings supported the model of bereavement both in the short-term and in the long-term. Subjects high in experienced competence, and subjects high in perceived resources fared better overall than did subjects low in experienced competence and subjects low in perceived resources. Similarly, subjects for whom the loss was less impactful showed better adjustment overall than did those for whom the impact of loss was greater. These findings held true across all three times of measurement.

It was also found that while subjects in general improved in adjustment over time, this improvement was not smooth or linear, and it tended to continue for many years after the loss. Contrary to predictions, multiple losses did not have a significant effect on long-term bereavement adjustment.

As this was a longitudinal study, the issue of selective attrition was also examined and its impact on results was addressed. Approximately 48% of the original sample completed all three phases of the study. It was determined, as predicted that study completers tended to be less well adjusted than drop-outs, thus biasing the study towards poorer adjustment.

Findings of the present study are discussed in detail and limitations of the study, as well as implications for intervention and research are addressed.

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## CHAPTER I

### INTRODUCTION

Bereavement is an inescapable fact of life. If one is to form close relationships with others, one must eventually face the loss of those relationships in one way or another. The resulting pain can impact the bereaved individual's life for years to come. According to the U.S. Bureau of the Census (1991), in 1989 there were over 11 million widows and widowers in the United States alone. The numbers for persons who have lost a loved one other than a spouse are even greater. As such a prevalent life stress, bereavement has received much attention in the literature in areas as diverse as sociology, nursing, psychology, and health sciences. Despite the attention given to bereavement, there have been very few attempts to develop testable models which have relevance for intervention with bereaved individuals. Furthermore, despite recent evidence that loss may affect the lives of the bereaved for many years to come, very little has been done to examine the long-term impact of bereavement on subsequent adjustment.

Since bereavement has been studied in such a wide variety of fields, differing perspectives have developed with understandable variations in methodology and

terminology. In many fields the terms grief, mourning, and bereavement have been used interchangeably. Bereavement, as defined by Kastenbaum (1977), is the "experiential state" into which an individual enters after realizing that a significant loss has occurred. It includes the vast array of experiences that take place as the result of a loss. Grief, on the other hand, represents the particular emotional reactions one experiences during bereavement (Raphael, 1983). Finally, mourning will be considered to be the "culturally defined acts" which are exhibited following a death (Sanders, 1989).

#### The Bereavement Process

As one of the first researchers to systematically document the symptoms of bereavement, Lindemann (1944) wrote:

Common to all is the following syndrome:  
sensations of somatic distress occurring in waves  
and lasting from 20 minutes to an hour at a time,  
a feeling of tightness in the throat, choking with  
shortness of breath, a need for sighing, an empty  
feeling in the abdomen, lack of muscular power,  
and an intense subjective distress described as  
tension or mental pain. (p. 141)

Lindemann also described symptoms of a loss of warmth toward others, a desire to socially withdraw, and increased anger and irritability. Other researchers have noted as common



among bereaved persons disturbances of appetite, weight and sleep (Parkes & Brown, 1972), depressed mood (Breckenridge, Gallagher, Thompson, & Peterson, 1986; Lund, Caserta, & Dimond, 1986; Murrell & Himmilfarb, 1989; Zisook & Shuchter, 1986), and increases in consumption of drugs and alcohol (Parkes, 1987-1988). Bereavement has been associated with deterioration of physical health (Parkes, 1987-1988; Schleifer, Keller, Camecino, Thornton, & Stein, 1983), and even with increased risk of mortality (Jacobs & Otsfeld, 1977; Rowland, 1977). For most individuals, the acute symptoms of grief tend to abate with time, and the bereaved individual follows a course toward greater adjustment. Not all individuals, however, follow the same course, and recovery for some is not as smooth as it seems to be for others.

#### Phases of Bereavement

Over the years, researchers have attempted to organize the process of adult bereavement into a coherent pattern of stages or phases. Although the numbers of stages mentioned and the specific terminology used may differ slightly, there is a great deal of agreement among writers on the process of adjustment to loss.

Generally, it is reported that the most frequent response immediately following the loss is one of shock, numbness, and a sense of disbelief (Osterweiss, Solomon, & Green, 1984). To the outside world, the bereaved individual

may appear to be coping very well, and to be accepting the loss. In truth, the reality of the death has not yet penetrated awareness (Osterweiss, et al., 1984; Raphael, 1983). This numbing of awareness has been seen by some to be adaptive. According to Sanders (1989), it enables the bereaved to fulfill the duties of the ritual of death. Within a few hours to a few days, however, the numbness begins to wear off and the reality of loss breaks through into awareness.

This second phase of adjustment is marked by intense pain and feelings of separation (Osterweiss, et al., 1984). The bereaved individual experiences strong yearning for the lost loved one (Sanders, 1989). He or she becomes unable to concentrate, loses interest in all but the deceased, feels extreme sadness, emptiness, and longing, as well as somatic distress. There may also be feelings of anger and or guilt during this phase, further intensifying the distress felt by the bereaved (Raphael, 1983). As time progresses and it becomes obvious that anger or searching are fruitless, feelings of despair typically take over, leaving the bereaved apathetic and depressed.

Eventually, however, the bereaved individual comes to realize that in order to survive, changes must be made. This initiates the final phase, often termed resolution, reorganization, or reconstruction. Generally, there is a gradual shift from a state of disbelief to a cognitive and

emotional acceptance of the loss, and an alteration in behavioral and social roles. As Osterweis, et al. (1984) point out, the bereaved may come to an intellectual acceptance of the loss, long before his or her emotions and behaviors indicate a total acceptance.

Some authors have cautioned against a rigid use of stages in understanding bereavement adjustment. Osterweis, et al. (1984) warn that there are not concrete boundaries between stages of grief, but rather that the bereavement process consists of overlapping, fluid phases. The progression through these phases is not to be seen as necessarily linear. Furthermore, there is substantial variation in the speed with which individuals progress and the specific manifestations of grief in each phase.

Allen (1990) goes even further in her arguments against the use of stages in bereavement adjustment. She suggests an alternative, dialectical perspective. From her point of view, what have been described as stages actually represent "different levels of mobilization of coping strategies" (p. 16-17). For example, shortly after learning of the death, the bereaved individual may mobilize denial as a coping strategy which may be effective in the early moments of bereavement. As time progresses, different strategies are mobilized as meet the situation and grief begins to diminish. The bereaved may use the same strategies, although perhaps in a different form, at various points in

the bereavement process. According to Allen, "Only persons who fail to mobilize strategies or whose strategies fail will remain in conflicted or chronic states of grief" (p. 17).

The common practice of using cross sectional studies to examine the process of bereavement may have contributed to the acceptance of stage theories of adjustment. More recent, longitudinal studies, however, seem to confirm the idea that bereavement adjustment is a fluid, non-linear process (Lund, 1989). Over the years, the bereaved individual may make gains in some areas, while experiencing setbacks in others. Clearly, longitudinal research provides greater opportunity to examine the process of change throughout bereavement.

#### Pathological Bereavement

It does seem that despite the fact that progress through bereavement is not always smooth, most people do progress from greater to less distress over time. Some research, however, has shown that rather than following typical courses of recovery, some bereaved persons may actually develop atypical or even pathological reactions to the death of a loved one.

Chronic grief. A number of courses of bereavement have been cited in the literature as being atypical. These include absent grief, delayed grief, chronic grief, and conflicted grief. Among these, chronic grief has been

described as the most common type of pathological grief (Osterweis, et al., 1984). In chronic grief, the intense grief so commonly seen in the early stages of loss, does not seem to abate with time. In a study of older widows and widowers, Clayton and Darvish (1979) found that one year after bereavement, 12 to 15 percent of their sample continued to report symptoms meeting the criteria for clinical depression. Similarly, Parkes (1965), studied 94 bereaved psychiatric patients and found that 12 showed indications of abnormally prolonged grief. It should be noted, however, that Parkes' sample consisted of individuals seeking treatment and may, therefore, present biased results.

While it is true that most major writers in the area of bereavement mention the concept of chronic grief (Bowlby, 1980; Raphael, 1983; Osterweis, et al., 1984), none clearly define how much time should elapse before such a diagnosis is made. Early studies suggested that the psychological impact of grief was relatively brief. For example, Lindemann (1944), in his study of survivors of the Coconut Grove Disaster, noted that uncomplicated grief reactions, with appropriate treatment, could be resolved within four to six weeks. More recent longitudinal research, however, has indicated that, although for most people, there is a decrease in distress and other symptoms of grieving by the end of the first year, as long as four years after the loss,

a significant minority of bereaved individuals may still be showing relatively high levels of anxiety, depression, and distress (Parkes & Weiss, 1983; Vachon, Rogers, Lyall, Lancee, Sheldon, & Freeman, 1982; Vachon, Sheldon, Lancee, Lyall, Rogers, & Freeman, 1982; Zisook & Shuchter, 1986). These findings are especially evident in cases in which the loss was unanticipated (Silver & Wortman, 1980).

It seems then that a substantial minority of individuals continue to exhibit distress over loss long after the death, and may, in fact, never fully resolve their grief (Lund, 1989). In light of the evidence provided by longitudinal studies, some researchers have begun to question the utility of the concept of chronic grief as a form of pathology (Jackson, 1979; Wortman & Silver, 1989). Perhaps it is simply an alternative reaction to bereavement. The concept of chronic grief may not be adequately defined to allow for differentiation between pathological grief and predictable reactions to specific bereavement situations.

Absent grief. Just as some people may never complete the grieving process, others may show no signs of grief at all. An absence of grief is considered by most researchers to be pathological. Parkes and Weiss (1983), for example, describe the process as a "fending off" of painful emotions resulting, for instance, from guilt or hostility toward the deceased. Similarly, Deutsch (1937) concluded from a study of psychoanalysis patients, that absent grief tended to

occur in situations where the intensity of emotion was too high or where coping ability was weak. This absence of grieving is assumed by many to lead to future problems, and especially to the development of physical symptoms (Brown & Stoudemire, 1983; Volkan, 1966). Other researchers, however, have argued that although undoubtedly rare, absent grief may not be necessarily pathological (Wortman & Silver, 1989; Stern, Williams, & Predos, 1951). In fact, in a study of elderly bereaved individuals, Stern, et al. (1951) found that an absence of grief, along with numerous somatic complaints and projected hostility, was actually a typical pattern among very elderly individuals. While it may be true that very old bereaved persons have fewer resources available and must turn to denial and avoidance as coping strategies, it may also be true that the expectation of loss so late in life lessens the disruption of the assumptive world and results in overall better coping. Therefore, while in most cases an absence of grief may be rare and perhaps predictive of future difficulties, in certain cases, where there is a strong expectation of death, absent grief may be considered typical. At this point, however, there is very little research examining the phenomenon of grief absence.

Delayed grief. Another relatively unresearched course of bereavement similar to absent grief is delayed grief. This phenomenon was first described by Lindemann (1944). As

with absent grief, delayed grief is believed to occur when emotional intensity or stress are extremely high and/or coping abilities are weak. Grief is delayed until the individual is strong enough to face the loss, or until suppressed emotions finally break through defenses.

Alternatively, as pointed out by Allen (1990), delayed grief may be simply an example of the extreme use of denial and avoidance as coping strategies. These strategies may be effective initially. However, when emotional tension becomes too great, or subsequent stresses begin to occur, the defenses may break down and the grieving process may move into another phase. While many people "put off" grieving until the tasks of making arrangements, attending the funeral, and receiving condolences have been completed, true delayed grief, described by Osterweiss, et al. (1984) as "physiologic disruptions, social withdrawal, and persistent sadness and yearning that emerge only after a period of absent grief" (p.34), seems to be extremely rare. There is virtually no research which has systematically examined the phenomenon.

Conflicted grief. In addition to chronic and absent or delayed grief, some researchers have mentioned a pattern known as conflicted grief. This pattern seems to occur most often in relationships marked by ambivalence and conflict (Raphael, 1983). It is described as a pattern in which there is relatively little distress exhibited in the early



weeks of bereavement, followed by severe grief and yearning for the lost relationship (Parkes & Weiss, 1983). This type of grief is often characterized by intense anger and/or guilt and excessive rumination over regrets about the lost loved one (Raphael, 1983). In describing conflicted grief in spousal bereavement, Parkes and Weiss write, "The survivor mourns not only for the marriage that was, but also for the marriage that could have been, and was not" (1983, p. 122). The phenomenon of conflicted grief has not been well researched. In most cases, ambivalence is measured after the loss has occurred, thus confounding the relationship between ambivalence and bereavement recovery. Furthermore, little effort has been made to differentiate clearly between conflicted grief and chronic or delayed grief.

In reviewing the literature, it becomes apparent that the idea of "normal" grief is at present poorly defined. Very few studies have examined "pathological" courses of bereavement over extended time periods. Longitudinal studies in this area are essential in order to differentiate true pathology from variations among individuals in the process of adjustment. What is clear from available research, is that not all individuals adjust to bereavement in the same way or at the same rate. Recently, researchers have begun to question the concept of normal grief, and to

focus instead on individual differences in coping with loss (Hansson, Stroebe, & Stroebe, 1988; Wortman & Silver, 1989).

#### Coping With Loss

Regardless of the course of bereavement, the grieving individual is faced with the challenges involved in adjusting to the loss of a loved one. He or she must move from the often extreme, acute distress of the earlier phases of bereavement to some type of resolution and adequate functioning. The final phase of grief has often been referred to as reconstruction. Here the bereaved individual is faced with the task of rebuilding his or her assumptive world. The old assumptions on which the individual has built his or her conceptualizations of reality have been more or less drastically altered, and a new reality must be created. Until this is achieved, the bereaved individual is at risk of suffering the despair, anxiety, organic illness, and psychological maladjustment which often result from acting on invalid constructs (Woodfield & Viney, 1984-1985). Furthermore, the bereaved individual has lost an important source of reinforcement. For some time after the loss, the bereaved may report feeling empty and alone. This emptiness may, in part, stem from a void in the bereaved's sources of reinforcement. Recovery cannot be complete until that void has, at least to some extent, been filled (Allen, 1990). Thus, the bereaved individual faces two difficult tasks, one

of reconstructing the assumptive world, and the other of finding new sources of reinforcement.

### Grief Work

Theorists as early as Freud (1917), have considered recovery during bereavement to involve some type of active cognitive processing on the part of the individual. Parkes and Weiss (1983) have described this grief work as a process in which the bereaved individual repeatedly goes over memories of the deceased and events surrounding the death, until there is an emotional acceptance of the loss, and "the pleasure of recollection begins to outweigh the pain" (p.157). According to these authors, if the process goes well, the focus of the obsessive review will gradually change as the loss becomes more accepted. If, however, the process becomes stuck, the bereaved individual will not move on toward recovery, but will continue to suffer from despair and remorse. Others have supported the view that a cognitive "working through" of grief is crucial to successful bereavement (Bowlby, 1980; Lindemann, 1979; Rando, 1986), and that a failure to confront the work of grief, or the active avoidance of processing the loss may lead to "lasting emotional damage" (Marris, 1958, p.29).

On the other hand, some recent writers have challenged the view that those who actively work through their grief are more successful in resolving the loss than those who do not participate in those cognitive processes. Wortman and

Silver (1989) cite an earlier study they conducted on parents bereaved through Sudden Infant Death Syndrome (SIDS; Silver & Wortman, 1988). They defined "working through" as active attempts by the parents to make sense of and process the loss, including being preoccupied with thoughts about the baby and the death, thinking of ways the death could have been prevented, and attempting to answer the question of why the baby died. They found that the more the parents "worked through" the loss at three months, the more distressed they were when measured again 18 months later. Working through, as defined by these authors, did not lead to more successful bereavement recovery for bereaved parents.

Stroebe and Stroebe (1991) also attempted to address the question of the importance of grief work. They studied 60 widows and widowers over a period of 18 months. In an attempt to more clearly differentiate grief work from rumination, negative affect, and yearning, these authors measured grief work as a coping strategy of confrontation (actively processing the loss) or avoidance. Their findings were more complicated than those of Wortman and Silver. They found that for widows, performance of grief work was irrelevant to outcome two years after bereavement. For widowers, however, the less frequently they used avoidance as a coping strategy, the greater was their improvement two years post-loss. Thus, for widowers, avoiding grief work

had a detrimental effect, but that was not the case for widows. The authors raise the possibility that men used more extreme avoidance strategies and were thus able to more completely block confrontation with their loss. Even so, the authors conclude that "the view 'everyone needs to do grief work' is an oversimplification" (p. 481), and that more work needs to be done to specify the factors involved in the impact of grief work. It appears that cognitive processing alone may be insufficient in explaining bereavement recovery. Perhaps the experiences of rehashing the death event, obsessively thinking about the deceased, and attempting to make sense of the loss, are only a subset of the coping strategies individuals use to adapt to bereavement.

Like the other writers before them, Woodfield and Viney (1984-1985) suggest that there is a need for some type of active processing in order for bereavement to proceed toward recovery. In their personal construct model of bereavement, based on the work of Kelly (1955), these authors present the concepts of assimilation and accommodation as they apply to grief work. According to this model, the bereaved individual attempts to both change aspects of the loss event (assimilation), and adapt his or her personal construct system to align more closely with reality (accommodation). From this perspective, actively processing the loss through preoccupation and memory may be strategies used to move

toward reconstruction. They are not, however, the only useful strategies. Such behaviors as denial, hostility, and idealization are also considered, by Woodfield and Viney, to be attempts to assimilate the loss by changing aspects of the loss event. When balanced by accommodating strategies, they can be helpful in moving the bereaved individual through various phases of bereavement toward recovery.

Most researchers studying the concept of grief work have examined the effects of this cognitive processing over relatively short periods of time. It is possible that during the first years following a significant loss, bereaved individuals who actively engage in grief work appear to be more depressed, lonely, and less well adjusted than those who do not. It is unknown, however, whether these results remain unchanged over longer periods of time. Possibly, after enduring the pain of actively processing the loss over several years, those individuals adjust better in the long run than others who have not engaged in grief work. More long-term, longitudinal studies are needed to clarify the role of grief work in adjustment.

#### Strategies of Coping

Recent evidence suggests that bereaved individuals confront their grief in ways that fit most closely with their own personal styles. As Caserta, Van Pelt, and Lund (1989) have found, "Because people differ in what is particularly problematic for them, their strategies to

manage grief also vary" (p. 123). Some bereaved persons rely on the support of family and friends (Bankoff, 1983; Dimond, Lund, & Caserta, 1987; Glick, Weiss, & Parkes, 1974), others make use of their own "intrapersonal coping resources" (Gass, 1989a), while still others use a mixture of various coping strategies (Lund, 1989). As Allen (1990) has pointed out, if a behavior "leads to increased realization of and adaptation to the loss," it can be considered a successful coping strategy (p.18). However, research has shown that some coping strategies may be associated with poor bereavement outcomes (Caserta, et al., 1989). For instance, the use of alcohol, self-blame, refusing to express feelings or acknowledge the loss to others, and avoiding reminders of the lost loved one, have all been found to be associated with poorer adjustment to bereavement (Bowlby, 1980; Gass, 1989a; Silverman, 1985).

Expression of affect. Several strategies, however, have been discussed in the literature as being successfully used by bereaved individuals. As mentioned earlier, many researchers have indicated that "grief work," or the active cognitive processing of the death and surrounding memories, is important to successful adjustment to loss (Bowlby, 1980; Freud, 1917; Lindemann, 1979; Marris, 1958; Parkes & Weiss, 1983; Rando, 1984). This cognitive work, however, does not appear to be the only useful strategy for coping with bereavement. Glick, et al. (1974) found that the expression

of affect is also important in bereavement recovery. In their study, widows who had been discouraged from expressing emotions by relatives, friends, and physicians, found such discouragement unhelpful. The persons who were seen as most helpful were those who encouraged the expression of emotion. Similarly, in a more recent study, Gallagher, Lovett, Hanley-Dunn, & Thompson (1989) studied older conjugally bereaved men and women and found that especially in the early months of bereavement, both widows and widowers frequently used the coping strategy of expressing sadness and found it to be very helpful.

Socialization. Another coping strategy which has been frequently cited in the bereavement literature is that of socialization. Parkes (1972), in a study of recently widowed women, found that those who have fewer contacts with relatives and friends during the first year of bereavement suffer greater psychological disturbance than do those who have more frequent contacts. Arling (1976) found that ties with friends were predictive of morale and overall bereavement outcome for widows. Similarly, Lowenthal and Haven (1968) found that depression was more common among the widowed who were lacking in intimate relationships. Finally, even two years after loss, Vachon, Sheldon, et al. (1982) found that isolation and the lack of social contact were related to continued distress among the bereaved. Most studies of socialization have focused on women. Van Zandt,



Mou & Abbott (1989), however, have found that involvement with others is important in facilitating the process of bereavement for both women and men.

Keeping busy. Research has also shown that remaining active following a loss may be an important coping strategy. One study of 136 widowed individuals indicated that those who had difficulty in remaining occupied experienced more difficulty in adjustment and a greater sense of loneliness than those who kept themselves busy. Similarly, those who had given up specific activities since the loss of their spouse had more adjustment difficulties than those who had maintained their activities (Bowling & Cartwright, 1982). Two recent studies have found that bereaved individuals themselves believe that remaining active is important to adjustment following loss. Rigdon, Clayton, and Dimond (1987) collected data on 30 elderly conjugally bereaved individuals concerning advice that they would offer to others who had lost a spouse. A major category of advice offered was that of keeping busy. Caserta, Van Pelt, and Lund (1989) also collected advice from elderly bereaved individuals concerning adjustment to loss. Like Rigdon, et al. (1987), these researchers found that among the elderly bereaved, remaining active was viewed as a valuable coping strategy and was frequently recommended to others who might be in a similar situation.

### Coping Preferences

As mentioned earlier, some researchers have suggested that bereaved individuals tend to select coping strategies that best fit their situations and personal styles. For example, Folkman, Lazarus, Pinley and Novacek (1987) compared the coping strategies of 141 older adults and 75 younger married couples in response to stressful life events. They found that the older adults rated the stressors in their life as being relatively unchangeable, and therefore they made more frequent use of coping strategies that were "emotion focused," such as accepting responsibility for the problem, reappraising the problem in a positive light, and distancing oneself from the stressor. These older individuals also tended to use escape-avoidance strategies, such as wishing the problem away, to a greater extent than did the younger subjects. The younger adults, on the other hand, were more likely to rate more of their life stressors as changeable, and to more frequently use problem-focused strategies which served to directly eliminate or control the stressors in their life. Although Folkman, et al. (1987) did not study bereavement coping directly, their study sheds some light on the preference of individuals in different situations or with different perceptions for a variety of coping strategies.

In a study directly examining bereavement coping, Gass (1989b) studied the use of coping strategies among older

widowers. She found that men whose spouse had died suddenly and unexpectedly were more likely to use problem-focused, self-blame, emotion focused, and wishful thinking strategies than were those whose spouse's death had been anticipated. Thus bereaved individuals facing different bereavement tasks may select different coping strategies. Caserta, Van Pelt, & Lund (1989) asked for coping advice from 71 older bereaved adults. They found that the strategies of remaining occupied, developing new skills, reestablishing social linkages, increasing social participation, and engaging in meaningful, ongoing projects and activities were all effective for different bereaved individuals. However, the authors concluded that "provided a person has a full range of resources available, the strategies which the person finds most comfortable seem to work best for that person" (p. 132). Other researchers have found that, at least among older bereaved individuals, those who report using a variety of coping strategies tend to show fewer symptoms of psychological distress (Gallagher, et al., 1989; Thompson, Gallagher, Cover, Gilewski, & Peterson, 1989). Furthermore, the coping strategies selected may differ according to the phase of bereavement. Gallagher, Lovett, Hanley-Dunn, & Thompson (1989) found that certain strategies, such as expressing sadness, decreased over time, while others were used more often later in bereavement. Very few researchers, however, have studied changes in coping strategies over

time, and little is known regarding which strategies are more helpful at different points in the bereavement process. More longitudinal studies in this area could provide useful information regarding long-term coping.

The selection, use, and outcomes of various coping strategies have only recently begun to be addressed in the bereavement literature. It appears that bereaved individuals use different strategies based on their situation, perceptions, and personal style. Some strategies may be more effective than others, especially those which are more active and positive, but even passive strategies, such as denial, may be effective in some situations. Overall, individuals who are capable of making diverse coping responses tend to fare better than those with more rigid coping styles.

#### Factors Mediating the Effects of Bereavement

Regardless of coping strategies used, it has become increasingly obvious that not all bereaved individuals respond to their loss in the same way. Some recover quite quickly from the pain of their grief, others respond with difficulties in physical and emotional health, and still others seem to never come to grips with the death and continue to grieve for many years. A number of researchers have attempted to delineate factors mediating the effects of bereavement, and several comprehensive reviews are available (Allen, 1990; Sanders, 1989; Parkes, 1987-1988). For the

purpose of this paper, those factors most commonly cited will be briefly reviewed.

#### Demographic Factors

Age. Findings have been fairly consistent that, at least in the early phases of bereavement, younger widows and widowers experience more difficulty in coping with loss than do older widows and widowers (Carey, 1977; Maddison & Walker, 1967; Parkes, 1987-1988; Roach & Kitson, 1989; Sanders, 1980-1981). Most researchers point to the untimeliness of widowhood among younger adults and the unexpectedness of the death as contributing to greater disruption in the bereaved individual's assumptive world, and thus to greater distress (Parkes, 1987-1988). Some longitudinal studies, however, have shown that younger bereaved spouses may actually fare better in the long term than their older counterparts, because of greater resources, more opportunity for forming intimate relationships, and greater sense of hope for the future (Sable, 1991; Sanders, 1980-1981). Finally, age has been shown to affect bereavement outcome in that older bereaved individuals are more likely to suffer from physical problems, while younger people suffer from psychological ones (Parkes & Weiss, 1983).

Gender. There is much debate as to the mediating effects of gender on bereavement outcome. Many studies seem to show that, with regard to the death of a spouse, men have

greater difficulty in adjusting than do women (Glick, Weiss, & Parkes, 1974; Helsing, Szklo, & Comstock, 1981; Parkes & Brown, 1972; Stroebe & Stroebe, 1983). Other studies, however, indicate that women suffer more and adjust more poorly than do men (Carey, 1977; Futterman, Gilewski, & Peterson, 1991; Gallagher, Breckenridge, Thompson, & Peterson, 1983; Lopata, 1975; Schuster & Butler, 1989). Finally, some studies indicate that there are more similarities than differences in the bereavement responses of women and men (Gass, 1989; Lund, 1989; Lund, Caserta, & Dimond, 1986; Van Zandt, Mou, & Abbot, 1989). The disparity in these results can likely be traced, at least in part, to the wide variety of outcome measures used to determine adjustment. For example, while some studies look at mortality rates and physical illness, others examine self-reports of depression, grief, life-satisfaction, and even remarriage. With such a lack of standardized definitions of adjustment, there is little wonder that results are inconsistent. Furthermore, women are more likely than men to participate in research, suggesting the strong likelihood of a selection bias among those men who do participate. Little is known about the selection bias involved and how it affects results.

Socioeconomic status. Almost all studies examining the effects of socioeconomic status have concluded that low income, at least indirectly, contributes to poor bereavement

outcome (Atchley, 1975; Glick, Weiss, & Parkes, 1974; Morgan, 1976). Studies have shown that low income may result in greater isolation, stronger feelings of insecurity, and increased anxiety. Sanders recently reviewed the literature on SES and bereavement and concluded that while low income may not cause poor adjustment, it generally "adds a further burden to the survivors following a significant death" (1989, p. 139).

Religious involvement. Studies of the effects of religiosity on bereavement are mixed. Gallagher, Thompson, & Peterson (1981) reviewed the literature and found several studies which suggested that religion provided comfort and social involvement to bereaved individuals, thus aiding in their adjustment. Others, however, have found that religious involvement contributes little, if any, to bereavement response (Lund, 1989; Marris, 1968). One possible explanation is that religion offers such resources as social support, a perspective for the loss, and the possibility of an afterlife. However, mere affiliation with a religious group or church attendance do not guarantee utilization of these resources. In support of this hypotheses, Parkes (1972) found that faith in God and regular attendance at church services were not necessarily related to better outcome. However, those widows who reported using their religious beliefs to put the death into

a meaningful perspective fared better than did those who did not report such use of their faith.

### Environmental Factors

Social support and social networks. It is generally accepted that grieving individuals can benefit from support and interaction with friends and/or family members. In fact, studies have shown that a lack of such support can be detrimental to bereavement outcome. Vachon, et al. (1982) found that among widows, isolation and the lack of support were highly predictive of continued distress two years after a loss. Others have found a lack of social support to be related to more intense distress early in bereavement (Schuster & Butler, 1989); an increased strain in adjusting to life as a widow(er) (Bankoff, 1983); and poorer long-range adjustment to bereavement (Duran, Turner, & Lund, 1989; Schuster & Butler, 1989).

Originally, researchers measured social support by the frequency of contacts with network members. More recently, however, it has become generally recognized that the impact of social support may be more complex and multidimensional than first assumed. In his extensive work in the area, Lund (1989) has noted that the qualitative dimensions of the social network, such as the degree of perceived closeness, shared confidences, opportunities for self expression, mutual helping, and frequency of contacts were more important predictors of bereavement outcome than were



structural characteristics, such as size, strength of ties, and network density.

The type and timing of support have also recently been given attention in the bereavement literature. Schuster and Butler (1989) studied a sample of older widows and widowers and found that social support received shortly after the death of a spouse was more influential in predicting bereavement outcome than was support received later in the bereavement process. Walker, MacBride, and Vachon (1977) also studied the timing of support, and concluded that shortly after the death, support from a small dense network is most helpful, but as time goes by, such a dense network may hinder the bereaved individual's need to take on new social roles. Furthermore, Schuster & Butler (1989) have found that instrumental support, such as assisting with the daily tasks of life, was just as important to the mental health of the bereaved, as affective support. Thus, social support is seen to be an important mediator in bereavement outcome. It is, however, a more complex factor than was once assumed.

Past grief events. The bereaved individual's experience with previous losses may color his or her response to the current loss (Dersheimer, 1990). Emotions not completely dealt with in earlier losses may resurface and add to the emotional burden brought on by the most recent death. Alternatively, it is possible that skills

learned and coping mechanisms used in the past could actually make the current experience less stressful and help the bereaved individual to be more effective in coping with bereavement. It is likely for future research. As predicted, subjects who were more highly adjusted were less likely to complete all phases of the study, thus biasing the sample toward poor adjustment. If this finding can be generalized to other longitudinal studies of bereavement, then it is likely that the literature has been underestimating the likelihood of a positive bereavement outcome. Findings of these studies, then, are more applicable to less adjusted populations of bereaved individuals. Future research should take the issue of attrition into account when generalizing to the bereaved population, and greater efforts should be made to maintain the integrity of the original sample. Stroebe and Stroebe (1989) have found that subject participation is more likely when study sources are highly credible, such as hospitals and religious institutions.

Finally, it is clear from the present study that bereavement adjustment is not "resolved" within a few years, as has been reported in early research. In fact, the present study indicates that as long as seven years after the loss, subjects are still in the process of adjustment. Therefore, it seems that more long-term, longitudinal research is needed to track the effects of bereavement throughout the lifespan.

One major limitation of the present study is that it is exploratory in nature, and thus several of the measures used were designed specifically for the purposes of the study. However, although validity studies have not been conducted, alpha coefficients indicate adequate reliability for each instrument. Of the measures not designed for the present study, several were shortened or revised versions of well established instruments. With the exception of one such measure, reliability and validity of these versions have been well demonstrated in the literature. For the Hopkins Symptom Checklist, however, coefficient alpha's reported are based on a 58-item version as opposed to the 44-item version utilized in the present study. Thus, while certainty regarding the reliability and validity of several instruments utilized is good, it is nonetheless, less than optimal.

A second limitation of the present study involves the lack of a non-bereaved control group. Since the focus of the study involved differences in adjustment among bereaved individuals, a control group of non-bereaved subjects was deemed unnecessary. Nevertheless, certain statements regarding the impact of bereavement on adjustment must be made with caution. For example, it remains unknown whether bereaved individuals five years after the loss are different in terms of adjustment as compared to non-bereaved individuals.

The study is also limited in that the subject sample was made up of volunteers. Recent research has indicated that subjects who volunteer to participate in bereavement research may differ in important ways from individuals who choose not to participate. Stroebe and Stroebe (1989), in a review of twenty longitudinal studies, found that, in general, rates of participation were relatively low. The factors which influenced participation varied by sex, with female refusers being less depressed, more socially withdrawn, and more self-sufficient, and male refusers being more depressed and more isolated. Since the original sample consisted primarily of women (164 females and 29 males), it is likely that a bias existed in favor of more depressed and less self-sufficient subjects.

Furthermore, it is evident that attrition rates further biased the sample in favor of poor adjustment. By the final phase of the study, 52% of the initial sample had dropped out. An analysis of completers versus drop-outs indicated that the attrition was selective and had resulted in a less well adjusted sample. However, the attrition rates reported can be viewed as only a partial limitation, in that they served to answer questions regarding selective attrition which were integral to the longitudinal nature of the present study.

Another, related limitation to the present study is the relative homogeneity of the subject sample. Subjects were

primarily female (85%), widowed (76%), caucasian (98%), and Protestant (70%), and most (72%) had attended a bereavement group. Generalizations to populations not in line with the above specifications must be made with care. Future research may do well to apply Allen's model to a more heterogeneous sample.

Additional issues exist regarding cohort-specific experiences with death, in that all subjects in the present study had been bereaved within the last ten years. Bereavement related concerns for this cohort are likely to be different than those for individuals bereaved in an earlier era. For example, as opposed to twenty years ago, society in general is more aware of the need for support during bereavement, and may be more sensitive to issues of death and dying. Cultural attitudes regarding appropriate bereavement behavior has likely changed in recent years. People are living longer, have access to hospice care, support groups and other social programs, and may have more forewarning of death due to medical technologies which prolong the life of terminal patients. These issues, among others, may make it difficult to generalize the present findings to earlier bereavement-related cohorts. Similarly, since society and technology continue to change, it is difficult to say with any certainty how well these findings will generalize to future cohorts.

Other limitations relate to the longitudinal design of the present study. First, testing effects may have occurred. Answering questions about their experiences may have induced subjects to further explore their thoughts and feelings, and in doing so, they might have been changed in ways that would not have occurred had they not participated in the study. Furthermore, as subjects became more familiar with the measures being used they may have changed the way they answered questions. For example, there is some evidence which suggests that repeated presentations of personality tests results in profiles of better adjustment as the subject becomes more familiar with the test (Baltes, et al., 1988). Also, possibly limiting to the study is the issue of social desirability. Subjects might have attempted to answer questions in a positive light in order to convince the researcher or even themselves that they were adjusting well to the loss.

Another limitation related to the longitudinal design of the study relates to statistical regression toward the mean. As mentioned earlier, selective attrition resulted in a more extreme sample of subjects over time. Improvements in adjustment over time might, therefore, be in part attributable to regression, as the most poorly adjusted subjects moved closer to the mean at a later time of measurement. Controls for this tendency, however, were designed into the study by conducting more than two times of

Finally, intervention might focus on improving the bereaved individual's perception of the resources available to him or her. This might be done through such practical methods as educating the individual about community resources, encouraging the individual to seek social support, and helping them to view their emotional and cognitive resources in a more positive light (Allen, 1990).

It seems, then, that traditional forms of intervention with bereaved individuals may be focusing their efforts in less effective directions. The present study, however, provides a model of bereavement which might better guide the design of intervention strategies. Not only does the model carry implications for intervention, but it also brings to light several points important to future research.

First, it appears that Allen's (1990) model of bereavement is an effective framework for the design of both long- and short-term bereavement research. Her model pulls together recent bereavement research into a coherent representation of the bereavement process. The variables experienced competence, perceived resources, and the impact of the loss appear to be highly predictive of overall adjustment to the death of a loved one. Future research might focus on the applicability of this model to a more heterogeneous population, as well as examining the degree to which the variables involved are amenable to change.

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major health problem or the recent death of a loved one, self-efficacy in coping with loss was associated with less psychological distress.

Another concept related to personal competence is Rotter's (1966) locus of control. Although there has been some support in the general literature on coping for a connection between adaption to stress and loss, and a sense of personal control (Kobasa, Maddi, & Kahn, 1982), until recently, very little research had examined the concept of locus of control as related to bereavement coping. Gass (1989a), however, did find that among her sample of older widows and widowers, the lack of a belief in personal control over bereavement was the only factor consistently associated with psychosocial and physical dysfunction. Similarly, Zautra and Wrabetz (1991) found that among the bereaved individuals in their study, internality was associated with greater efficacy in coping with loss. Stroebe, Stroebe, and Domittner (1988) compared widowed individuals with individuals who were still married. They found that widowed individuals believed that the consequences of their actions were controlled by chance more so than did the married subjects. These authors also argued that there were two possible predictions that could be made with regard to locus of control and coping. One was that persons with an internal locus of control will experience more distress when confronted with uncontrollable events,

because their belief in their own control over events will have been violated. The second was that individuals with an external locus of control will suffer more in the face of events which are uncontrollable. Their own study suggested that the latter prediction was more accurate. Unexpected loss for individuals with a low sense of internal control resulted in higher depression and somatic complaints. These individuals who felt they had little influence over events in their lives were more likely to "respond with resignation, make feeble efforts to recover, and remain depressed" (p. 157).

Seligman's (1975) model of learned helplessness, similar to the concepts of self-efficacy and locus of control, is also related to issues of competence. From this perspective, as the bereaved individual becomes helpless in response to his or her perception of a lack of control over the nature of the loss, the individual loses the motivation to make use of available resources in response to the loss. Returning to the results of Stroebe, et al.(1988), those individuals who felt they had little personal control over events, felt helpless, and were not motivated to make effective responses to cope with their grief.

It seems then, that the concepts of locus of control, self-efficacy, learned helplessness, and personal coping competence are all related in similar ways to the successful use of resources and coping strategies in responding to

bereavement. The greater sense of control and confidence one has in one's ability to cope with bereavement appears to be predictive of better overall adjustment following a loss. Allen (1990) has developed the concept of "experienced competence" which takes into consideration the locus of control, coping self-efficacy, history of coping competence, and self-esteem. In her study of 193 bereaved individuals, she found that subjects high in experienced competence reported less loneliness and depression, greater life satisfaction, and the use of more high level coping strategies in response to bereavement than did those scoring low on measures of experienced competence. Experienced competence may be a valuable concept for understanding the long-term, as well as short-term, adjustment to loss.

In light of the multiplicity of factors and courses involved in bereavement adjustment, there is an obvious need for a coherent model to make sense of the bereavement literature. Many writers over the years have attempted to develop models which would contribute to the understanding of loss.

#### Models of Bereavement

Psychoanalytic Model. Sigmund Freud has often been credited as having been the first to develop a systematic conceptualization of the processes of bereavement and grief. Psychodynamic explanations still rely heavily on his work and on his classic paper, Mourning and Melancholia (Freud,

1959). In this work, Freud described grief as a painful psychological process by which the libido or energy that tied the individual to the object of his or her love is gradually withdrawn. The pain of this process results in an initial denial of the loss. The bereaved individual becomes preoccupied with the deceased, loses interest in the outside world, and increases his or her investment in the lost person and surrounding memories. Eventually, however, through the process of hypercathexis, each relevant memory is brought to consciousness and reviewed, and the bound up energy is gradually set free. When grieving is complete, all ties with the loved one have been given up and the bereaved individual has regained sufficient emotional energy to reinvest in another person (Freud, 1959; Raphael, 1983; Sanders, 1989).

Much of the psychodynamic conceptualization of bereavement is based on clinical case studies (Bowlby, 1980), and there is little research evidence directly supporting Freud's model. Furthermore, Freud's concept of libido has been criticized as being vague and confusing. Since it cannot be measured, it renders much of the psychoanalytic model of bereavement untestable (Parkes & Weiss, 1983; Glick, Weiss & Parkes, 1974). In response to these limitations, alternative models of bereavement have been proposed.

Bowlby's Attachment Model. Another prominent theorist in the area of bereavement is the English psychoanalyst, John Bowlby. Bowlby proposed a model of grief based on ideas drawn from psychoanalysis, information theory, ethology and neurophysiology, and on observations of animals, human adults, and children in situations of loss and separation. In his theory, Freud's conceptualization of the function of grief is contradicted. To Freud, grief served the function of detaching the individual from the deceased loved one. It was a necessary consequence of object loss (Glick, et al., 1974). Bowlby, however, argues that grief behaviors, such as crying and restless searching, rather than promoting detachment, serve the biological function of attempting to restore proximity to the lost loved one. According to Bowlby (1969), humans, being social animals, form strong attachments to others to whom they wish to maintain close proximity. Any separation from important attachment objects will trigger behavior patterns designed to result in reunion with the lost individual. In normal situations, behaviors such as protest, clinging, crying and searching are likely to restore proximity. In the more unusual case of permanent separation, however, these behavior patterns are obviously useless. Despite their futility, grief behaviors, and the distress associated with them are difficult to extinguish. They may continue to

occur for some time, until they gradually fade and new attachments are established (Raphael, 1983).

Bowlby's theory lends insight into the immediate reaction to loss. However, as pointed out by Allen (1990), data from relevant research suggests that recovery from bereavement must involve more than extinguishing attempts to restore the relationship.

Parkes' Reconstruction Model. C. Murray Parkes expanded Bowlby's model, by developing the concept of reconstruction. According to Parkes (1972) as a result of all we learn through the processes of life and change, individuals create an "assumptive world." When faced with a permanent loss, as in the death of a loved one, reality becomes discrepant with the assumptions built around the lost relationship, and the bereaved individual's assumptive world is no longer valid. The basis of grief is "the resistance to give up possessions, people, status, expectations..." (Parkes, 1972, p. 11). Despite this reluctance, constant reminders of the loss, and thus, the discrepancy in the individual's assumptive world, cause frustration and motivate the bereaved to gradually lessen the discrepancy. The process of grief, then, according to Parkes, involves the rearranging of our assumptive world to accommodate the new reality. Recovery results when old assumptions are relinquished and the changes imposed by the loss have been adopted.

Personal construct model. In developing a model similar to that of Parkes, Woodfield and Viney (1984-1985) have applied the personal construct approach of George Kelly to bereavement theory. A personal construct is a system of individually created templates through which a person views the self and others. Personal constructs allow individuals to organize and make sense out of experience. They allow us to anticipate and make predictions about events in the world. When a loved one dies, the bereaved individual is faced with the dislocation or invalidation of his or her personal construct system. The world suddenly becomes less organized and less predictable. To lessen the distress caused by the sudden changes, the bereaved is forced to adapt the personal construct system to fit with the new reality. This is accomplished through the parallel processes of assimilation and accommodation. In assimilation, the bereaved individual attempts to change aspects of the loss event in order to incorporate them into the current system. For example, he or she might react by denying the reality of the loss, expressing hostile feelings, or idealizing the lost loved one. In conjunction with the process of assimilation, the bereaved individual will attempt to accommodate the loss by adapting his or her personal construct system to align more closely with reality. In this approach, as in Parkes' model, the bereaved is an active agent in the grief recovery process.

The model proposed by Woodfield and Viney may serve to answer the criticisms of Shultz (1978) and others that the three major approaches to the understanding of bereavement (psychoanalytic, attachment, and assumptive world theories) are too vague to allow for rigorous testing. However, although there is potential in the personal construct model for the development of more specific, testable hypotheses, it is clear from a review of the literature, that none of these perspectives has been comprehensively tested. Most of the research which has been conducted has been highly exploratory, and has often been based upon post-hoc analysis of unstructured interviews (Allen, 1990).

Stress model. One model of bereavement which has been explored by research is the stress model. McGrath (1970) defines stress as an "imbalance between demand and response capability under conditions where failure to meet demands has important consequences" (p. 20). From this perspective, the loss of a loved one throws the bereaved individual into a state of crisis and helplessness where normal coping strategies are no longer adequate and defenses are weakened. Many researchers adhere to this model either explicitly or implicitly. For example, in developing an assessment tool for measuring the relative amounts of stress associated with various life events, Holmes and Rahe (1967) ranked the death of a close family member as fifth on their scale, and the death of a spouse ranked first. Recent research has shown a



strong link between stress and physical disturbance. According to Perkins (1982), the greater number of life changes within a six to twelve month period, the greater the likelihood of injury, accident, or illness. Furthermore, stress has been shown to be linked to emotional disturbance, especially depression. For example, Brown and Harris (1978) studied a large sample of women suffering from depression, and found a relatively high incidence of severe negative life events occurring shortly before the onset of depression. Consistent with these findings on stress, early research on bereavement focused upon an increase in emotional disturbance, high suicide and mortality rates, and deterioration of health among the bereaved. In his classic study of a wide variety of bereaved persons, Lindemann (1944) found that the common features of bereavement included emotional symptoms and somatic distress. Much research has shown a link between bereavement and emotional disturbance, especially depression (Maddison & Viola, 1968; Parkes & Brown, 1972; Glick, et al., 1974; Parkes & Weiss, 1983; Parkes, 1987-1988; Hansson, et al., 1988; Gass, 1989; Thompson, Gallagher-Thompson, Futterman, Gilewski, & Peterson, 1991). Many other researchers have noted changes for the worse in physical health following the death of a loved one (Marris, 1958; Parkes, 1965; Maddison & Viola, 1968; Klerman & Izen, 1977; Parkes, 1987-1988; Hansson, et al., 1988; Gass, 1989), and some research has linked

bereavement with an increased risk of death (Jacobs & Otsfeld, 1977; Rowland, 1977). In an attempt to explain the physical effects of bereavement, recent research has examined the physiological changes related to stress. Schleifer, et al. (1983) found that during the early weeks of bereavement, lymphocyte function was significantly depressed. This stress-related dysfunction of the immune system is thought to contribute to the increased risk of illness, and even death, in the recently bereaved.

Thus, reactions to the presumably severe stress of bereavement seem to be similar to reactions to other stressful life events. When stress is viewed as a reaction to demands which are equal to or in excess of an individual's resources, the literature consistently supports the idea that the loss of a loved one is a highly stressful life event.

Despite the apparent link between bereavement and stress, the relationship is not a simple one. A recent study by Norris and Murrell (1987), found that among elderly adults who had recently lost a parent, child, or spouse, bereavement alone did not affect physical health. However, data which had been gathered before the death of the loved one indicated that as the time of the death approached family stress often increased, and physical health worsened. Following the death, family stress began to subside and health, for most, improved. Only in situations where there

had been no family stress before the death did physical health deteriorate at the time of the death. Psychological distress, on the other hand, increased significantly following the death, regardless of family stress levels before bereavement. The authors concluded that while physical disorders follow loss for only some people, psychological distress is normal in most bereaved people. Thus, the reactions to the stressful nature of bereavement can be complex, and different people may respond in very different ways.

Allen's coping competence model. The stress model of bereavement has been firmly grounded in empirical data, and it seems to explain a great deal regarding adjustment to loss. It does not, however, make explicit the reasons for differences in response to the stress of loss among different individuals. In response to this and other criticisms of available bereavement models, Susan Allen (1990) has recently offered an alternative model of bereavement. Built upon earlier theories, Allen reviewed the coping and adaptation literature, as well as more specific literature on widowhood, and developed several assumptions which form the core of her model. Key among these assumptions is that the problem of bereavement lies in the impact of the loss on the bereaved individual's life. According to Allen, loss of a loved one presents the bereaved with a radically altered assumptive world, as well

as with the removal of a major source of reinforcement. The impact of these changes will depend upon the combined influences of the degree of life change experienced, the centrality of the relationship, the perceived preventability of the death, and whether the loss had been anticipated. While the impact of the loss is the true bereavement problem, the solution depends upon active coping deriving from a sense of experienced competence. According to Allen, having adequate resources is necessary, but not sufficient for successful coping. The resources must be perceived and utilized by the bereaved, and utilization of resources depends upon a personal sense of control over outcomes as well as confidence in one's ability to solve the problems associated with bereavement. In other words, unless an individual has a sense of experienced competence, he or she will feel relatively helpless in effectively responding to loss, and will be less motivated to mobilize available resources and coping strategies. Adjustment to bereavement, for this individual then, will be poorer than for those high in experienced competence.

To test her model, Allen gathered survey data from 193 bereaved men and women ranging in age from 20 to 82. As predicted by her model, subjects high in experienced competence fared better on broad measures of adjustment following bereavement than did those low in experienced competence. Furthermore, those individuals for whom the

impact of loss was greater showed more depression, more bereavement adjustment difficulties, more loneliness, more negative moods, more symptoms of distress, and lower life satisfaction than did those for whom the impact of loss was not as great.

Allen's model emphasizes the role of the individual as an active agent in bereavement adjustment. Her focus upon experienced competence adds a cognitive component which may lend insight into variations in adjustment between individuals. However, her model has only been recently introduced, and has not been widely tested. Furthermore, although Allen's study provided support for her ideas over the short term, the model has not been tested for applicability to long term bereavement adjustment. In order to provide further support for Allen's model, long-term, longitudinal studies are needed.

#### Longitudinal Research

Early writers in the area of bereavement research considered recovery from grief to be a relatively brief, time-limited process. For example, Lindemann (1944) believed that with appropriate treatment, uncomplicated grief reactions could be resolved within four to six weeks. While Lindemann's estimate seems extremely brief, it was generally held that grief reactions were most often "resolved" within one year. Research, then, was primarily time limited and cross sectional, and focused on the effects

of bereavement on health and well-being. There was, however, some evidence which suggested that in some instances, bereavement took longer than one year. Even Freud (1929/1961), when writing about the death of his 27-year old daughter, stated that "although we know that after such a loss, the acute stage of mourning will subside, we also know we shall remain inconsolable and will never find a substitute" (p. 386). Furthermore, it became apparent that people resolved bereavement issues at different rates. Researchers became more interested in the process of change through bereavement and in the differences in that process among different individuals.

This shift in perspective led to a shift in the design of studies used to investigate bereavement. Rather than relying solely on cross-sectional studies, researchers began to conduct longitudinal studies covering longer periods of time. These studies have provided a more in depth picture of the bereavement process and of individual differences in change throughout the process, but results are often contradictory. Many studies measuring the bereavement process over time have shown that there is an early elevation in psychological distress, somatic symptoms, and depression following a loss, but that over time these symptoms lessen and return to baseline levels. For example, Faletti, et al. (1989) interviewed 251 older bereaved spouses and found that depression and other psychosocial

indicators, such as measures of physical health and psychological symptoms, were elevated shortly after the death, but gradually lessened over time. Similarly, McCrae and Costa (1988) conducted a ten year longitudinal study of national data. They used two times of measurement and divided their subjects into three categories: those who were married at both times of measurement, those who were widowed during the interval between measures, and those who had been widowed at both times of measurement. Results indicated that there were no significant differences among these groups on measures of depression, psychological well being, self-rated health, activities of daily living, extraversion, social network size, or openness to experience. Van Zandt, et al. (1989) studied older bereaved spouses over a 3 1/2 year period and found that while bereaved individuals suffered slightly more mental health problems than nonbereaved individuals during the first several months, those differences tended to disappear over time. Other studies have provided similar results (Stroebe, et al., 1988; Thompson, et al., 1989).

On the other hand, other studies of the long term adjustment to bereavement have indicated that bereavement may continue to have impact on the lives of the bereaved many years after the loss. Parkes and Weiss (1983), for example, in their longitudinal examination of bereavement found that more than 40% of their sample were judged by

trained interviewers to be exhibiting moderate to severe anxiety two to four years after the loss of a spouse. Also, among those for whom the loss was sudden, feelings of depression and difficulties in functioning were relatively common. Zisook and Shuchter (1986) had a sample of widows and widowers complete questionnaires at eleven points in time, ranging from a few weeks after the loss to four years later. Twenty percent of their sample, at four years post-loss, assessed their own adjustment as "fair or poor," and only 44% assessed it as "excellent." Furthermore, Lund, Caserta, and Dimond (1989) conducted a two year longitudinal study and found that while there was a marked decrease in depression over time, at the two year point, depression levels of the bereaved still exceeded those of the non-bereaved. Even seven to nine years after the loss of a child, parents continue to report strong feelings of pain and loss, although not at the intensity felt at earlier times (McClowry, Davies, May, Kulenkamp, & Martinson, 1987). In the final chapter of a book on older bereaved spouses, Lund (1989) reviewed the fifteen studies included in the work and concluded that:

There is considerable evidence that some aspects of bereavement and subsequent readjustments may continue throughout a person's life....It might be appropriate to question the use of conceptualizing grief as a process which culminates in resolution,



because there may never be a full resolution. (p. 220)

Thus, while some longitudinal studies have yielded results which suggest that bereavement is time limited, and recovery occurs within a relatively brief period of time, many other studies have suggested that, at least for some, bereavement is not resolved within a few years, but continues to impact the bereaved individual for many years to come.

There are several possible factors which may contribute to these contradictory findings. One reason for this may be the wide diversity in outcome measures. Some of the measures that have been used include "reduction of depression-like symptoms, return to useful level of social functioning, remarriage (in the case of spouses), reduction in frequency of distressing memories, the capacity to form new relationships and to undertake new social roles and other functional outcomes such as return to work" (Osterweis, et al., 1984, p. 18), as well as measures of physical health and symptoms of psychopathology. One recent study attempted to differentiate adjustment along a variety of dimensions. These researchers found that differences in the severity of depression and psychopathology between bereaved and nonbereaved older adults at two months post-loss, diminished to nonsignificant levels at 12 and 30 months. However, the significant differences between

bereaved and controls in measures of grief remained at 30 months after the death of a spouse (Thompson, et al., 1991). Thus, while bereaved persons may return to levels of previous functioning in areas of mental and/or physical health, they appear to be changed by their loss and they may never "get over" it.

A second possible reason for contradictory findings in longitudinal research is the fact that bereavement does not occur in a vacuum. At the same time that a death occurs in a family, other events may be impacting the life of the bereaved as well. For example, very often bereavement occurs in later years when friends and loved ones are growing older and thus more likely to die (Knight, 1986). An older individual may be facing multiple losses within a relatively short period of time. It has already been noted that multiple losses may impact adjustment to bereavement (Kastenbaum, 1977). Few researchers studying longitudinal bereavement effects, however, consider the events in the bereaved individual's life which could also be influencing adjustment. By examining life events occurring concurrent with loss, more can be learned about bereavement within the context in which it occurs.

Other reasons for contradictory findings in longitudinal outcome research may derive from methodological problems inherent in longitudinal design. First, testing effects may contribute to biased results. Subjects may be

changed in some way by being tested, and results may therefore be impacted. As stated by Baltes, Reese, & Nesselroade (1988), "measurement is often not independent of the process of observation, and the thing observed may be changed by the process of observation in complex ways..." (p. 160). For example, there is some evidence which suggests that repeated presentation of personality tests results in profiles of better adjustment as the subject becomes more familiar with the test (Baltes, et al., 1988). It is possible that in longitudinal bereavement research, repeated measures may impact results on outcome measures over time. Despite this likelihood, however, few studies have considered the impact of testing effects either in design or in the discussion of results.

A second problem related to longitudinal research is the phenomenon of statistical regression toward the mean. This source of error occurs when, due to measurement error, subjects who score toward the extremes at one occasion tend to converge toward the mean on the second occasion of measurement. Thus, the mean of low scorers tends to increase at the second time of measurement, and the mean of high scorers tends to decrease. In studying intraindividual change it becomes necessary to distinguish "between 'true' error-free interindividual differences in intraindividual change and 'fallible' ones due to statistical regression toward the mean" (Baltes, et al., 1988, p. 165).

Although few researchers in the area of bereavement adjustment directly address the issue of regression toward the mean, there are strategies for controlling this source of bias. First since the effect of regression is stronger when reliability of the measurement instrument is low, one strategy is to use highly reliable measures. Second, regression is more important when there are only two times of observation. By increasing the number of times of measurement, the issue of regression toward the mean becomes less of a significant problem.

A final area of difficulty for longitudinal research lies in the possible bias introduced through attrition and self-selection. Participants in bereavement research are generally volunteers recruited from various sources, who agree to help the researcher(s) by answering interview questions or being tested on a variety of measures. Since the potential sample is made up of volunteers who agree or don't agree to participate for various reasons, it is possible that the actual sample will be biased by the self-selection of those who agree to help. As Stroebe and Stroebe (1989) have pointed out, "whether a bereaved person agrees to participate [in research] or not is undoubtedly influenced by his or her mental and/or physical health state, which are precisely the variables that such studies are attempting to measure" (p. 2). In a recent attempt to answer the question "who participates in bereavement

research?", Stroebe and Stroebe reviewed 21 longitudinal studies of widowed persons. They found that, overall, acceptance rates were relatively low, although rates varied widely between studies. Studies having the highest acceptance rates tended to be associated with highly credible sources, such as hospitals and religious institutions. No studies reviewed reported differences between participants and nonparticipants in sociodemographic characteristics. For example, Lund, Caserta, and Dimond in a 1986 investigation, found no differences between acceptors and refusers in socioeconomic status, sex, age, or rate of remarriage. Similarly, Valanis and Yeaworth (1982) found no significant differences in race or sex of participants versus non-participants. There did seem to be indications in the studies reviewed that psychological characteristics may influence willingness to participate in bereavement research. For example, expected death, such as death resulting from a terminal illness, may be associated with higher rates of participation, perhaps because an expected death is less distressful for a surviving spouse than an unexpected, sudden death. Furthermore, Lund, Caserta, and Dimond (1986) found that reported reasons for nonparticipation included "...too busy, too upset, in poor health, or because of advice received from adult children," implying that at least some refusals were due to poor physical and/or mental health.

In order to examine more directly the biasing effects of self-selection in bereavement research, Stroebe and Stroebe (1989) conducted the Tübingen Longitudinal Study of Bereavement. They attempted to collect data from nonparticipants in their study through questionnaires or telephone conversations, to determine whether significant differences existed between study participants and nonparticipants. They found that widows who refused to participate were not depressed, were self-sufficient, and were somewhat socially withdrawn. They seemed to be generally well adapted and were coping well with their bereavement on their own. Widowers who refused, on the other hand, were depressed, felt isolated and alone and had withdrawn from social contact. These men had not yet come to terms with the loss of their spouse. Apparently, conjugally bereaved men and women accept or refuse research participation for different reasons. The Tübingen study is only one examination of the issue of self-selection. They looked only at individuals under the age of sixty, living in Southern Germany, who were recently widowed. The issue of self-selection in bereavement research remains largely unexamined.

A related issue which has not been well addressed in the bereavement literature is that of attrition, or experimental mortality. According to Baltes, Reese, and Nesselroade (1988), experimental mortality exists whenever

the initial experimental sample is not maintained throughout the study. This mortality is considered selective, and thus biasing, "if it correlates with the independent or dependent variables studies" (p. 147). Despite the fact that very few longitudinal studies maintain 100% of their initial samples across all times of measurement, there is very little empirical evidence on the effects of attrition on bereavement research. However, as Baltes, et al. have pointed out, differences between subjects who continue participation and those who drop out can be assessed and researchers in various fields have conducted such assessments (Woolett, White, & Lyon, 1982; Zahrly, 1990). From a review of studies addressing experimental mortality at various points in the life span, Baltes, et al. (1988) suggest that as such studies progress, "samples become more positively selected on such variables as intelligence, flexibility-rigidity, conformity, and social class membership" (p. 148). They conclude that most longitudinal studies deal with highly selected samples. As such, external validity may be markedly reduced.

While some longitudinal studies of bereavement mention attrition rates others make no mention of subject drop-out whatsoever. Those that do, rarely do more than describe the percentage of subjects completing all times of measurement (for example, Gilewski, et al., 1991; Futterman, et al., 1991). Recently a few researchers have begun to examine the

possible biasing effects of subject drop-out. Stroebe, et al. (1988), for example, compared drop-outs to stay-ins on measures of health and found no significant differences. Similarly, Lund, Caserta, and Dimond (1989) compared those who completed measures at all times of measurement to those who missed one or more. They found no differences on sociodemographic variables or on the three measures of subjective well being which were of interest in the study. Faletti, et al. (1989) also found that with regard to demographics, those who completed the study were very similar to those who did not. They did not, however, mention any examination of differences between completers and non-completers on any other measures of interest. To date, very little systematic research has been conducted to investigate the biasing effects of attrition on bereavement research. It remains relatively unknown whether those who drop out are different in significant ways than those who continue their research participation. Indeed, it may be that those who have adjusted well to bereavement are more likely to drop out of research than are those who are in need of continued support or some external measure of their own adjustment. People who have less confidence in their own ability to monitor their progress through bereavement may rely on answering questionnaires to receive confirmation about their level of coping. It would be expected, then,



that bereavement research samples would be biased toward less highly adjusted subjects as the study progresses.

Longitudinal studies have begun to provide insight into the long-term effects of bereavement. Very few studies, however, have addressed the issues of testing effects, regression toward the mean, and especially selection and attrition effects, which may create bias in longitudinal studies. Furthermore, despite the fact that some studies have indicated that the death of a loved one may impact an individual's life for many years to come, very few longitudinal studies have examined coping at time periods greater than two or three years after the loss. What is needed are more consistent, theoretically based studies which take into account the variables mentioned above. This study is one attempt to begin to meet that need.

#### Purpose of the Present Study

The purpose of the present study is to utilize a longitudinal design to study the long-term impact of bereavement on adjustment. A review of the literature indicated that long-term, longitudinal research is lacking. What is available is limited by methodological flaws and a lack of a consistent, theoretical framework. Allen (1990) has developed an empirically based model of bereavement which appears to be conducive to long-term research. Using Allen's model as a framework, this study tests several

hypotheses derived from the bereavement literature as they apply to the long-term adjustment to bereavement.

First, this study examines several assumptions set forth by Allen (1990). As discussed in an earlier section, Allen has developed a model of bereavement adjustment which stresses the importance of the individuals experience of his or her own competence in coping with bereavement, the resources perceived to be available to him or her, and the impact of the loss on the individual's life. To test her model, Allen designed a study which examined the contributions of each of these variables to the level of adjustment obtained by bereaved individuals over two times of measurement. Her findings, for the most part, supported her model. The present study attempts to test her major findings as they apply to long-term adjustment, using the same subject sample and instruments.

Allen found that subjects high in experienced competence fared better on broad measures of adjustment following bereavement than did those low in experienced competence. She also found that individuals for whom the loss was more impactful, showed more bereavement adjustment difficulties, more negative moods, more depression, more loneliness, more symptoms of distress, and lower life satisfaction than did those for whom the impact of loss was not as great, and that persons with high levels of perceived resources fared better on both broad and specific measures

of bereavement adjustment than did those with low levels of perceived resources. The present study is an attempt to determine whether those findings generalize to a long-term framework over and above a short-term framework.

The present study also examines the course of bereavement adjustment over time. By using a longitudinal design with multiple times of measurement, it is possible to examine attrition effects as well as control for the effects of statistical regression toward the mean. For example, Allen found, contrary to her expectations, that over time, subjects appeared to deteriorate with regard to adjustment, such that at the second time of measurement, subjects showed more bereavement adjustment difficulties than at time one. This finding was surprising given that her subjects had been bereaved for an average of one to two years, and thus, based on conventional wisdom, expected to be in a "recovery phase." It is possible that these results are due to the effects of attrition, with those subjects who are better adjusted dropping out at time two. This study explores differences between subjects that drop out and those who stay in, and the possible bias introduced by such differences.

The literature indicates that individuals who have been bereaved for longer periods of time tend to exhibit better overall adjustment when compared to individuals who have been bereaved for relatively shorter time periods. For

example, Allen (1990) found that widows who had been bereaved for greater than two years reported fewer symptoms of bereavement adjustment difficulties than did those who had been bereaved for two years or less. By examining the effects of time since the loss, the present study explores differences in the course of bereavement for individuals bereaved for varying lengths of time.

Another area of interest in this study is the impact of multiple losses on bereavement adjustment. As noted earlier, multiple losses over a period of time can result in coping overload and difficulties in adjustment. This study examines differences in adjustment for those subjects facing multiple deaths as compared to those suffering from the loss of only one loved one.

Finally, the longitudinal nature of this study allows for the examination of changes not only in the dependent variables of interest, but also any changes in the independent variables. For example, since experienced competence is derived in part from one's sense of past coping competence, it follows that the level of success in coping with bereavement could lead to changes in experienced competence over time. This study explores any changes in experienced competence that might have occurred as a result of coping with the bereavement situation.

The present project reports the results of five separate multivariate analyses of variance, three

discriminant function analyses, and three exploratory regression analyses examining the impact of available resources, impact of loss, experienced competence, multiple losses, length of time since loss, and attrition on such outcome variables as life satisfaction, bereavement adjustment difficulties, general emotional adjustment, and the number and type of coping strategies mobilized. These variables are studied at three points in time, six months and three years apart, so that their impact on the course of bereavement may be assessed.

#### Research Hypotheses

##### Hypothesis 1

Subjects above the median with regard to experienced competence will continue to show higher levels of overall adjustment in response to bereavement than subjects below the median with regard to experienced competence as measured by scores on scales of loneliness, mood, symptoms, life-satisfaction, depression, and bereavement adjustment, at all three times of measurement. Similarly, subjects above the median with regard to perceived resources, and subjects below the median with regard to impact of loss are expected to show higher overall adjustment in response to bereavement than subjects below the median with regard to perceived resources and subjects above the median with regard to impact of loss.

### Hypothesis 2

Subjects above the median with regard to experienced competence are expected to use a greater number of coping strategies, and to use more high level strategies than are subjects below the median with regard to experienced competence.

### Hypothesis 3

Subjects above the median in experienced competence, below the median in impact of loss, and above the median in perceived resources will show the highest overall adjustment as compared to all other subjects.

### Hypothesis 4

Time of measurement is expected to be related to outcome measures. Higher levels of adjustment are expected at the third time of measurement versus times one and two. In addition, when differentiations are made with regard to change status, the impact on time three adjustment will be highest for those who were well adjusted at both times one and two, and for those who improved over time.

### Hypothesis 5

Subjects who were less than or equal to two years post-loss at the second time of measurement will show more improvement in levels of overall adjustment at time three than subjects who were greater than two years post-loss at the second time of measurement.

#### Hypothesis 6

Subjects who experience a subsequent loss or losses in the years following the original loss will show lower levels of overall adjustment at the third time of measurement as compared with subjects who do not experience a subsequent loss.

#### Hypothesis 7

Subjects scoring above the median on measures of overall adjustment at both times two and three, as well as those whose adjustment improved from time two to time three, will score highest on experienced competence at time three, relative to other subjects who did not demonstrate higher levels of adjustment at both time two and time 3, or whose adjustment did not improve.

#### Hypothesis 8

There will be an attrition effect, such that persons who drop out of the study over time will show higher levels of overall adjustment than those who stay in, at both the second and third times of measurement.

## CHAPTER II

### METHOD

#### Subjects

Subjects consisted of 193 bereaved adults who volunteered to participate by responding to announcements placed in newspapers and senior citizens' newsletters or made to widowhood association meetings or bereavement groups. The original sample was contacted in 1988. Of the 193 volunteers, 147 had been bereaved of a spouse, and 46 had been bereaved of a close relative other than a spouse. All subjects had originally been bereaved for no longer than ten years, and the median length of bereavement was one to two years for the widowed group and two to three years for the non-widowed group. The most common cause of death of a loved one was a prolonged illness (45%), followed by a sudden or brief illness (34%), accident (11%), and finally "other" (10%). A small number of widowed subjects had been widowed twice.

Subjects ranged in age from 20 to 82, with a mean age of 40.6 for non-widowed subjects and 58 for widowed subjects. The sample was predominantly female (85%) and caucasian (98%). Most subjects described themselves as Protestant (65%) or Catholic (26%). Of the remainder, the largest group were Jewish.



With regard to education, the median level reported was "some college." Most subjects were retired (57%), worked part-time (17%), worked full-time (9%), or were temporarily unemployed (5%). A small proportion reported their occupation as homemaker (2%) or "other" (3%). Total family income ranged from less than \$5,000 per year to greater than \$50,000 per year, with a median range of \$16,000 to \$25,000 per year. The majority of subjects reported living alone in their own home (65%) or with a current spouse (18%). The remainder lived either with a child, friend or roommate, or another relative.

Widowed subjects had been married to their deceased spouses from one to 55 years with a mean of 29.4 years. Non-widowed bereaved subjects had been married more than once, but second marriages were more common among widowed individuals (25%) as compared to non-widowed subjects (7%). Subjects had from 0 to 10 living children, with a mean of approximately 2.5.

Regarding physical health, most subjects described themselves as healthy. Only 9% claimed that their health, on the average, was poorer than that of their age peers, and 18% reported having had a major medical or psychiatric illness. Many, however, had sought psychiatric or psychological help in dealing with bereavement (25%). The majority (58%) had attended or were attending a bereavement group.

By the second time of measurement, six months after initial testing, 18% of the original sample had dropped out. At the third time of measurement, three years later, another 34% had dropped out, leaving approximately 48% of the original sample. Attrition rates and differences between completers and drop-outs will be discussed in detail later.

### Instruments

#### Independent Variables

##### Variable 1: Experienced Competence

This variable is measured in three ways. Scores are calculated based on responses to items on Levenson's (1972) revised Locus of Control Scales, Rosenberg's (1965) revised version of the Guttman Scale of Self-Esteem, and the Coping Self-Efficacy Scale (CSES) designed for this study. All four measures are described below.

Locus of control. Levenson's (1972) revision of Rotter's (1966) Locus of Control Scale (I-E Scale) makes up one portion of the measure of experienced competence. This instrument is comprised of 24 Likert-style items which form three scales measuring control by fate or chance (C), control by powerful others (P), and internal locus of control (I). The P and C scales have been found by Levenson to be positively correlated with each other and negatively correlated with the I scale.

Rosenberg's (1965) Revised Self-Esteem Scale. A second portion of the experienced competence variable consists of

Rosenberg's (1965) revision of the Self-Esteem Scale. This scale consists of ten items, takes approximately two to three minutes to complete, and has a test-retest reliability of .92.

The Coping Self-Efficacy Scale (CSES). This scale was also designed by Allen (1990) for this study. It consists of 28 items judged by a panel of Ph.D. psychologists to be related to bereavement tasks of varying levels of difficulty, such as: (a) not difficult for most persons, (b) moderately difficult for most people, (c) highly difficult for most people. It should be noted that this scale measures coping tasks, such as overcoming sadness and meeting needs for social contact, rather than coping strategies. Alpha coefficients are .71 for the level one items, .81 for the level two and level three items, and .89 for the scale as a whole. Subjects are asked to determine for each item whether they believe they could successfully complete the task, and to respond with "yes" or "no". Points for endorsing an item are given with regard to the level of difficulty of the task, such that higher scores reflect higher levels of coping self-efficacy.

Scores on the Locus of Control scale, the Self-Esteem scale, and the Coping Self-Efficacy scale were additively combined to result in an overall score for experienced competence.

Variable 2: Available Resources Questionnaire

The Coping Resources Questionnaire (CRQ), developed by Allen (1990), measures perceived resources in the following categories: community, emotional, cognitive/educational, economic, health/behavioral capacity, and social interpersonal. Items in each category were derived intuitively, based on bereavement literature, or were taken from indices used by Project PLEA (Piedmont Life Enrichment for the Aged; Arling, 1976). Coefficient alphas for the individual subscales ranged from .69 to .88, with an alpha of .79 for the scale as a whole.

Based on results of this questionnaire, subjects are divided into high and low perceived resources groups. Those scoring in the bottom third on any CRQ subscale, or scoring in the bottom half of the Questionnaire as a whole, are considered "low perceived resources". All other subjects will be considered "high perceived resources".

Variable 3: Impact of Loss

The Impact of Loss Questionnaire was developed by Allen (1990) and contains items related to four areas which have been reported in the literature to relate to bereavement outcome. These areas are: (a) the centrality of the lost relationship, (b) the perceived preventability of the death, (c) the degree of life change associated with the loss, and (d) the degree to which the death was expected. According to Allen, coefficient alphas for the subscales ranged from

.56 to .86. As a whole, the scale has a coefficient alpha of .77.

In scoring the scale, those items which measure perceived preventability, life change, and centrality are given positive values, and those measuring anticipation of loss are given negative values. Overall positive scores indicate a high impact of loss. High and low impact groups are derived using a median split.

#### Dependent Variables

##### Variable 1: Coping Strategies Mobilized

The Coping Competence Scale. This scale developed by Allen (1990) for the purpose of this study consists of coping strategies cited in the bereavement literature as being used by widowed individuals. It consists of seven categories including: (a) cognitive coping strategies, (b) social coping strategies, (c) behavioral coping strategies, (d) affective coping strategies, (e) seeking support and guidance, (f) focus on spouse (including sanctification and illusion), and (g) denial/avoidance. Subjects are asked to indicate for each item (a) whether the strategy had been used prior to bereavement (to cope with another major life change or loss), (b) the perceived helpfulness of the strategy at the time, (c) whether the strategy had been used in coping with bereavement, and (d) the perceived helpfulness of the strategy in dealing with bereavement.

The absolute number of coping strategies mobilized in the current bereavement situation is derived by totalling the number of items endorsed as having been used in response to bereavement.

Variable 2: Cognitive, Social, Affective, and Behavioral Strategies

This second dependent measure is also derived from the Coping Competence Scale, by determining the total number of coping strategies mobilized in the current bereavement situation which fall into the categories of cognitive, social, affective, and behavioral strategies.

Variable 3: Revised UCLA Loneliness Scale

This scale measures feelings of abandonment, depression, emptiness, isolation, self-enclosure, and not feeling satisfied or sociable. Russell, Peplau, and Curtona (1980) report a coefficient alpha of .90. The scale consists of 20 items which take less than ten minutes to complete.

Variable 4: Profile of Mood States (POMS)

This scale is a revision by McNair and Lorr (1964) of an earlier instrument (Psychiatric Outpatient Mood States). It consists of a checklist of 36 adjective items falling into five mood categories, including: tension/anxiety, anger/hostility, depression/dejection, fatigue/inertia, and vigor/activity. All but items from the last factor (vigor/activity) were used in the present study. According

to McNair and Lorr, reliability and validity of the scale are high. Kuder-Richardson reliability coefficients for three of the four factors used in this study were above .90.

Variable 5: Life Satisfaction Index-Z (LSI-Z; Wood, Wylie, & Sheafor, 1969)

This scale, a shortened, revised version of Neugarten, Havighurst, and Tobin's (1961) Life Satisfaction Index-A, is designed to measure personal perceptions of life satisfaction. It is reported to be relatively independent of measures of social participation and activity level. In order to improve the external validity of the LSI-Z, the instrument was shortened to include 13 items. The reported coefficient alpha of this shortened scale is .79 (Allen, 1990).

Variable 6: Hopkins Symptom Checklist (HSCL)

The HSCL is a self-report symptom inventory originally developed by Parloff, Kelman, and Frank (1954) to measure symptoms frequently seen in outpatients. The instrument has undergone several revisions, and the current version contains a total of 58 items which load on five symptom dimensions, including: somatization, interpersonal sensitivity, depression, obsessive-compulsive, and anxiety (Derogatis, Lipman, Covi, & Rickels, 1971). Coefficient alphas for the five subscales range from .84 to .87. For the purpose of this study, the 58-item version was shortened to include only the 44 items reported by Derogatis, Lipman,

Rickels, Whenhuth, and Covi (1974) to principally load on each of the five factors (Allen, 1990).

Variable 7: The Beck Depression Inventory (BDI)

The BDI is a widely used self-report inventory designed to measure behavioral manifestations of depression. Reliability and validity of the instrument are reportedly high, with a Pearson split-half reliability of .86, and a Person biserial  $r$  between .65 and .67 (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The inventory consists of 21 items, taking approximately ten minutes to complete.

Variable 8: The Bereavement Experience Questionnaire (BEQ)

The BEQ is a self-report, Likert-type scale which consists of 67 items that measure the distress of bereavement over the past month along eight dimensions (guilt, anger, yearning, depersonalization, stigma, morbid fears, meaninglessness, and isolation). Scores are coded on a scale of one through four with higher scores indicating higher levels of distress related to bereavement. Although actual reliability and validity statistics have not been reported in the literature, Conway, Hayslip and Tandy (1991), who used the BEQ, in a study of perceptions of bereavement by helping professionals and widow(er)s, reported that a personal communication with the author of the questionnaire indicated that the BEQ's reliability and validity are acceptable.



### Design

Hypothesis 1 predicts main effects of experienced competence, impact of loss, and perceived resources with regard to overall adjustment.

Hypothesis 2 predicts a main effect for experienced competence with regard to the number and level of coping strategies used.

Hypothesis 3 predicts an interaction effect such that subjects high in experienced competence and perceived resources and low in impact of loss are expected to show the highest overall adjustment as compared to all other subjects.

Hypothesis 4 predicts a main effect for time of measurement, such that higher levels of adjustment are expected at the third time of measurement as compared with times one and two. Furthermore, when differentiations are made with regard to change status, the impact on time three adjustment will be highest for those who were always adjusted and for those who improved over time.

To test these hypotheses, a 2 (high and low experienced competence) x 2 (High and low impact of loss) x 2 (high and low perceived resources) multivariate analysis of covariance with repeated measures (6 months and 3 years apart) was used to determine the main effects and interactions of the independent variables on the dependent variables including, number of reported coping strategies mobilized in response

to bereavement, number of "high level" (cognitive, social, affective, and behavioral) strategies mobilized, symptoms of distress (HSC scores), number of bereavement difficulties (BEQ scores), level of depression (BDI scores), loneliness (UCLA Loneliness Scale scores), mood (POMS scores), and life-satisfaction (LIS-Z scores). Length of time since death was covaried to control for the effects of this variable among subjects at a given time of measurement. An additional one-way multivariate analysis of variance was used to determine the effects of the independent variable (level of overall adjustment at times one and two) on the dependent variable of overall adjustment at time three. Overall adjustment cells for the independent variable in this case will be defined by individual's scores above or below the median at each time of measurement, yielding four groups (low at both times of measurement, high at both times of measurement, deteriorating from high to low across time, improving from low to high across time). Post hoc univariate tests were conducted as appropriate.

Hypothesis 5 predicts that subjects who were less than or equal to two years post loss at the second time of measurement will show more improvement in levels of overall adjustment at time three than subjects who were greater than two years post-loss at the second time of measurement.

To test this hypothesis, a 2 (less than or greater than two years post-loss) x 2 (time of measurement) multivariate

analysis of variance with repeated measures was used to determine the main effects of those independent variables on the dependent variables of symptoms of distress, number of bereavement difficulties, level of depression, loneliness, mood, and life-satisfaction. Post hoc univariate tests were conducted as appropriate.

Hypothesis 6 predicts that subjects experiencing multiple losses between times two and three will show lower levels of overall adjustment at the third time of measurement as compared with subjects who do not experience a subsequent loss.

To test this hypothesis, a one-way multivariate analysis of variance was used to determine the effects of the independent variable (single vs. multiple loss) on the dependent variables, including number of reported coping strategies mobilized in response to bereavement, number of "high level" strategies mobilized, symptoms of distress, number of bereavement difficulties, level of depression, loneliness, mood, and life satisfaction. Post hoc univariate tests were conducted as appropriate.

Hypothesis 7 predicts that subjects showing higher levels of overall adjustment at times two and three, as well as those whose adjustment improved from time two to time three, will score highest on experienced competence at time three relative to other subjects who did not demonstrate

higher levels of adjustment at both time two or time three, or whose adjustment did not improve.

To test this hypothesis, a one-way multivariate analysis of variance was used to determine the effects of the dependent variable (level of overall adjustment) on the independent variable of experienced competence. Overall adjustment cells in this case were defined by individuals scores above or below the median at each time of measurement, yielding four groups (low at both times of measurement, high at both times of measurement, deteriorating from high to low across time, improving from low to high across time).

Hypothesis 8 predicts an attrition effect such that persons who drop out of the study over time will show higher levels of overall adjustment on available measures than those who stay in. To test this hypothesis, discriminant function analyses were performed to determine the model which best predicts those subjects who remain with the research effort and those who leave. Three separate analyses were performed to examine those who drop out at time two and those who drop out at time three, and the factors at times two and three which best predict study completion.

### Procedure

Data collection for this study began three years prior to the final time of measurement, as part of an earlier study by Susan Allen (1990). At that time, leaders of widowhood associations and bereavement groups in thirty states were contacted, in person or by letter, and asked to help in soliciting volunteers. Group leaders were asked to explain the nature and purpose of the study and to hand out brochures with a phone number that subjects could call to volunteer. Subjects from 25 states were recruited in this manner.

Additional subjects were recruited through advertisements published in organizational newsletters and bulletins (e.g., senior citizens' organizations) as well as in newspapers. As before, subjects were requested to call the researcher in order to volunteer.

Within two weeks of volunteering, the subjects received a packet containing a letter of thanks for participating and a sheet of instructions, an informed consent form, an explanation of the study, and all of the instruments described above. Widowed and non-widowed subjects received slightly different packets. For non-widowed subjects, some wording of items on the Coping Competence Scale and Impact of Loss Scale was altered so that items did not refer to "spouse" or being "widowed." Also, widowed subjects were asked to respond to the items on the Coping Competence Scale

both with regard to widowhood and with regard to a previous loss, resulting in twice as many items on that scale for widowed as for non-widowed subjects. Aside from those differences, packets for widowed and non-widowed subjects were identical. Subjects were requested to return the packets in an enclosed, stamped, addressed envelope, within two weeks. Some subjects, however, took up to a month to do so.

Upon volunteering, subjects were told that the study would be conducted in two parts, and that they would be asked to fill out the same questionnaire again six months after the first time of measurement. As planned, packets identical to the first with the exception of the cover letter, were sent six months from the date the first packet was sent. The procedure at six months was identical to that of the first time of measurement.

Three years after the original data had been collected, subjects were again contacted by mail. In a letter from the original researcher, the findings of the earlier study were briefly outlined and subjects were thanked for their participation. Enclosed with the letter was a packet, identical to the first two, with the exception of an additional item asking whether an additional death of a loved one had occurred within the interval between times of measurement. Subjects who had suffered an additional loss were asked to answer relevant items with the most recent

loss in mind. Subjects were asked to complete the packet once again and to return it in the enclosed, stamped, addressed envelope. The procedure at this final time of measurement was identical to that of the first two.

## CHAPTER III

### RESULTS

Four hypotheses were tested utilizing a 2x2x2 multivariate analysis of covariance. Table 1 summarizes the results of this procedure. The minimum cell size was 4 and cell size ranged from 4 to 22, with the average being 12 subjects per cell.

Hypothesis one predicted main effects for the independent variables experienced competence, impact of loss, and perceived resources, with regard to overall adjustment. More specifically, it was expected that subjects above the median in experienced competence, subjects above the median in perceived resources, and subjects below the median in impact of loss would demonstrate better adjustment on measures of loneliness, mood, symptoms, life satisfaction, depression, and bereavement adjustment at all three times of measurement. Results of a 2 (high and low experienced competence) x2 (high and low perceived resources) x2 (high and low impact of loss) MANCOVA with repeated measures at six months and three years with length of bereavement as a covariate supported this hypothesis. Significant main effects were found for experienced competence ( $F = 2.72$ ,  $df = 8/79$ ,  $p <$



.01), perceived resources ( $F = 3.03$ ,  $df = 8/79$ ,  $p < .005$ ), and impact of loss ( $F = 2.48$ ,  $df = 8/79$ ,  $p < .05$ ) across all measures of adjustment.

Table 1 represents means and standard deviations for scores on individual measures of adjustment. As predicted by Hypothesis one, subjects above the median at time one with regard to experienced competence and subjects above the median at time one with regard to perceived resources, demonstrated better adjustment on measures of loneliness, mood, symptoms, life satisfaction, depression, and bereavement adjustment at all three times of measurement. Also, as predicted, subjects above the median at time one with regard to impact of loss demonstrated poorer adjustment on the above mentioned measures of adjustment.

Post hoc univariate analysis with regard to experienced competence produced significant effects for all six measures of adjustment. Subjects high in experienced competence reported less depression as measured by the Beck Depression Inventory ( $F = 8.63$ ,  $df = 8/79$ ,  $p < .005$ ); fewer bereavement adjustment difficulties, as measured by the Bereavement Experience Questionnaire ( $F = 4.72$ ,  $df = 8/79$ ,  $p < .05$ ); fewer symptoms of distress, as measured by the Hopkins Symptoms Checklist ( $F = 4.77$ ,  $df = 8/79$ ,  $p < .05$ ); less loneliness, as measured by the U.C.L.A. Loneliness Scale

Table 1

Observed and Adjusted Means for Multivariate Analysis of Covariance

	Observed		Adjusted
	Mean	SD	Mean
BEQ <sup>a</sup>			
Impact 1 <sup>1</sup>	95.796	15.110	96.195
Impact 2 <sup>2</sup>	111.039	21.345	110.639
Resource 1 <sup>3</sup>	108.155	19.376	107.548
Resource 2 <sup>4</sup>	98.679	17.079	99.280
Competence 1 <sup>5</sup>	107.502	18.390	107.323
Competence 2 <sup>6</sup>	99.333	19.064	99.511
BDI <sup>b</sup>			
Impact 1	6.154	3.867	6.208
Impact 2	8.528	5.256	8.474
Resource 1	9.338	5.314	9.261
Resource 2	5.343	3.744	5.453
Competence 1	9.048	4.928	9.009
Competence 2	5.634	4.204	5.674
HSC <sup>c</sup>			
Impact 1	65.278	12.648	65.486
Impact 2	71.945	14.849	71.737

(table continues)

	Observed		Adjusted
	Mean	SD	Mean
Resource 1	74.196	15.572	73.765
Resource 2	63.027	11.918	63.457
Competence 1	72.562	14.781	72.405
Competence 2	64.661	12.717	64.802
UCLA <sup>d</sup>			
Impact 1	35.449	7.862	35.523
Impact 2	39.841	9.500	39.767
Resource 1	40.526	9.705	40.410
Resource 2	34.764	7.657	34.879
Competence 1	40.279	9.284	40.242
Competence 2	35.011	8.007	35.047
LSIZ <sup>e</sup>			
Impact 1	8.403	4.693	8.469
Impact 2	10.333	5.109	10.266
Resource 1	10.794	5.445	10.689
Resource 2	7.942	4.373	8.046
Competence 1	11.412	5.276	11.830
Competence 2	7.324	4.610	7.355

(table continues)

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	Observed		Adjusted
	Mean	SD	Mean
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POMS <sup>f</sup>			
Impact 1	18.083	12.613	18.257
Impact 2	25.065	15.511	24.891
Resource 1	25.783	14.937	25.654
Resource 2	17.365	13.187	17.444
Competence 1	25.984	16.014	25.842
Competence 2	17.164	12.110	17.306
STRA.MO <sup>g</sup>			
Impact 1	41.553	12.281	41.672
Impact 2	49.299	8.830	49.213
Resource 1	44.734	12.110	44.656
Resource 2	46.116	9.030	46.196
Competence 1	46.068	8.804	46.058
Competence 2	44.316	12.337	44.794
CSAB <sup>h</sup>			
Impact 1	28.372	8.000	28.445
Impact 2	32.695	7.519	32.623
Resource 1	29.552	6.809	20.485

(table continues)

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	Observed		Adjusted
	Mean	SD	Mean
Resource 2	31.516	5.711	31.589
Competence 1	30.508	5.589	30.497
Competence 2	30.464	6.930	30.571

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<sup>a</sup>BEQ = Bereavement Experience Questionnaire; <sup>b</sup>BDI = Beck Depression Inventory; <sup>c</sup>HSC = Hopkins Symptom Checklist; <sup>d</sup>UCLA = U.C.L.A. Loneliness Scale; <sup>e</sup>LSIZ = Life Satisfaction Index; <sup>f</sup>POMS = Profile of Mood States; <sup>g</sup>STRA.MO = Strategies mobilized in response to bereavement; <sup>h</sup>CSAB = Cognitive, social, affective, and behavioral strategies mobilized in response to bereavement. <sup>1</sup>Impact 1 = Low impact of loss; <sup>2</sup>Impact 2 = High impact of loss; <sup>3</sup>Resource 1 = Low perceived resources; <sup>4</sup>Resource 2 = High perceived resources; <sup>5</sup>Competence 1 = Low experienced competence; <sup>6</sup>Competence 2 = High experienced competence.

( $F = 8.52$ ,  $df = 8/79$ ,  $p < .005$ ); higher levels of life satisfaction as measured by the Life Satisfaction Index-Z ( $F = 21.10$ ,  $df = 8/79$ ,  $p < .001$ ); and fewer negative moods, as measured by the Profile of Mood States Inventory ( $F = 7.05$ ,  $df = 8/79$ ,  $p < .001$ ) as compared to subjects low in

experienced competence. Similarly, post hoc univariate analysis with regard to impact of loss produced significant effects for all six measures of adjustment. Subjects with high level impact of loss showed higher levels of depression ( $F = 6.18$ ,  $df = 8/79$ ,  $p < .05$ ); more bereavement adjustment difficulties ( $F = 18.39$ ,  $df = 8/79$ ,  $p < .001$ ); more symptoms of distress ( $F = 7.46$ ,  $df = 8/79$ ,  $p < .01$ ); greater loneliness ( $F = 9.51$ ,  $df = 8/79$ ,  $p < .005$ ); lower levels of life satisfaction ( $F = 6.31$ ,  $df = 8/79$ ,  $p < .05$ ); and more negative moods ( $F = 9.05$ ,  $df = 8/79$ ,  $p < .005$ ) as compared to subjects low in impact of loss. Furthermore, subjects high in impact of loss reported mobilizing more coping strategies in response to bereavement ( $F = 7.15$ ,  $df = 8.79$ ,  $p < .01$ ) and mobilizing more high level strategies, as determined by those strategies that were cognitive, social, affective, or behavioral in nature ( $F = 4.73$ ,  $df = 8/79$ ,  $p < .05$ ).

Post hoc univariate analysis with regard to perceived resources produced significant effects for five out of six measures of adjustment. Subjects high in perceived resources reported less depression ( $F = 14.13$ ,  $df = 8/79$ ,  $p < .001$ ), fewer symptoms of distress ( $F = 8.53$ ,  $df = 8/79$ ,  $p < .005$ ); less loneliness ( $F = 4.42$ ,  $df = 8/79$ ,  $p < .05$ ); higher levels of life satisfaction ( $F = 9.07$ ,  $df = 8/79$ ,  $p < .005$ ); and fewer negative moods ( $F = 4.72$ ,  $df = 8/79$ ,  $p < .05$ ) as compared to subjects low in perceived resources.

Furthermore, a sixth dependent variable, bereavement adjustment difficulties, approached significance ( $F = 6.18$ ,  $df = 8.79$ ,  $p < .07$ ) in the direction predicted, such that subjects high in perceived resources reported fewer bereavement adjustment difficulties than did subjects low in perceived resources.

Hypothesis two predicted a main effect for experienced competence with regard to the number and level of coping strategies used. More specifically, it was predicted that subjects above the median with regard to experienced competence would use a greater number of coping strategies and would use more high level strategies, as defined by those strategies that are cognitive, social, affective, and behavioral, than would subjects below the median with regard to experienced competence. Results did not support this hypothesis. There were no significant differences between subjects high or low in experienced competence with regard to the number and level of coping strategies used.

Hypothesis three predicted an interaction effect such that subjects above the median with regard to experienced competence and perceived resources, and subjects below the median with regard to impact of loss, were expected to show higher overall adjustment as compared to all other subjects. Such an interaction effect was not found. Thus, although singly, experienced competence, impact of loss, and

perceived resources do effect bereavement adjustment, those effects are lost in combination.

Hypothesis four predicted a main effect for time of measurement, such that higher levels of adjustment were expected at the third time of measurement as compared with times one and two. Furthermore, it was expected that when differentiations were made with regard to change status, the impact on time three adjustment would be highest for those who were always adjusted and for those who improved over time. Results of a 2x2x2 multivariate analysis of covariance with repeated measures indicated a significant main effect for time ( $F = 1.67$ ,  $df = 16/336$ ,  $p < .05$ ), such that subjects showed better adjustment at time three as compared with times one and two. In contrast to results based on a different subset of the sample collected by Allen (1990), subjects also showed better adjustment at time two as compared to time one.

Post hoc univariate analysis produced significant effects for three out of six measures of adjustment. Subjects improved in adjustment from time one to time two and from time two to time three on measures of bereavement adjustment difficulties ( $F = 10.91$ ,  $df = 16/336$ ,  $p < .001$ ), symptoms of distress ( $F = 4.36$ ,  $df = 16/336$ ,  $p < .05$ ), and loneliness ( $F = 3.13$ ,  $df = 16/336$ ,  $p < .05$ ). A fourth dependent variable, depression, also approached significance ( $F = 2.47$ ,  $df = 16/336$ ,  $p = .08$ ) in the direction predicted.



These results are contrary to those reported by Allen (1990), based on a different subset of the present sample. Subjects in her analysis declined in adjustment from time one to time two on measures of bereavement adjustment difficulties and depression. No improvement across time on any measure of adjustment was reported.

In testing the second part of hypothesis four, an additional one-way multivariate analysis of variance was utilized to determine the effects of the independent variable (level of adjustment at times one and two) on the dependent variable of overall adjustment at time three. Overall adjustment cells for the independent variable in this case were defined by individual's scores above or below the median at each time of measurement, yielding four groups (low at both times of measurement, high at both times of measurement, deteriorating from high to low across time, improving from low to high across time). Results of a one-way multivariate analysis of covariance indicated a main effect for adjustment group ( $F = 2.745$ ,  $df = 24/264$ ,  $p < .001$ ). Table 2 summarizes those results. Post hoc univariate tests, however, yielded mixed results. Although subjects showing high adjustment at times one and two, and subjects showing improvement across time, tended to show better adjustment at time three than all other subjects, these differences were not significant at the .05 level. It was shown, however, that on measures of bereavement

Table 2  
Means and Standard Deviations for Scores on Measures of  
Adjustment at Time Three by Earlier Adjustment Level  
(Hypothesis Four)

	Mean	SD
BEQ <sup>a</sup>		
Low to Low	112.35	19.99
High to High	87.85	12.44
Low to High	98.10	11.75
High to Low	94.60	10.08
BDI <sup>b</sup>		
Low to Low	9.67	6.80
High to High	3.68	4.09
Low to High	5.20	3.53
High to Low	6.80	5.96
HSC <sup>c</sup>		
Low to Low	76.07	21.57
High to High	56.53	10.03
Low to High	69.20	15.69
High to Low	72.90	12.19
UCLA <sup>d</sup>		
Low to Low	43.26	11.27

(table continues)

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	Mean	SD
High to High	31.21	7.70
Low to High	36.40	6.06
High to Low	37.37	5.08
LSIZ <sup>3</sup>		
Low to Low	12.26	6.06
High to High	6.59	5.27
Low to High	7.20	4.16
High to Low	7.70	5.31
POMS <sup>f</sup>		
Low to Low	30.95	19.22
High to High	11.03	9.34
Low to High	15.10	8.40
High to Low	22.60	15.74
STRA.MO <sup>g</sup>		
Low to Low	49.60	11.51
High to High	41.41	15.08
Low to High	48.00	7.56
High to Low	45.50	12.92
CSAB <sup>h</sup>		
Low to Low	32.54	7.94
High to High	28.65	9.80

(table continues)

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	Mean	SD
Low to High	31.80	4.16
High to Low	30.80	6.56

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<sup>a</sup>BEQ = Bereavement Experience Questionnaire; <sup>b</sup>BDI = Beck Depression Inventory; <sup>c</sup>HSC = Hopkins Symptom Checklist; <sup>d</sup>UCLA = U.C.L.A. Loneliness Scale; <sup>e</sup>LSIZ = Life Satisfaction Index; <sup>f</sup>POMS = Profile of Mood States; <sup>g</sup>STRA.MO = Strategies mobilized in response to bereavement; <sup>h</sup>CSAB = Cognitive, social, affective, and behavioral strategies mobilized in response to bereavement.

difficulties, loneliness, life satisfaction, and negative moods, subjects demonstrating poor adjustment at both times one and two continued to exhibit poor adjustment to a significant degree ( $p < .05$ ), as compared to all other subjects.

Hypothesis five predicted that subjects who were less than or equal to two years post-loss at the second time of measurement would show more improvement in levels of overall adjustment from time two to time three than would subjects who were greater than two years post-loss at the second time

of measurement. To test this hypothesis a 2x2 multivariate analysis of variance was conducted utilizing the independent variables length of time post-loss and time of measurement. Table 3 summarizes the results of that analysis. Contrary to predictions, an interaction effect was not found. Degree of improvement did not vary based on the number of years since the loss. It was found, however, that although there was no significant interaction between the length of time post-loss and time of measurement, there was a main effect for length of time post-loss ( $F = 2.732$ ,  $df = 8/87$ ,  $p < .01$ ) such that subjects who had been bereaved for a longer period of time demonstrated better adjustment at times two and three than those who had been bereaved for less than two years. Post hoc univariate analysis produced significant effects for three out of six dependent variables. Subjects who had been bereaved for more than two years at the second time of measurement showed better adjustment on measures of bereavement adjustment difficulties ( $F = 7.25$ ,  $df = 8/87$ ,  $p < .01$ ), loneliness ( $F = 6.04$ ,  $df = 8/87$ ,  $p < .05$ ), and life satisfaction ( $F = 5.18$ ,  $df = 8/87$ ,  $p < .05$ ) than did subjects who had been bereaved less than two years at the second time of measurement.

Hypothesis six predicted that subjects who experienced a subsequent loss or losses in the years following the original loss would show lower levels of adjustment at the third time of measurement as compared with subjects who did not experience a subsequent loss. To test this hypothesis,

Table 3  
Means and Standard Deviations for Multivariate Analysis of  
 Variance for Hypothesis Five

	Mean	SD
BEQ <sup>a</sup>		
Time 2		
< 2 Years Bereaved	112.68	26.61
> 2 Years Bereaved	98.75	19.78
Time 3		
< 2 Years Bereaved	104.65	22.63
> 2 Years Bereaved	98.96	15.89
BDI <sup>b</sup>		
Time 2		
< 2 Years Bereaved	8.29	7.51
> 2 Years Bereaved	7.58	5.84
Time 3		
< 2 Years Bereaved	7.49	7.31
> 2 Years Bereaved	6.35	4.79
HSC <sup>c</sup>		
Time 2		
< 2 Years Bereaved	74.34	23.90
> 2 Years Bereaved	68.87	16.83

(table continues)

	Mean	SD
Time 3		
< 2 Years Bereaved	70.71	21.03
> 2 Years Bereaved	66.31	17.10
UCLA <sup>d</sup>		
Time 2		
< 2 Years Bereaved	42.02	12.00
> 2 Years Bereaved	36.73	10.30
Time 3		
< 2 Years Bereaved	40.12	12.49
> 2 Years Bereaved	35.44	8.56
LSIZ <sup>e</sup>		
Time 2		
< 2 Years Bereaved	14.66	6.20
> 2 Years Bereaved	16.87	6.17
Time 3		
< 2 Years Bereaved	14.83	6.31
> 2 Years Bereaved	17.71	5.55
POMS <sup>f</sup>		
Time 2		
< 2 Years Bereaved	27.63	20.52
> 2 Years Bereaved	21.16	17.83

(table continues)

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	Mean	SD
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Time 3		
< 2 Years Bereaved	23.34	18.37
> 2 Years Bereaved	20.04	16.93
STRA.MO <sup>g</sup>		
Time 2		
< 2 Years Bereaved	46.88	13.34
> 2 Years Bereaved	46.42	12.93
Time 3		
< 2 Years Bereaved	46.32	12.34
> 2 Years Bereaved	45.67	13.56
CSAB <sup>h</sup>		
Time 2		
< 2 Years Bereaved	32.05	8.39
> 2 Years Bereaved	31.44	8.11
Time 3		
< 2 Years Bereaved	31.00	7.54
> 2 Years Bereaved	30.71	8.93

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<sup>a</sup>BEQ = Bereavement Experience Questionnaire; <sup>b</sup>BDI = Beck

Depression Inventory; <sup>c</sup>HSC = Hopkins Symptom Checklist;

<sup>d</sup>UCLA = U.C.L.A. Loneliness Scale; <sup>e</sup>LSIZ = Life Satisfaction

Index; <sup>f</sup>POMS = Profile of Mood States; <sup>g</sup>STRA.MO = Strategies



mobilized in response to bereavement; <sup>h</sup>CSAB = Cognitive, social, affective, and behavioral strategies mobilized in response to bereavement.

a one-way multivariate analysis of variance was used to determine the effects of the independent variable (single vs. multiple loss) on the dependent variables, including the number of reported coping strategies mobilized in response to bereavement, the number of "high level" strategies mobilized, symptoms of distress, number of bereavement difficulties, level of depression, loneliness, negative moods, and life satisfaction. Table 4 summarizes the results of that analysis. Of subjects for whom complete data was available, 45% had experienced a subsequent loss within the past two years. Contrary to expectations, however, a main effect was not found. Post hoc analysis, however, indicated univariate effects on two of six dependent variables. Subjects who had experienced multiple losses reported mobilizing more strategies in response to bereavement ( $F = 4.00$ ,  $df = 1/113$ ,  $p < .05$ ) and mobilizing more strategies that were cognitive, social, affective, and behavioral in nature ( $F = 4.13$ ,  $df = 1/113$ ,  $p < .05$ ).

To further examine the impact of multiple losses on bereavement adjustment, several exploratory post hoc analyses were conducted. A one-way multivariate analysis of variance, described above, was again used with the added dependent variables age, income, education, and length of

Table 4

Means and Standard Deviations for Multivariate Analysis of Variance for Hypothesis Six

	Mean	SD
BEQ <sup>a</sup>		
Multiple Losses	102.41	23.18
Single Loss	97.53	20.27
BDI <sup>b</sup>		
Multiple Losses	6.90	6.05
Single Loss	6.62	6.34
HSC <sup>c</sup>		
Multiple Losses	70.31	21.20
Single Loss	64.91	18.20
UCLA <sup>d</sup>		
Multiple Losses	38.35	10.27
Single Loss	36.03	11.13
LSIZ <sup>e</sup>		
Multiple Losses	9.96	5.78
Single Loss	8.18	6.26
POMS <sup>f</sup>		
Multiple Losses	22.31	17.27
Single Loss	20.12	19.14

(table continues)

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	Mean	SD
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STRA.MO <sup>g</sup>		
Multiple Losses	47.27	12.77
Single Loss	41.49	16.98
CSAB <sup>h</sup>		
Multiple Losses	31.70	7.45
Single Loss	27.94	11.23
AGE		
Multiple Losses	55.84	12.11
Single Loss	58.09	11.34
INCOME		
Multiple Losses	4.05	1.79
Single Loss	4.21	1.58
WHEN.D <sup>i</sup>		
Multiple Losses	4.84	2.71
Single Loss	4.85	2.18
EDUCATION		
Multiple Losses	2.91	1.19
Single Loss	3.04	1.24

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<sup>a</sup>BEQ = Bereavement Experience Questionnaire; <sup>b</sup>BDI = Beck Depression Inventory; <sup>c</sup>HSC = Hopkins Symptom Checklist;

<sup>d</sup>UCLA = U.C.L.A. Loneliness Scale; <sup>e</sup>LSIZ = Life Satisfaction

(table continues)

Index; <sup>f</sup>POMS = Profile of Mood States; <sup>g</sup>STRA.MO = Strategies mobilized in response to bereavement; <sup>h</sup>CSAB = Cognitive, social, affective, and behavioral strategies mobilized in response to bereavement; <sup>i</sup>WHEN.D = Length of bereavement.

time since loss. Although, as above, no main effect was found, post hoc univariate analysis indicated that on measures of bereavement difficulties, symptoms of distress, life satisfaction, negative moods, and the number of coping strategies mobilized, subjects reporting multiple losses showed significantly poorer adjustment at the .05 level than did subjects reporting a single loss. Results on measures of loneliness and the number of high level coping strategies used also approached significance (.065 and .063, respectively), in the direction predicted.

Since the variables age, income, education, and length of bereavement appeared in some way to be mediating the effects of multiple loss, additional exploratory analyses were conducted. Although, analyses which held age, income, education, and bereavement as covariates singly or in combination failed to produce main effects, some interesting univariate effects were found. When income was considered a covariate along with the other above mentioned variables, univariate effects were found at the .05 level, such that subjects reporting multiple losses demonstrated poorer adjustment on measures of bereavement difficulties, symptoms of distress, and negative moods. When income was removed as

a covariate, however, leaving age, education, and length of bereavement, those univariate effects were lost.

Hypothesis seven predicted that subjects showing higher levels of overall adjustment at times two and three, as well as those whose adjustment improved from time two to time three, would score highest on experienced competence at time three relative to other subjects who did not demonstrate higher levels of adjustment at time two or three, or whose adjustment did not improve. A one-way multivariate analysis of variance was used to determine the effects of the independent variable (level of overall adjustment) on the dependent variable of experienced competence. Overall adjustment cells in this case were defined by individuals scores above or below the median at each time of measurement, yielding four groups (low at both times of measurement, high at both times of measurement, deteriorating from high to low across time, improving from low to high across time). Results of the MANOVA, summarized in Table 5, indicated a main effect for adjustment level ( $F = 10.63$ ,  $df = 3/93$ ,  $p < .001$ ) such that subjects demonstrating higher levels of adjustment at times two and three, and subjects improving in adjustment from time two to time three showed higher scores on measures of experienced competence than did subjects demonstrating low adjustment at both times of measurement or those deteriorating over time. Results of a repeated measures analyses, however, indicated that there were no significant changes in levels of

experienced competence, or in any of the factors making up experienced competence (locus of control, self-esteem, or coping self-efficacy), between the second and third times of measurement. In other words, while success or failure in coping are associated with levels of experienced competence, success or failure do not seem to alter experienced competence in a significant way.

Table 5

Means and Standard Deviations for Scores on the Dependent Variable Experienced Competence for Hypothesis Seven

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Level of Adjustment at Times One and Two	Mean	SD
Group 1: Low to Low	182.29	27.81
Group 2: High to High	207.55	19.99
Group 3: Low to High	212.50	13.54
Group 4: High to Low	180.64	24.49

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Hypothesis eight predicted an attrition effect such that persons who dropped out of the study over time would show higher levels of overall adjustment on available measures than would those who stayed in. Differences

between dropouts and completers at each occasion on measures of bereavement adjustment difficulties, depression, loneliness, life satisfaction, psychological distress, negative mood, the number and level of coping strategies mobilized, age, education, length of time bereaved, and income were investigated utilizing stepwise discriminant function analysis. For the six-month follow-up, initial data were used; for the three-year follow-up, both initial and six-month data were used. Overall, for persons with complete data, approximately half (52%) of volunteers dropped out of the study over a three-year period. Dropout rates were somewhat higher at the three-year post-test (34%) than at the six-month post-test (18%).

For the six-month data, analyses indicated that a discriminant function, derived via a criterion of the minimization of Wilks Lambda ( $X^2_5 = 12.22$ ,  $p < .03$ ) defined in terms of the linear combination of age ( $\lambda = .972$ ,  $\underline{s} = .77$ ,  $F_{1,163} = 4.57$ ,  $p < .03$ ), length of time bereaved ( $\lambda = .947$ ,  $\underline{s} = -.56$ ,  $F_{2,162} = 4.50$ ,  $p < .01$ ), life satisfaction ( $\lambda = .940$ ,  $\underline{s} = .54$ ,  $F_{3,161} = 3.44$ ,  $p < .02$ ), depression ( $\lambda = .932$ ,  $\underline{s} = .54$ ,  $F_{4,160} = 2.89$ ,  $p < .03$ ), and psychological distress ( $\lambda = .926$ ,  $\underline{s} = .45$ ,  $F_{5,159} = 2.51$ ,  $p < .03$ ) could differentiate drop-outs from completers. Completers had been depressed, had experienced more psychological distress, had been more recently bereaved, and were older than drop-outs.

For the three-year data, analyses indicated that a discriminant function ( $X^2_6 = 15.21, p < .02$ ) defined in terms of the linear combination of age ( $\lambda = .955, \underline{s} = .86, F_{1,129} = 2.95, p < .05$ ), length of time bereaved ( $\lambda = .934, \underline{s} = -.60, F_{2,128} = 2.95, p < .03$ ), level of education ( $\lambda = .914, \underline{s} = .46, F_{3,127} = 2.98, p < .02$ ), six-month mood scores ( $\lambda = .903, \underline{s} = .44, F_{4,126} = 2.68, p < .03$ ), initial depression scores ( $\lambda = .889, \underline{s} = -.71, F_{5,125} = 2.59, p < .02$ ), and initial bereavement adjustment ( $\lambda = .880, \underline{s} = .55, F_{6,124} = 2.40, p < .03$ ) could differentiate dropouts and completers. At three years, completers were older, had originally experienced more bereavement adjustment difficulties, were originally less depressed, had experienced more negative mood states two and one-half years earlier, were more highly educated, and had been bereaved for less time. Thus, hypothesis eight was partially supported.

As a further test of Allen's model of bereavement, and in an effort to examine the relative importance of certain demographic variables in predicting long-term adjustment to bereavement, three separate regression analyses were conducted. Table 6 represents the results of these analyses. The first stepwise regression analyses was conducted with overall adjustment at the six-month follow-up as the dependent variable. An overall adjustment score was obtained by summing the scores on the adjustment measures, including the Revised UCLA Loneliness Scale, the Profile of Mood States, the Life Satisfaction Index-Z, the Hopkins



Symptoms Checklist, the Beck Depression Inventory, and the Bereavement Experience Questionnaire. Independent variables included initial (time one) scores on experienced competence, impact of loss, and perceived resources, as well as length of bereavement, health, income, age, and education. Four variables were found to account for a significant proportion of the variance with regard to adjustment at time two. These variables were experienced competence (Beta =  $-.276$ ,  $p < .001$ ), impact of loss (Beta =  $.339$ ,  $p < .001$ ), perceived resources (Beta =  $-.309$ ,  $p < .001$ ), and income (Beta =  $.154$ ,  $p < .05$ ). Together, these variables accounted for 40% of the variance in adjustment at time two ( $F = 22.33$ ,  $df = 4/126$ ,  $p < .001$ ).

The second stepwise regression analysis was conducted with overall adjustment at time three as the dependent variable. Independent variables again included initial (time one) scores on experienced competence, impact of loss, and perceived resources, as well as length of bereavement, health, income, age, and education. Two variables were found to account for a significant proportion of the variance (29% of variance;  $F = 19.6$ ,  $df = 2/90$ ,  $p < .001$ ). Those variables were perceived resources (Beta =  $-.462$ ,  $p < .001$ ) and impact of loss (Beta =  $.278$ ,  $p < .005$ ).

A third stepwise regression analysis was also conducted with overall adjustment at time three as the dependent variable. As before, health, age, income, education, and

Table 6

Regression Analyses of Overall Adjustment Scores at Time Two  
and Time Three

Dependent Variable	Predictors <sup>a</sup>	F <sup>b</sup>	B <sup>c</sup>	b <sup>d</sup>	R <sup>2e</sup>
Adjustment at Time Two	Experienced Competence (Time 1)	36.95*	-.76	-.28	.22
	Impact of Loss (Time 1)	33.83*	1.56	.34	.34
	Perceived Resources (Time 1)	27.53*	-1.12	-.31	.38
	Income (Time 1)	22.33***	6.10	.15	.40
Adjustment at Time Three	Perceived Resources (Time 1)	26.65*	-1.59	-.46	.22
	Impact of Loss (Time 1)	19.60**	1.16	.28	.29
Adjustment at Time Three	Perceived Resources (Time 2)	7.20***	-1.63	-.61	.32

<sup>a</sup>Stepwise regression method.

<sup>b</sup>F value for B.

<sup>c</sup>unstandardized regression coefficient (B).

<sup>d</sup>standardized regression coefficient (b).

<sup>e</sup>adjusted R<sup>2</sup>

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

length of bereavement were included as independent variables. Three additional independent variables included scores at time two on measures of experienced competence, impact of loss, and perceived resources. Initial scores on these three variables were not included, as they were examined in the previous regression analysis. Only one variable, perceived resources (Beta =  $-.612$ ,  $p < .05$ ), was found to account for a significant proportion of the variance (32% of variance;  $F = 7.20$ ,  $df = 1/12$ ,  $p < .05$ ).

## CHAPTER IV

### DISCUSSION

The purpose of the present study was to utilize a longitudinal design to explore the long-term impact of bereavement. In particular, this study used an empirically based model of bereavement, developed by Allen (1990), to test several hypothesis derived from the bereavement literature as they apply to the long-term adjustment to bereavement. According to Allen's model, the impact of the loss is the true bereavement problem, and the solution depends upon active coping derived from a sense of experienced competence. The success or failure of coping efforts will depend, in part, upon the resources perceived to be available to the bereaved individual.

#### Hypothesis 1

Based on Allen's model, the first hypothesis with regard to the present study predicted main effects for each of the three independent variables, experienced competence, perceived resources, and impact of loss. It was expected that subjects with high levels of experienced competence, subjects with high levels of perceived resources, and subjects with low levels of impact of loss would show higher overall levels of adjustment in response to bereavement than

would subjects with lower levels of experienced competence, subjects with lower levels of perceived resources, and subjects with higher levels of impact of loss.

#### Experienced Competence

The concept of experienced competence is derived from findings in the literature concerning locus of control, coping self-efficacy, learned helplessness, and self esteem. It is generally acknowledged that the greater sense of control and confidence one has in one's ability to cope with difficult situations, the more successful will be one's attempts to adjust to traumatic life events, such as the death of a loved one (Lund, et al., 1989). In keeping with these findings, a highly significant main effect for experienced competence was found. Subjects high in experienced competence reported less depression, fewer bereavement adjustment difficulties, fewer symptoms of distress, less loneliness, higher levels of life satisfaction, and fewer negative moods at all three times of measurement, than did subjects low in experienced competence. Thus subjects who presumably had a greater sense of control and confidence did appear to show higher levels of overall adjustment.

This finding is especially significant with regard to the relationship between locus of control and coping ability. It has been argued, that there are two possible predictions that could be made with regard to locus of

control and coping (Stroebe & Stroebe, 1987). One is that persons with an internal locus of control will experience more distress when faced with uncontrollable events, because their basic beliefs in their own control over events will have been violated (Pittman & Pittman, 1979). The second is that individuals with an external locus of control, those who already believe themselves to be helpless, will suffer more when confronted with uncontrollable events, because they will respond with resignation and depression, the results of learned helplessness, and will make only feeble attempts to recover (Ganellen & Blaney, 1984; Johnson & Saranson, 1978). It is this latter prediction that is supported by the present finding that high levels of experienced competence are related to better overall adjustment in a bereaved population. Subjects with lower levels of experienced competence, those who, perhaps, believed they had little control or coping ability, responded to bereavement with higher levels of depression, and poorer overall coping.

This is in keeping with research on the concept of self-efficacy. According to Bandura (1986), self-efficacy is defined as "people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has, but with judgements of what one can do with whatever skills one possesses" (p. 391). In other

words, a widowed individual, with low self-efficacy, when faced with the tasks of bereavement will perceive him or herself as unable to cope despite the skills and/or resources that are realistically available. According to Bandura, the stronger an individual's self-efficacy, the more vigorously and persistently will they make efforts to cope. On the other hand, individuals low in self-efficacy will give up easily in the face of challenge. Since sustained effort is more likely to lead to success, it is not surprising that high self-efficacy subjects in the present study fared better than did self-doubting subjects.

It is especially important to note that these findings held true over all three times of measurement. Experienced competence was important to adjustment both in the early phases of bereavement and the latter ones, and its importance did not diminish over time. Subjects high in experienced competence at time one continued to show better adjustment six months, and even three years later, as compared to those low in experienced competence. Thus, it appears that the greater sense of control and confidence one has in one's ability to cope with bereavement, the more positive will be one's overall, long-term adjustment to loss.

### Impact of Loss

According to Allen's (1990) model of bereavement, the true bereavement problem derives from the impact of the loss on the bereaved individual's life. The loss of a loved one presents the bereaved with a radically altered assumptive world, as well as with the removal of a major source of reinforcement (Parkes, 1962, 1972, 1975). The impact of these changes will depend upon the combined influences of the degree of life change experienced, the centrality of the relationship, the perceived preventability of the death, and whether the loss had been anticipated. It was expected, then, that subjects for whom the loss impact was greater would face a greater bereavement task and would show poorer overall adjustment. Results supported this expectation. Subjects high in impact of loss showed higher levels of depression, more bereavement adjustment difficulties, more symptoms of distress, greater loneliness, lower levels of life satisfaction, and more negative moods as compared to subjects low in impact of loss. Thus, when a loss is less impactful, and the assumptive world is less radically changed, bereaved individuals are able to adjust more easily than are those for whom the impact is greater.

An additional post hoc finding which further supports the notion that greater impact presents a more challenging bereavement task is that subjects high in impact of loss reported mobilizing more coping strategies in response to



bereavement and mobilizing more strategies which were of a higher level (i.e., cognitive, social, affective, and behavioral). It seems that, in response to the challenges that an impactful loss presents, bereaved individuals are likely to use a number of strategies in an attempt to cope with their altered assumptive world. The more difficult the task, the more strategies they mobilize. Despite their obvious attempts to cope, however, bereaved individuals facing an impactful loss still fare worse in overall adjustment than do those for whom the bereavement task is less challenging.

It is important to note, that the impact of the loss is predictive of bereavement adjustment both in the short term and in the long term. As would be expected, subjects experiencing a highly impactful loss fared worse shortly following the death than did subjects experiencing a less impactful loss. Furthermore, those highly impacted subjects continued to show lower overall adjustment even many years after the loss, as compared to subjects for whom the impact was not a great.

#### Perceived Resources

Allen's (1990) model predicts that not only will the impact of the loss and the bereaved individual's sense of coping competence influence adjustment to bereavement, but that the resources perceived by the bereaved individual to be available to him or her will also play an important role.

It was, therefore, predicted that individuals higher in perceived resources would show higher levels of overall adjustment than would subjects lower in perceived resources. Results supported this prediction. Subjects higher in perceived resources reported less depression, fewer symptoms of distress, less loneliness, higher levels of life satisfaction, and fewer negative moods, as compared to subjects low in perceived resources. There was also a nonsignificant tendency for subjects high in perceived resources to report fewer bereavement adjustment difficulties than subjects low in perceived resources.

Importantly, perceived resources at the time of loss appears to be an powerful factor in both long- and short-term bereavement adjustment. Subjects low in perceived resources showed poorer adjustment both early in the bereavement process, and many years after the loss, as compared with subjects high in perceived resources. Like experienced competence and impact of loss, perceived resources seem to play an important predictive role in the long-term adjustment to bereavement.

As predicted in hypothesis one, main effects were found with regard to overall adjustment on all three variables of interest; experienced competence, impact of loss, and perceived resources. Furthermore, these findings held true across three times of measurement spanning three years and including periods of bereavement ranging from several months

to greater than seven years duration, thus supporting the contention that Allen's (1990) model is a viable framework for long-term, longitudinal research.

#### Hypothesis 2

The second hypothesis of the present study predicted a main effect for experienced competence with regard to the number and level of coping strategies mobilized in response to bereavement. The literature on learned helplessness, self-esteem, and locus of control would seem to suggest that subjects low in experienced competence, and thus less confident in their ability to influence their own bereavement adjustment, would be less motivated to make use of available resources in response to loss. According to Bandura (1982), "when beset with difficulties, people who entertain serious doubts about their capabilities slacken their efforts or give up altogether, whereas those who have a strong sense of efficacy exert greater effort to master challenges" (p. 123). Thus, it might be expected that subjects low in experienced competence would report mobilizing fewer coping strategies in response to bereavement, and that those strategies that were mobilized would be of a lower level (i.e., less active).

Results of the present study, however, did not support this hypothesis. There were no significant differences between subjects high in experienced competence and subjects low in experienced competence in the number and/or level of

coping strategies mobilized. Both groups tended to report having tried a variety of coping techniques, a number of which were considered high level strategies (cognitive, social, affective, and behavioral). Thus despite their feelings of helplessness, it appears that low competence subjects do at least attempt to cope in ways quite similar to high competence subjects, and in addition, they are equally active in their attempts to cope.

It was expected that subjects high in experienced competence would report mobilizing more coping strategies, and more high level strategies, than would subjects low in experienced competence, thus contributing to their better adjustment to bereavement. The fact that such a difference was not found, then, was surprising, but could be attributable to the unique situation of bereavement itself. It is possible that individuals coping with the circumstances of loss are not good judges of what coping strategies will be most helpful. Bereavement presents a completely unique challenge for which people are at best poorly prepared. Especially in the case of conjugal loss, the bereaved person is likely to be isolated and lacking in feedback about coping attempts. In most situations where coping is required, competent individuals may be better able to judge which strategies will be most effective. They may receive feedback from their environment, or may have some experience in coping with similar situations. Thus,

believing that they can cope, and having at least a general idea of how to do so, their methods of coping and their activeness in using those methods might differ from those of low competence individuals. However, when faced with the uniquely challenging tasks of bereavement, and especially when the loss has had a large impact on the bereaved person's life, competent individuals are at as much of a loss in how to cope as are low competent subjects. Their attempts to cope are, quantitatively, no different than those of low competence subjects as they attempt a variety of strategies, both helpful and unhelpful.

The attempts of low competence individuals, however, although quantitatively similar to those of high competence subjects, do not appear to be as effective in influencing adjustment. As mentioned earlier, subjects high in experienced competence showed better overall adjustment at all three times of measurement than did subjects low in experienced competence. Thus, although the strategies used by both groups appear to be similar, high competence individuals are more successful in using those strategies to cope with bereavement. The reasons behind this difference are not clear from this study, however, it is possible that although subjects low in experienced competence attempted to mobilize effective coping strategies, their belief in their own helplessness prevented them from exerting the effort necessary to make those strategies work.

It seems, then, that level of experienced competence, while highly predictive of bereavement adjustment, is not sufficient to predict the number and level of coping strategies mobilized in response to bereavement. As mentioned earlier, however, the impact of the loss does appear to be predictive of coping strategy mobilization. Subjects high in impact of loss, and presumably facing a greater bereavement task, tend to use a greater number of, as well as higher level, coping strategies in response to bereavement. Thus, while the difficulty of the bereavement task, as measured by loss impact, tends to strongly influence the bereaved individual's choice of coping strategies, experienced competence seems influential in determining the success of those strategies.

### Hypothesis 3

The third hypothesis predicted an interaction effect such that subjects high in experienced competence, high in perceived resources, and low in impact of loss, in combination, would show better overall adjustment than would all other subjects. It was expected, based on Allen's (1990) bereavement model, that the variables experienced competence, perceived resources, and impact of loss would work in combination to predict subsequent adjustment to loss. No significant interaction was found, in part due to a lack of statistical power associated with small cell sizes. Instead, results seem to indicate that each variable

alone is sufficient to predict bereavement adjustment. In other words, subjects for whom the impact of the loss was low fared better than those for whom the impact was high regardless of their status with regard to perceived resources and/or experienced competence. Similarly, subjects with a strong sense of experienced competence adjusted better to bereavement than those with a lower sense of competence despite differences in impact of loss and perceived resources. A strength in one of these variables seems to eliminate the need for strength in the other two. Therefore, the influence of the variables is additive rather than multiplicative. This suggests that although the variables are qualitatively different, their effects are quantitatively equal.

It is also likely that strength in one variable influences the strength of the other two. It seems intuitively sound that subjects who perceived themselves as competent and in control will also perceive their available resources in a positive light. Similarly, subjects who perceive their resources to be high and who feel more competent and in control may suffer less impact of the loss since they can rely on themselves, and not solely on the deceased, for support and reinforcement. In fact, correlations conducted for the present study's regression analyses indicated a moderate correlation between perceived resources and experienced competence, offering more support

The fourth hypothesis predicted a main effect for time, such that subjects in general, were expected to show higher overall levels of adjustment at the second time of measurement than at the first, and at the third time of measurement than at the second. Furthermore, the greatest improvement in adjustment over time was expected for those who were well adjusted at both times one and two, and for those who improved from time one to time two. As expected, improvement in adjustment was found, both at time two and at time three, indicating that consistent improvement does occur over time.

Significant improvement was not found, however, on all measures of adjustment. Although post hoc univariate analysis indicated significant improvement over time in such specific, bereavement related areas as bereavement adjustment difficulties, symptoms of distress, and loneliness, more broad measures of adjustment, such as depression, mood, and life satisfaction, tended to remain relatively stable across time. It is not enough, then, to utilize only broad measures of adjustment when examining the long-term impact of loss. Instead, more specific, bereavement related measures must be used to get an accurate picture of the effects of bereavement.

One problem with the present study lies in the fact that adjustment prior to the loss was not examined. It is, therefore, unknown as to the extent of impact that bereavement has on broad measures, such as depression, mood,



and life satisfaction. However, it does appear that for bereaved individuals, the passage of time does lead to better adjustment in the areas of bereavement adjustment difficulties, symptoms of distress, and loneliness.

It is interesting to note that Allen (1990) found results contrary to these when examining the improvement of subjects across six months. In examining the same subject pool as was used in the present study, Allen reported an increase from time one to time two in bereavement adjustment difficulties. No improvements were reported on any measures of adjustment. Thus, contrary to expectations, subjects in Allen's study appeared to get worse over time, not better. There are several possible explanations for these contradictory results. One is based on the idea that recovery from bereavement is not a smooth, unidirectional progression. Rather, as Allen contends, "there may be periods of increased despair at certain points along the way to recovery" (p. 140). Since, on average, subjects were two to four years post-loss, at the second time of measurement, it is possible that those subjects who deteriorated were merely experiencing a temporary set-back or were engaging in active grief work, which increased their distress. This would support Stroebe & Stroebe's (1987) finding that during the despair stage of bereavement, which precedes recovery and restitution, bereaved individuals are often heard to say that "it gets worse before it gets better" (p.14).

Another possible explanation for the apparent deterioration across time found by Allen (1990), and one that is supported by the present study, is that through attrition, a selection bias affected results, such that subjects who were better adjusted tended to drop out of the study between times one and two, leaving a less well adjusted sample at time two. Thus, rather than true deterioration, it is possible that Allen's results are due to attrition. As will be discussed in detail later, the present study examined attrition and its possible biasing effects. Results of discriminant function analysis indicated that subjects who remained in the study at time two had been bereaved for a shorter period of time than subjects who dropped out. Consistent with the literature (Stroebe, et al., 1988; Thompson, et al., 1989) and with results of the present study, which will be discussed in detail later, bereavement adjustment tends to be lower among the recently bereaved, as compared to those less recently bereaved. Due to this factor, the sample at time two would include fewer individuals with high overall adjustment. Furthermore, subjects who remained in the study at time two were found to show more depression and symptoms of distress at time one than were subjects who dropped out of the study. Thus, subjects who dropped out of the study at time two were, in general, better adjusted than those who stayed in. It is quite possible that this attrition effect, and not deterioration in functioning, accounts for Allen's results.

It would seem likely, since the present study and Allen's study began with the identical sample, that a "deteriorating" effect would also be found in our results. As indicated earlier, however, this was not the case. Subjects in the present study showed improvement not only at time three, but also at time two. The reasons for this contradictory finding, given the use of the same initial sample, are not entirely clear. One explanation, however, seems particularly plausible, and is, again, based on the selection bias caused by attrition.

The present study examined the same data used by Allen in her analysis. Subjects in her study returned questionnaires at time one and again six months later. In the interim, she lost 18% of her sample to selective attrition, thus accounting for the apparent drop in adjustment over time. The sample of remaining subjects were then asked to answer questionnaires, three years later, for the present study. At that time, another 33% of subjects dropped out for a total attrition rate of 48%. Subjects remaining in the study after the second time of measurement had been bereaved more recently, and were, for the most part, less well adjusted initially than were those who dropped out. Thus, the sample of subjects completing all three times of measurement, which was examined in the present study, was highly selected. Subjects in this sample, those who completed all three times of measurement, consisted of those subjects who reported the lowest

adjustment in the initial phase of the study. The present sample, then, had even lower overall adjustment at time one than did the sample examined by Allen. It might follow, that the present sample had nowhere to go but up. In other words, this select group of subjects being less well adjusted and having been more recently bereaved, had more room to improve than did Allen's less selected group. Furthermore, given the greater extremes created by attrition, some regression toward the mean might have occurred. As expected, subjects did improve both six months and three years after the initial time of testing.

These findings support reports in the literature that even people who experience high levels of distress early in the bereavement process show improvement in functioning with the passage of time (Faletti, et al., 1989; McCrae & Costa, 1988; Van Zandt, et al., 1989; Stroebe, et al., 1988; Thompson, et al., 1989). As indicated earlier, however, this improvement may be more apparent on specific, bereavement related measures as opposed to more broad-based measures of adjustment. Subjects in the present study did not show significant improvement over time on such measures as depression, mood, and life satisfaction.

These findings are also consistent with some research which suggests that although most bereaved individuals do improve in adjustment over time, some areas of their lives may continue to be affected by the loss for many years (Lund, et al., 1989). As Freud (1929/1961) wrote, following

the death of his daughter, "although we know that after such a loss the acute stage of mourning will subside, we also know we shall remain inconsolable and will never find a substitute."

A caution should be noted when interpreting these results. Since no baseline measures were obtained prior to the onset of bereavement, it is difficult to determine with certainty whether the measures of depression, mood, and life-satisfaction remained stable both prior to and following the loss, or whether they were altered by bereavement and were unchanged with time.

The second part of hypothesis four predicted that the highest adjustment at time three would be found among those who had shown high adjustment at times one and two, and those whose adjustment had improved from time one to time two. It was expected that subjects' early attempts at coping would influence later coping, such that those who had experienced success in adjusting to loss would continue to show improved adjustment, while those who had struggled less successfully would continue to show poor adjustment. These expectations were only partially supported. Although there appeared to be a trend for subjects remaining highly adjusted or improving from time one to two to show continued high adjustment at time three, that trend only approached significance. On the other hand, subjects demonstrating consistently poor adjustment from time one to time two, did continue to show significantly poor adjustment at time three

on measures of loneliness, bereavement adjustment difficulties, mood, and life satisfaction, as compared to all other subjects. In other words, subjects whose attempts to cope had failed early on did not seem to make up those differences with the passage of time. This finding is consistent with reports in the literature that a substantial minority of individuals continue to exhibit distress over loss long after the death (Lund, 1989; Parkes & Weiss, 1983; Vachon, Rogers, et al., 1982; Vachon, Sheldon, et al., 1982; Zisook & Schuchter, 1986). An interesting post hoc finding was that subjects who deteriorated from high adjustment at time one to low adjustment at time two, were no more likely to show poor adjustment at time three than were subjects who maintained high adjustment or improved over the first phase of the study. In other words, it appears that if initial adjustment to loss is good, long-term adjustment is likely to be high, despite intervening setbacks. It appears then, that while for some individuals, bereavement may take a relatively smooth course, improving from lower to higher adjustment with the passage of time, this is by no means the only course towards recovery. There are, in fact, interindividual differences in adjustment. Consistent with findings by Osterweis, et al. (1984) and Lund (1989), the present study suggests that bereavement adjustment occurs, not in fixed, rigid stages, but rather as a fluid, non-linear process. Over time, the bereaved individual may make gains in some areas, while experiencing setbacks in others.

And while, for the vast majority substantial improvement in adjustment may be expected in the years following the loss, for some adjustment may remain poor for many years.

#### Hypothesis 5

The fifth hypothesis predicted that subjects who had been bereaved for less time at the second time of measurement (less than two years) would show more improvement in levels of overall adjustment from time two to time three than would subjects who had been bereaved for more than two years at the second time of measurement. In other words, it was expected that subjects in the first two years of loss would still be in the process of adjusting to their loss, but in the next two-and-a-half years, would show significant improvement in adjustment. On the other hand, subjects bereaved more than two years were expected to have made substantial improvements prior to the point of testing and to demonstrate a "leveling off" in improvement over the two-and-a-half year time period.

Results of the present study did not support this hypothesis. The degree of improvement did not vary based on the number of years since the loss. Subjects bereaved for more than two years, contrary to predictions, continued to show significant improvement in functioning between time two and three. Their gains had apparently not "levelled off", but rather they continued to improve even many years after bereavement.

In addition, post hoc analysis indicated that although rates of improvement did not vary based on the length of bereavement, actual levels of bereavement did vary. Subjects who had been bereaved for a longer period of time demonstrated better adjustment at times two and three than those who had been bereaved for less than two years, on measures of bereavement adjustment difficulties, loneliness, and life satisfaction. Thus, although individuals bereaved for a longer period of time had achieved higher levels of adjustment than had those who had been at the bereavement task for less time, longer term bereaved subjects were still in the process of adjusting. The idea, then, that bereavement and the adjustment it involves should be completed within a year or two (Lindemann, 1944; Faletti, et al., 1989) did not find support in the present study. Rather, while it appears that there is a trend toward greater adjustment with the passage of time, it is also evident that, in some areas at least, the process of adjustment lasts for many years. These findings are consistent with other findings in the bereavement literature. For example, Parkes and Weiss (1983) studied a sample of bereaved individuals and found that more than 40% were judged by trained interviewers to be exhibiting moderate to severe anxiety two to four years after the loss of a spouse. Similarly, Lund, et al. (1989), conducted a two year longitudinal study and found that while there was a marked decrease in depression over time at two years



following loss, depression levels of the bereaved still exceeded those of the non-bereaved. Moreover, Sable (1991) found that bereavement over the loss of a spouse lasts much longer than was once believed. The majority of elderly widows that she interviewed reported believing that they would never get over their loss, but would simply learn to live with it.

Again, results of the present study tend to argue against the view of bereavement as a short-term, linear process which culminates in a rapid return to baseline adjustment. Instead, it appears that adjustment to loss is a process involving gains and losses in many aspects of adjustment, and one which may continue for many years.

It must be noted that selective attrition may have created a bias in these results. As mentioned earlier, subjects dropping out of the study over time tended to be those who were more well adjusted and who had been bereaved for longer periods of time. Perhaps, had those subjects remained in the study, more of a "leveling off" effect would have been found.

#### Hypothesis 6

The sixth hypothesis predicted that subjects who experienced a subsequent loss or losses in the years following the original loss would show lower levels of adjustment at the third time of measurement as compared with subjects who did not experience a subsequent loss. The stress model of bereavement contends that stress results

when demands exceed an individual's ability to meet those demands. The loss of a loved one has long been considered a highly stressful life event in which one is forced to adapt to a significantly altered assumptive world. Not surprisingly, an assessment tool developed by Holmes and Rahe (1967) for measuring stressful life events ranked the death of a spouse as first on the list and the death of a close family member as fifth. It seems, then, that subsequent losses would contribute to the amount of disruption and stress experienced and would negatively impact adjustment. In keeping with this assumption, Kastenbaum (1977) contends that multiple losses of significant loved ones within a relatively brief period of time may lead to bereavement overload. Similarly, Freed (1987) found that older women who experience multiple losses tend to feel overwhelmed, and to exhibit symptoms of hypochondriasis, anxiety, and depression. It seems, then, multiple losses would create a more difficult task, and thus would result in lower overall adjustment among bereaved individuals.

Contrary to expectations, the predicted main effect was not found. Subjects experiencing multiple losses were no more likely to show poorer overall adjustment than were subjects experiencing one loss alone. One possible reason for this surprising finding is that multiple losses were assessed three years after the initial phase of the study. At the third time of measurement, subjects were asked

whether they had experienced the death of another loved one in the past two years. At that time, all subjects had been bereaved for at least three years and most had been bereaved between four and five years. Perhaps, then, the new losses did not occur close enough in time to the original loss to add significant stress and inhibit functioning. Subjects had had sufficient time to adjust somewhat to the initial loss, and to regroup their resources. They were, therefore, better equipped to cope with the new loss than they might have been had the losses occurred closer together in time.

Another possibility is that subjects experiencing a second loss have yet to deal with the new loss as they are still actively coping with the original bereavement situation. Perhaps, rather than creating significantly more current distress, the second loss will instead increase the duration of bereavement distress. As the subject moves on from the consequences of the first loss to respond to the second loss, bereavement may be dragged out over a longer period of time. Similarly, subjects may "put off" coping with the second loss while in the midst of grieving for the original lost loved one. With the passage of time, the new loss may become more prominent and may more strongly influence adjustment. An examination of multiple-loss subjects several years following the second loss might be beneficial in discerning these long-range effects.

It is also possible that subjects experiencing multiple losses, have learned from the original loss how to cope with

the stress of bereavement. This prior learning may give them an advantage and allow them to more effectively adjust to the subsequent loss without significantly interfering with their current adjustment. Similarly, it is possible that the second loss may have mobilized bereaved subjects to get the help they needed, or to make active coping attempts in response to the increased burden. Thus, any additional negative effects brought about by the second loss were undermined or eliminated by the increased coping efforts. Some indirect evidence for this was found in post hoc analysis, in that subjects experiencing multiple losses did report mobilizing more strategies in response to bereavement and more strategies that were cognitive, behavioral, affective, and social in nature, than did subjects experiencing a single loss. Although this is a post hoc finding, and should be interpreted with caution, it seems to suggest that multiple losses do indeed create a greater bereavement task to which bereaved individuals respond with increased active coping strategies. It is quite possible that it is this increased coping activity which accounts for the minimal impact of multiple loss on subsequent adjustment.

A final possibility is that those subjects who were most negatively impacted by a subsequent loss dropped out of the study before the third time of measurement. Perhaps subjects in the midst of coping with a second, devastating loss were too distressed or were otherwise unwilling to

continue participation in the final phase of the study. Since multiple loss was assessed only at the third time of measurement, it was impossible to determine whether subsequent losses predicted subject drop-out. However, the possibility remains that selective attrition may have eliminated significant effects for multiple loss in the present study.

Very little systematic research has examined the impact of multiple losses on bereavement adjustment. In an attempt to further explore the issue of multiple loss, several post hoc analyses were conducted using demographic data in addition to measures of coping and adjustment. Although no main effects were found regarding such variables as age, education, income, and length of bereavement, when those variables were utilized as covariates, some interesting univariate effects were found. A multivariate analyses of covariance with age, income, education, and length of bereavement as covariates produced no main effects for multiple loss with regard to overall adjustment. However, significant univariate effects were found at the .05 level, such that subjects reporting multiple losses showed poorer adjustment on measures of bereavement difficulties, symptoms of distress, and negative moods, than did subjects experiencing a single loss, controlling for the above variables. Other analyses of covariance with the above covariates, singly or in combination, produced similar effects. However, when income was removed as a covariate,

those effects were lost. It seems, then, that income, in particular, may play a role in mediating the effects of multiple losses on adjustment.

These findings, intuitively, make sense. An individual's income may affect, in important ways, the variables found to be associated with positive bereavement adjustment. For example, a person with an inadequate income may, realistically, perceive his or her resources as lacking. A low level of perceived resources has been shown to be sufficient to predict poorer bereavement adjustment. Similarly, a low income, especially in our society, may create within the individual a low self-esteem and a sense of helplessness in coping with everyday demands. As with a lack of perceived resources, a lack of experienced competence can significantly impact bereavement adjustment in a negative direction. Finally, income may be related to the impact of the loss in various ways. If the lost loved one was the primary wage earner, the death might significantly lower income causing a great deal of life change. The loss of income created by the death might force the survivor to relocate, give up activities which were central to social and emotional support, or take on work to supplement the lost income. In fact, some indirect support for the influence of income was found in correlations conducted during an exploratory regression analysis. A moderate negative correlation was found between income and the impact of the loss (-.59). More impactful losses, in

part defined by the degree of life change with which they are associated, tend to result in poorer overall bereavement adjustment. Thus, it is not surprising that income seems to mediate the effects of loss on adjustment. Perhaps, had the effects of income been controlled, multiple losses would have been more influential in predicting adjustment.

It should be mentioned that these results are post-hoc and exploratory, and thus, must be interpreted with caution. However, they do seem to point to a possibility, supported by other research (Atchley, 1975; Glick, Weiss, & Parkes, 1974; Morgan, 1976; Sanders, 1989) and by the regression analyses conducted for the present study (to be discussed later), that low income, while not causally related to bereavement adjustment, may add to the burden experienced by survivors of loss.

It seems then, that losses occurring a year or more after the original loss, while resulting in an increase in the number and level of coping strategies mobilized, have little effect on overall bereavement adjustment. However, it is possible that when differences in income are controlled, when selective attrition is examined, or when longer term analyses is conducted, the negative impact of multiple loss may become more evident.

#### Hypothesis 7

The seventh hypothesis predicted that subjects showing higher levels of overall adjustment at the second and third time of measurement, as well as subjects who improved in

adjustment, would score highest on experienced competence at time three relative to other subjects who did not demonstrate higher levels of adjustment at times two or three. According to Bandura (1986), an individual's sense of self-efficacy both impacts and is impacted by success or failure in meeting challenges. "Successes raise efficacy appraisals; repeated failures lower them...." (p. 399). In other words, it might be predicted that individual's who succeed in the difficult task of adjusting to loss add that successful experience to their self-appraisal, thus enhancing their self-esteem. On the other hand, subjects who fail to adjust to loss, despite effortful attempts to cope, might lower their self-efficacy appraisals in light of this new experience.

In a similar vein, coping success or failure may impact not only efficacy, or one's sense of capability, but also one's self-value or esteem. Individuals coping well with bereavement might be expected to raise their self-esteem and perceive themselves more positively in light of their obvious ability to handle challenges. Some recent research has provided initial support for this idea. Johnson, Lund, & Dimond (1987) found that among their bereaved subjects, failure to cope effectively with bereavement served to lower self-esteem. It was predicted, then that experienced competence, which is derived from the combined influences of self-esteem, locus of control, and coping self-efficacy, would be similarly affected by the success or failure of



coping efforts. Results of the present study, however, did not completely support that prediction.

As predicted, it was found that subjects who showed good adjustment or improved in adjustment did have higher levels of experienced competence at the third time of measurement. In other words, successful copers made positive self-attributions in light of their success. Similarly, those subjects who showed poor adjustment or who declined in adjustment over time, reported lower levels of experienced competence. Poor copers made negative self-attributions in light of their lack of success. Thus, the hypothesis was partially supported.

On closer examination, however, it appears that success or failure at coping did not significantly impact change in levels of experienced competence. In fact, following bereavement experienced competence tended to remain stable across time, with subjects high in competence at time one remaining high at time three, and subjects low at time one remaining low at time three. Coping success or failure, while possibly reinforcing initial beliefs about control and competence, does not seem to alter those beliefs to a significant extent. Of course, for the present study, measures of competence were obtained following the death of a loved one. It remains unknown, therefore, whether competence levels were changed by the loss itself, or whether they remained stable despite the onset of bereavement.

Some research has indicated that personality traits such as self-esteem and self-efficacy tend to remain relatively stable across the life span (Costa & McCrae, 1983). It is possible, then, that subjects who adjusted poorly did so, in part, due to their already low competence. That low competence was then reinforced by their poor coping resulting in a stable self-appraisal. Again, instead of altering experienced competence, success or failure at coping with bereavement seems to reinforce existing competence appraisals.

#### Hypothesis 8

The eighth hypothesis predicted an attrition effect, such that persons who dropped out of the study over time would show higher levels of overall adjustment on available measures than would those who stayed in. Very few longitudinal research studies have addressed the issue of selective attrition, and what information is available regarding characteristics of drop-outs versus completers is scarce and inconsistent. Those researchers who have addressed the attrition issue have found no differences between completers and drop-outs on measures of health (Stroebe & Stroebe, 1988), sociodemographics (Faletti, et al., 1989), and subjective well-being (Lund, et al., 1989). Nevertheless, the possible biasing effects of attrition have only begun to be examined, and differences between drop-outs and completers in bereavement research are still relatively unknown.

The present study hypothesized that subjects who have adjusted well to bereavement would be more likely to drop out of research than would those who were in need of continued support or some external measure of their own adjustment. It was predicted that those subjects having less confidence in their own ability to monitor their progress through bereavement would rely on answering questionnaires to receive confirmation about their level of coping. Thus, the present sample would be biased toward less highly adjusted subjects as the study progressed. Results tended to support this hypothesis.

Of the 165 subjects initially entering the study, 31 (18%) had dropped out by the six-month follow-up. Three years later, at the final follow-up, of the 131 for whom there was complete six-month data, 45 (34%) had dropped out. Overall, for persons with complete data, approximately half (52%) of volunteers dropped out of the study over the three year period. These drop-out rates are similar to those reported by other researchers (Gilewski, et al., 1991; Futterman, et al., 1991; Stroebe, et al., 1988).

When examining differences between, dropouts and completers at the six-month follow-up, it was found that subjects dropping out of the study had reported less depression, fewer symptoms of psychological distress, and higher life-satisfaction at initial testing than had subjects completing the six month follow-up. Furthermore, completers at six-months tended to be older and to have been

bereaved for a shorter period of time. As noted earlier, the present study found that subjects bereaved for less time tend to be less well adjusted than those bereaved for longer periods of time. It appears, then, that subjects completing the six-month follow-up tended to be those who had initially been more depressed to report more symptoms of distress, to show lower life-satisfaction, and to be in the earlier phase of adjustment to loss. Those who dropped out were further along in the adjustment process, and were exhibiting fewer negative bereavement effects. Presumably, for these individuals, the loss of their loved one had become less consuming and the need to focus on that loss through research participation less salient. The sample in the present study, at the second time of measurement, was, as predicted, biased toward poorer adjustment, especially on measures of depression, symptoms of psychological distress, and life satisfaction.

Examination of attrition at the three-year follow-up yielded similar results. Subjects completing the three-year follow-up were older, more educated, and had been bereaved for less time than subjects dropping out after the six-month follow-up. Furthermore, subjects completing the study tended to have demonstrated more initial bereavement adjustment difficulties and more six-month negative moods, thus, characterizing completers as somewhat less well adjusted than drop-outs. One contradictory finding, however, lends some inconsistency to these results. While

drop-outs at the six-month follow-up showed lower initial depression scores, drop-outs at three years, showed higher initial depression scores. Although this finding is difficult to explain, it is possible that subjects with high initial depression scores remained in the study at the first follow-up in response to the difficulties they had experienced in adjustment. However, by the three year follow-up, their depression had eased significantly, making research participation less relevant to them and dropping out more likely.

Overall, it appears that, at least for the present study, attrition tended to bias the sample toward poorer adjustment as time progressed. It appears that research participation is more likely among, and perhaps even helpful to, those subjects for whom the loss is more relevant by virtue of continued difficulty in adjustment and the recency of the loss. Subjects for whom bereavement has become less relevant may be less willing to invest the time and effort in completing questionnaires or answering interview questions about their loss. Furthermore, research completers tended to be older and more educated than drop-outs. Therefore, if these attrition effects are to be taken seriously, they suggest that longitudinal studies of bereavement may be presenting an overly negative picture of adjustment to loss, and one that is less applicable to younger and/or less educated populations. They also suggest, that some individuals do adjust satisfactorily to

the loss of a loved one, but that at least a portion of these individuals are not accounted for in longitudinal research due to selective attrition.

It should be noted, that the variables indicated as predictive of attrition are significant at the .05 level, and as a group they are capable of correctly classifying on the average about 77% of subjects as drop-outs or completers. It is clear, then, that selective attrition can, at least to some degree, be predicted in bereavement research. However, it is also true that a number of subjects seem to drop out or stay in longitudinal research for reasons other than those detected in the present study. More research in this area is imperative if accurate generalizations are to be made to the bereaved population.

#### Exploratory Regression Analysis

In an attempt to further explore the applicability of Allen's (1990) model from an inter-individual differences point of view, and to examine the relative importance of certain demographic variables in the prediction of overall adjustment, several stepwise regression analyses were conducted. Results of these analyses generally supported the original findings of the present study.

With regard to adjustment at the second time of measurement, six months into the study, high experienced competence was the best predictor of good adjustment, with impact of loss and perceived resources following close behind. Among the demographic variables of interest, income

was also found to have some secondary importance in predicting adjustment. These findings confirm the hypothesis, and our findings that levels of experienced competence, impact of loss, and perceived resources early in the bereavement process may have a strong influence on future adjustment. Furthermore, as expected, while demographic variables may have some impact on adjustment, their influence is less salient than that of the variables included in Allen's model.

It is important to note, that of the demographic variables examined, income seemed to have the greatest influence on adjustment. Low income tended to predict lower overall adjustment. This finding is in line with other studies (Atchley, 1975; Glick, Weiss, & Parkes, 1974; Morgan, 1976). In a review of the literature on socioeconomic status and bereavement, Sanders (1989) concluded that while low income may not be the cause of poor adjustment, it tends to add to the burden already experienced by bereaved individuals.

With regard to adjustment at the third time of measurement (three years into the study), perceived resources and impact of loss as reported at initial testing were the best predictors of overall adjustment. At this later time of measurement, initial level of experienced competence was less important in predicting individual differences in adjustment than it was at the earlier time of measurement. As stated earlier, the original MANCOVA

results indicated that, on the average, experienced competence seems to have a strong influence on overall adjustment, both in the short-term and in the long-term. However, with regard to individual differences, experienced competence holds more predictive power early in the bereavement process as compared to later. This may be due, in part, to the effects of selective attrition. As the more well adjusted subjects dropped out of the study, the sample became more homogeneous. Thus, at the third time of measurement, individual differences were smaller and more difficult to predict. In this situation, among a less well adjusted population, the difficulty of the bereavement task as measured by its impactfulness, and the resources perceived to be available to the bereaved individual seem to be more significant in predicting adjustment than do the personality factors involved in experienced competence. It seems, then, that while on the average, experienced competence is an important influence on overall, long-term adjustment, it becomes less important in predicting individual differences in adjustment as time progresses and the sample becomes more uniform. On the other hand, perceived resources and impact of loss were found to predict both average overall adjustment and individual differences in adjustment over both the long and the short term. Thus, as predicted, all three variables, experienced competence, impact of loss, and perceived resources are important in adjusting to bereavement. Within a relatively homogeneous



sample, at least, perceived resources and impact of loss may be better predictors of individual differences in long term adjustment than is experienced competence.

It might have been expected, based on the literature, that demographic variables would have played a larger role in predicting long-term bereavement adjustment among the present sample. Other researchers have found the differences in adjustment may be discriminated based on such variables as age (Roach & Kitson, 1981; Sanders, 1980-1981; Parkes, 1987-1988; Sable, 1991), gender (Stroebe & Stroebe, 1983; Fetterman, et al., 1981; Van Zandt, et al., 1989), socioeconomic status (Atchley, 1975; Sanders, 1989), and religious involvement (Gallagher, et al., 1981; Lund, 1989). The present study seems to indicate, however, that the role of demographic variables may be of secondary importance in predicting adjustment. More specifically, income seems to play a small role in predicting early bereavement adjustment. As discussed earlier, it may serve to mediate the effects of loss. However, it appears that the importance of income as a mediator tends to diminish with time.

A final regression analysis was conducted to examine the influence of variables measured at time two, as opposed to time one, on subsequent time three adjustment. Of the time two variables, only perceived resources was found to have any predictive power with regard to overall, long-term adjustment. This seems to suggest that levels of

experienced competence and impact of the loss, as measured at the first time of measurement, are better predictors of individual differences in adjustment than are those same variables as measured at the second time of measurement. Again, as the sample became more homogeneous over time, individual differences became smaller and more difficult to predict. Perceived resources, then, seem to be highly important to overall long-term adjustment. The more resources perceived to be available by the bereaved individual, the better will be his or her adjustment to the loss.

Overall, results of the regression analyses support the present study's initial findings that experienced competence, perceived resources, and impact of loss are important factors in the adjustment to loss, and that these factors play a bigger role in adjustment than do demographic variables. Furthermore, while results suggested that the above factors may be less important in predicting individual differences in long-term bereavement adjustment, than in short-term adjustment, these results must be interpreted in light of the homogeneous sample created by selective attrition. On the average, experienced competence, impact of loss, and perceived resources do seem to be important to overall, long-term bereavement adjustment.

#### Implications

Traditionally, the process of bereavement was conceived of as being a relatively time limited progression from poor

adjustment immediately following the loss, to a return to "normal" adjustment within several months to a year. More recent, long-term research, however, has indicated that while "most of the more intense reactions of grief subside within 6 to 12 months....there are some parts of the loss that will continue to be with the griever until he dies" (Rando, 1984, p.115). Furthermore, rather than a smooth linear progression toward greater adjustment, the course of bereavement has been found to be complex, multidimensional, and multidirectional. Bereaved individuals may show marked improvement over time in some areas of adjustment, but at the same time may experience deterioration in adjustment along other dimensions (Lund, 1989). The findings of the present study provide support for this more complex view of the bereavement process.

This is not to say that bereaved individuals do not improve in adjustment over time. On the contrary, the majority of people who have faced the loss of a loved one, even if initially devastated by the experience, do with time improve in levels of overall adjustment. In fact, because of the effects of selective attrition found in the present study, longitudinal studies may actually be underestimating the likelihood of positive adjustment to loss. Even so, it is evident that this progression toward adjustment is not always linear or smooth. Bereaved individuals and others associated with them should be made aware that while distress, loneliness, and specific difficulties in dealing

with loss may decrease over time, problems with depression, mood, and life-satisfaction may continue, or may improve less rapidly. Furthermore, while relief of extreme symptoms may be expected within a relatively brief period of time, overall adjustment will likely continue for years after the loss. Sable (1991), in a study of elderly widows, found that sadness and distress over loss may last for many years after the death of a spouse. In fact, 78% of her sample reported believing that they would never get over their loss, but instead would simply learn to live with it. As one widow stated, "Time doesn't heal if you have a great love. It doesn't lose the loss. We loved each other. I miss him terribly" (p. 136).

While it is true, that for most individuals, the process of bereavement lasts for many years, some do appear to fare better than others. Until recently, however, an empirically based, testable model for predicting differences in bereavement adjustment was lacking. Allen's (1990) model has attempted to fill that need in the field of bereavement research. According to Allen, the variables that are most important for predicting adjustment to loss are experienced competence, perceived resources, and the impact of the loss. Individuals who have a strong sense of control, esteem, and competence are expected to fare better when faced with the task of adjusting to the loss of a loved one, as compared to those who feel more helpless and unable to cope. Similarly, subjects who perceived themselves as having ample resources

for meeting the demands of bereavement are expected to show better overall adjustment, as compared to those who perceive their resources as limited. Finally, factors such as the centrality of the lost relationship, the perceived preventability of the death, the degree to which the death was expected, and the degree of life change associated with the loss, are expected to comprise the difficulty of the bereavement task, and in that way to influence bereavement adjustment.

Allen found initial support for her model in her original study of bereaved widows and non-widows. Her work, however, covered only a limited time period, and did not address long-term adjustment. The present study, by using a longitudinal method and by exploring bereavement along a longer temporal framework, was able to test Allen's model for applicability to long-term adjustment. As expected, the model was supported. In both the long and the short-term, the problem of bereavement lies in the impact of the loss on the bereaved individual's life. The degree of adjustment to the changed life circumstances will depend on the individual's perception of the resources available to him or her and the sense of control or competence he or she has in utilizing those resources to further adjustment. Each variable, in and of itself, is powerful in predicting adjustment. Thus, their effects are additive rather than multiplicative. If the impact of the loss is unusually high, adjustment will be poorer regardless of the level of

perceived resources or experienced competence. Likewise, even for losses of relatively low impact, adjustment will be lower if the individual perceives his or her resources to be limited, or if he or she feels helpless in coping with the bereavement task. Furthermore, the level of each variable early in the bereavement process is, in general, predictive of overall adjustment many years after the loss. Also, as expected, experienced competence, impact of loss, and perceived resources are more powerful predictors of adjustment than are such demographic variables as income, education, and age. Thus, Allen's model does in fact provide a coherent, empirically based model for the prediction of both short and long-term bereavement adjustment.

For the most part, the predictions made in the present study were supported. Some results, however, were contrary to expectations, and may have important implications for the field of bereavement research. First, it was found that although subjects faced with a more difficult bereavement task, for example, where the impact of the loss was greater, reported using more coping strategies and more high level strategies, these individuals nevertheless appeared to be less successful in adjusting to loss despite their increased efforts to cope. It seems, then, that merely using more, or higher level, strategies in response to loss is insufficient in coping with the death of a loved one. Similarly, while subjects who may have felt they had little control or coping

competence used the same number and level of strategies as those who had a greater sense of competence, their strategies were apparently less effective and their adjustment poorer. Again, while coping strategies may play a secondary role in adjustment, they are only effective insofar as the bereaved individual has sufficient experienced competence and perceived resources to make those strategies effective.

Another area where results were contrary to predictions was with regard to multiple losses. It was thought, based on the stress model of bereavement, that subjects experiencing additional losses following bereavement would show poorer adjustment due to bereavement overload. This was not the case. In the present sample, those experiencing multiple losses, showed levels of adjustment that were no different than those of individuals suffering a single loss. Apparently, if enough time has elapsed for initial adjustment to occur, subsequent losses may not significantly interfere with the bereavement adjustment process.

It was also predicted that success or failure at coping with loss would impact the bereaved individual's sense of experienced competence, such that subjects demonstrating poor adjustment throughout the bereavement process would experience a drop in their level of competence, while those adjusting successfully would experience an increased sense of competence. This was not found to be true. Experienced competence levels tended to remain stable across time,

regardless of coping success. This seems to suggest that experienced competence is better seen as a causal variable. As noted by other researchers, personality traits, such as locus of control and self-esteem, tend to remain stable across the life-span (Costa & McCrae, 1982), and the findings of the present study are in line with this research.

Thus, in accord with Allen's model of bereavement, experienced competence, impact of loss, and perceived resources, more so than demographic variables or coping efforts, seem to be highly predictive of overall long- and short-term adjustment to loss. Furthermore, contrary to traditional conceptualizations of the process, bereavement is complex, multidirectional, and multidimensional, and may not be resolved for many years, if ever.

The findings of the present study have several implications for intervention and education with regard to bereavement. First, and perhaps most important, bereaved individuals and those closely involved with them, need to be educated regarding the course and duration of bereavement. The present study provides encouraging information that a substantial majority of bereaved individuals do show significant improvement in adjustment over time, regardless of the initial devastating impact of the death. Time does appear to have a healing effect on the wounds inflicted by the loss of a loved one. However, it is important that the bereaved individual understand that the course of



bereavement is not always smooth or linear. While improvements may occur fairly rapidly in some areas, in others adjustment may be slow or may even deteriorate. Similarly, adjustment to the life changes brought about by the death may take longer than the bereaved and his or her family expects. In fact, in some areas, adjustment may continue to the end of the bereaved individual's lifetime. The present study found that even subjects bereaved for seven years or more were continuing to show increases in adjustment in some areas. Thus, rather than expecting the bereaved individual to "get over" the loss within a prescribed period of time, it should be expected that some aspects of his or her life will be forever altered and may never return to the pre-bereavement state.

That is not to say that bereaved individuals must suffer without relief. In fact, most people adjust to loss quite well and are able to live their lives as fully as before. However, for those who have more difficulty, intervention might be in order. Results of the present study indicate that subjects who demonstrate poor adjustment early in the bereavement process, continue to show poor adjustment as time goes on. They do not seem to make up for their early deficiencies, and tend to lag behind those who show more positive adjustment early on. For those who experience significant difficulties then, early intervention would seem imperative.

Traditionally, intervention with bereaved individuals has focused on increasing the number and level of coping strategies utilized by the bereaved in response to the loss. It seems that the goal of intervention was to promote more active coping strategies and more intensive "grief work". For example, advice from various sources to helping professionals working with the bereaved includes encouraging the expression of emotion (Raphael, 1983), teaching the bereaved to identify and express feelings (Stroebe & Stroebe, 1987), encouraging social support strategies, teaching new skills and new roles, encouraging the acceptance of help, and encouraging acceptance of the loss (Rando, 1984, 1988). Rando (1984) suggests that helpers "design interventions that capitalize upon the griever's positive coping skills and compensate for deficient ones" (p. 125).

Results of the present study, however, indicate that simply using more active coping strategies is insufficient for improving adjustment. Subjects in this study for whom the impact of the loss was high reported mobilizing more high level strategies than did those for whom the impact was low. However, the mobilization of these strategies did not improve the adjustment of the bereaved subjects. In fact, despite their more active coping attempts, high impact subjects showed poorer overall adjustment as compared to low impact subjects. This suggests that traditional intervention techniques may not be the most effective in

working with bereaved individuals who are experiencing adjustment difficulties. Instead, more effective intervention might focus on those areas shown to be most predictive of bereavement adjustment; namely, experienced competence, perceived resources, and the impact of the loss. These findings are further underscored by the fact that specific bereavement related measures were more significantly impacted by differences in competence, impact, and resources, than were more broad-based measures of adjustment. Thus, it seems that the focus for intervention should be to target such specific issues as loneliness, grief, and difficulties in adjusting to the changes wrought by the death of a loved one.

Results of the present study indicate that levels of experienced competence early in the bereavement process are predictive of overall adjustment. These findings are consistent with results of another longitudinal study of elderly conjugally bereaved persons. Lund, Dimond, Caserta, Johnson, and Poulton (1985-1986) found that the best predictor of poor coping two years after the death of a spouse was low self-esteem at three weeks post-loss. Thus, early intervention efforts aimed at bolstering self-esteem might be more effective than simply encouraging active coping techniques. This is not to say that coping techniques should not be taught. In fact, one way to bolster self-esteem might be to encourage techniques that will lead to successful experiences which may increase self-

efficacy. Similarly, helping bereaved individuals begin to reconstruct a positive identity apart from the lost loved one may add to esteem and a sense of competence. Allen (1990) reported that subjects in her study indicated informally that helping others helped them to overcome their sense of helplessness and depression.

Along with increasing experienced competence, intervention efforts might also focus on lessening the impact of the loss on the bereaved individual's life. The impact of the loss has been conceptualized as deriving from the centrality of the lost relationship, the perceived preventability of the death, the degree to which the death was expected, and the degree of life change associated with the loss. Among these areas, the degree of life change seems to be most amenable to intervention. Many bereaved individuals when facing the loss of a loved one also face the loss of a major source of support, both emotional and practical. Widowed individuals may experience a sudden drop in income, a change in social support networks, and a major alteration in the roles that must be carried out, and even a geographical change if a decision is made to move to a new location. While many of these life changes must be accepted, others may be avoided or at least minimized. For example, Allen (1990) suggests that a widow who is forced to sell her home might be encouraged to locate an apartment close to her present neighborhood where she can "attend the same church and make use of familiar community resources"

(p. 182). Other suggestions might include maintaining a familiar routine, keeping in touch with social contacts, and continuing with hobbies or pastimes that the individual enjoyed prior to bereavement.

Finally, intervention might focus on improving the bereaved individual's perception of the resources available to him or her. This might be done through such practical methods as educating the individual about community resources, encouraging the individual to seek social support, and helping them to view their emotional and cognitive resources in a more positive light (Allen, 1990).

It seems, then, that traditional forms of intervention with bereaved individuals may be focusing their efforts in less effective directions. The present study, however, provides a model of bereavement which might better guide the design of intervention strategies. Not only does the model carry implications for intervention, but it also brings to light several points important to future research.

First, it appears that Allen's (1990) model of bereavement is an effective framework for the design of both long- and short-term bereavement research. Her model pulls together recent bereavement research into a coherent representation of the bereavement process. The variables experienced competence, perceived resources, and the impact of the loss appear to be highly predictive of overall adjustment to the death of a loved one. Future research might focus on the applicability of this model to a more

heterogeneous population, as well as examining the degree to which the variables involved are amenable to change.

Second, the analysis of attrition in the present study has important implications for future research. As predicted, subjects who were more highly adjusted were less likely to complete all phases of the study, thus biasing the sample toward poor adjustment. If this finding can be generalized to other longitudinal studies of bereavement, then it is likely that the literature has been underestimating the likelihood of a positive bereavement outcome. Findings of these studies, then, are more applicable to less adjusted populations of bereaved individuals. Future research should take the issue of attrition into account when generalizing to the bereaved population, and greater efforts should be made to maintain the integrity of the original sample. Stroebe and Stroebe (1989) have found that subject participation is more likely when study sources are highly credible, such as hospitals and religious institutions.

Finally, it is clear from the present study that bereavement adjustment is not "resolved" within a few years, as has been reported in early research. In fact, the present study indicates that as long as seven years after the loss, subjects are still in the process of adjustment. Therefore, it seems that more long-term, longitudinal research is needed to track the effects of bereavement throughout the lifespan.

### Limitations of the Study

One major limitation of the present study is that it is exploratory in nature, and thus several of the measures used were designed specifically for the purposes of the study. However, although validity studies have not been conducted, alpha coefficients indicate adequate reliability for each instrument. Of the measures not designed for the present study, several were shortened or revised versions of well established instruments. With the exception of one such measure, reliability and validity of these versions have been well demonstrated in the literature. For the Hopkins Symptom Checklist, however, coefficient alpha's reported are based on a 58-item version as opposed to the 44-item version utilized in the present study. Thus, while certainty regarding the reliability and validity of several instruments utilized is good, it is nonetheless, less than optimal.

A second limitation of the present study involves the lack of a non-bereaved control group. Since the focus of the study involved differences in adjustment among bereaved individuals, a control group of non-bereaved subjects was deemed unnecessary. Nevertheless, certain statements regarding the impact of bereavement on adjustment must be made with caution. For example, it remains unknown whether bereaved individuals five years after the loss are different in terms of adjustment as compared to non-bereaved individuals.

The study is also limited in that the subject sample was made up of volunteers. Recent research has indicated that subjects who volunteer to participate in bereavement research may differ in important ways from individuals who choose not to participate. Stroebe and Stroebe (1989), in a review of twenty longitudinal studies, found that, in general, rates of participation were relatively low. The factors which influenced participation varied by sex, with female refusers being less depressed, more socially withdrawn, and more self-sufficient, and male refusers being more depressed and more isolated. Since the original sample consisted primarily of women (164 females and 29 males), it is likely that a bias existed in favor of more depressed and less self-sufficient subjects.

Furthermore, it is evident that attrition rates further biased the sample in favor of poor adjustment. By the final phase of the study, 52% of the initial sample had dropped out. An analysis of completers versus drop-outs indicated that the attrition was selective and had resulted in a less well adjusted sample. However, the attrition rates reported can be viewed as only a partial limitation, in that they served to answer questions regarding selective attrition which were integral to the longitudinal nature of the present study.

Another, related limitation to the present study is the relative homogeneity of the subject sample. Subjects were primarily female (85%), widowed (76%), caucasian (98%), and



Protestant (65%), and most (72%) had attended a bereavement group. Generalizations to populations not in line with the above specifications must be made with care. Future research may do well to apply Allen's model to a more heterogeneous sample.

Additional issues exist regarding cohort-specific experiences with death, in that all subjects in the present study had been bereaved within the last ten years. Bereavement related concerns for this cohort are likely to be different than those for individuals bereaved in an earlier era. For example, as opposed to twenty years ago, society in general is more aware of the need for support during bereavement, and may be more sensitive to issues of death and dying. Cultural attitudes regarding appropriate bereavement behavior has likely changed in recent years. People are living longer, have access to hospice care, support groups and other social programs, and may have more forewarning of death due to medical technologies which prolong the life of terminal patients. These issues, among others, may make it difficult to generalize the present findings to earlier bereavement-related cohorts. Similarly, since society and technology continue to change, it is difficult to say with any certainty how well these findings will generalize to future cohorts.

Other limitations relate to the longitudinal design of the present study. First, testing effects may have occurred. Answering questions about their experiences may

have induced subjects to further explore their thoughts and feelings, and in doing so, they might have been changed in ways that would not have occurred had they not participated in the study. Furthermore, as subjects became more familiar with the measures being used they may have changed the way they answered questions. For example, there is some evidence which suggests that repeated presentations of personality tests results in profiles of better adjustment as the subject becomes more familiar with the test (Baltes, et al., 1988). Also, possibly limiting to the study is the issue of social desirability. Subjects might have attempted to answer questions in a positive light in order to convince the researcher or even themselves that they were adjusting well to the loss.

Another limitation related to the longitudinal design of the study relates to statistical regression toward the mean. As mentioned earlier, selective attrition resulted in a more extreme sample of subjects over time. Improvements in adjustment over time might, therefore, be in part attributable to regression, as the most poorly adjusted subjects moved closer to the mean at a later time of measurement. Controls for this tendency, however, were designed into the study by conducting more than two times of measurement and by using reliable measures. Thus, if regression played a role in biasing results, it was most likely only a small one.

In addition to regression effects, it is possible that time of measurement effects occurred to influence overall results. For example, it is possible that in the three years between the first and final times of measurement an event or change occurred which affected all of the subjects. Perhaps new social programs were introduced providing better care for all bereaved individual, or perhaps a media event influenced attitudes about death and grief. Similarly, given the longitudinal nature of the study, maturation effects must be taken into account. It is possible that results of the present study are due to the fact that all subjects aged three years from time one to time three. Perhaps, that aging, in and of itself, accounts for the increasingly positive adjustment over time. Although possible, however, strong maturation effects are unlikely. For one reason, subjects were of varying ages, so three years of aging would mean different effects for a thirty-year-old as opposed to an eighty-year-old. Second, research on personality and aging tends to argue for stability of adjustment over time. Thus, maturation would not be expected to result in increases in adjustment.

A final limitation of the present study is the absence of pre-bereavement measures of adjustment. It is not possible, given the limits of the present study, to make statements about the level of adjustment prior to the death, and thus to determine with certainty that poor adjustment is entirely related to bereavement. However, limitations of

time and resources made such a study unfeasible and beyond the scope of the present project.

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