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A Comparative Investigation of the Effects of Companion Animals During Conjugal Bereavement/

Sharon E. Bolin
Loyola University Chicago

A COMPARATIVE INVESTIGATION OF THE EFFECTS OF COMPANION ANIMALS DURING CONJUGAL BEREAVEMENT

by

Sharon E. Bolin

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Loyola University of Chicago

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In keeping with the appeal to study relationships between normal individuals and their companion animals in their usual environments, this study focused on an area which has received relatively little attention to date; namely, the value of companion animals to individuals during the time of conjugal bereavement. The investigation attempted to integrate research findings in the fields of human-companion animal relationships, conjugal bereavement, and social support.

Subjects were eighty-nine Caucasian women whose husbands died two to three months prior to being interviewed for this study. Widows responded to Sanders, Mauger, and Strong's Grief Experience Inventory (GEI); Brandt and Weinert's Personal Resource Questionnaire (PRQ); and an investigator developed Conjugal Bereavement Questionnaire (CBQ). The ten subscales of the GEI served as the dependent variables. Subjects who were attached to their pet dogs prior to their husbands' deaths comprised one group (experimental). Subjects who had no pets comprised another group (control). Based on scores received on the PRQ, subjects were further assigned to low, moderate, or high social support conditions.

It was expected that there would be differences in adaptation to the grief experience between non-pet owners and bonded dog owners. This expectancy was confirmed. Through use of multiple regression

analysis, predictor variables for each group (non-pet owners and bonded dog owners) were determined for each of the ten dependent variables. Different predictor variables emerged for each group on each dependent variable in every instance.

It was further expected that the best adjustment to the loss of the spouse would be made by those subjects who had a strong social support system and a pet dog to which they were attached; that those who had a pet dog to which they were attached, but who had a weak social support system, would adapt to the grief experience as well as those with a strong social support system but without an attachment to a dog; and that those who were neither attached to a pet dog nor had a strong social support system would adapt the poorest to the grief experience. However, results of the investigation did not support these expected interactive effects.

Special recognition is due to my parents, Bill and Betty Bolin, who never ceased to believe that I would accomplish this goal, and to Mary Jane Mitchell and J. L. Mitchell (now deceased), who provided encouragement in many ways throughout the duration of this project.

Finally, I would like to thank all of those bereaved widows who were willing to share their thoughts and feelings during this very difficult time in their lives.

VITA

The author, Sharon Elaine Bolin, is the daughter of Betty Caroline Fremed Bolin and William Rudolph Bolin. She was born on December 16, 1936 in Pontiac, Michigan.

Her elementary education was obtained in public and military schools in Pontiac, Michigan; Parris Island, South Carolina; Quantico, Virginia; and Evansville, Indiana. Her secondary education was completed in 1954 at the New Bern High School in New Bern, North Carolina.

In September 1954, Ms. Bolin entered the West Suburban Hospital School of Nursing in Oak Park, Illinois, receiving a diploma in nursing in September 1957. At graduation, she was awarded a scholarship to continue her education at Wheaton College located in Wheaton, Illinois. She entered Wheaton College in September 1957 and graduated with the degree of Bachelor of Science with a major in nursing in June 1959.

Ms. Bolin received a United States Public Health Service Traineeship for graduate study, enabling her to graduate from DePaul University in Chicago, Illinois in June 1963. She received the degree of Master of Science with a major in teaching medical-surgical nursing.

Between 1959 and 1982, Ms. Bolin held positions as Instructor, Department Chairman, Assistant Director, and Director of the West Suburban Hospital School of Nursing in Oak Park, Illinois. Between

1982 and 1984 she held the dual positions of Director of the West Suburban Hospital School of Nursing and Dean of the West Suburban College of Nursing. Since 1984 she has been Dean of the West Suburban College of Nursing.

Her publications include co-authorship of the article, "The Relationship Between College Success and Employer Competency Ratings for Graduates of a Baccalaureate Nursing Program" in the January 1984 issue of the Journal of Nursing Education and "A Case for the Single Purpose College of Nursing" in Patterns in Education: The Unfolding of Nursing published in 1985 by the National League for Nursing.

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CHAPTER I

INTRODUCTION

The field of companion animal research is one which has become increasingly popular during the past few years. Fogle (1983) emphasized the interdisciplinary nature or companion animal research, due to the fact that the study of bonding between two social species does not lend itself easily to compartmentalization. By the beginning of the 1980s, the phenomenon of the human-companion animal bond was being described in the literature by psychiatrists, psychologists, cardiologists, internists, anthropologists, sociologists, veterinarians, nurses, and ethologists. It appears, however, that the impetus for the interdisciplinary nature of the work originated with the veterinary schools ("Profiles," 1983).

The first conference on the pet-owner bond occurred in March 1979 at the University of Dundee in England, at which time thirteen psychologists, psychiatrists, behaviorists, and veterinarians met to discuss this phenomenon. A subsequently sponsored symposium entitled "The Human-Companion Animal Bond" was held in London in January 1980. Findings of this conference were published in a volume entitled Interrelations Between People and Pets (Fogle, 1981).

In October 1981 the first major American-sponsored conference on the human-companion animal bond was hosted by the Center on Interactions of Animals and Society at the Veterinary School of the

University of Pennsylvania. The conference included contributors from a wide range of disciplines, and reflected both the intent to study, and in some instances, the advocacy of pet ownership. The proceedings of this conference were published in a book entitled New Perspectives on Our Lives with Companion Animals (Katcher & Beck, 1983).

Since the conference at the University of Pennsylvania there have been several other conferences devoted to the psychological aspects of relationships between humans and animals. One of these, sponsored by the Canadian Veterinary Association, was held in 1982 in Toronto. The proceedings were published by the Canadian Veterinary Medical Association (1982). Other conferences took place in 1983 at the University of Minnesota and the University of California.

In 1981 the Delta Society was founded as a professional organization devoted to research inquiry on the nature and significance of the bond that exists between people and animals. The organization serves as a resource for individuals and groups who wish to establish programs using animals in therapy; publishes a semi-annual bulletin, People-Animals-Environment; publishes a refereed scientific journal devoted to the human-animal bond; sponsors annual conferences on the topic; and, in connection with the Pet Food Institute, awards grants to individuals conducting human-companion animal research.

Levinson (1983) has suggested that this newly developing area of investigation, human-companion animal relationships, is not yet a discipline, but that "there are advantages to this ambiguous state,

since our attempts to define our field helps us to remain spontaneous and flexible in both methodology and subject matter" (p. 537). He further states:

> I would like to urge that psychologists and behavioral scientists pay more attention to the influence that the possession of animal companions has on human personality. Ethological field studies of man and his animal companions will require new perspectives and new ways of looking at old data. Researchers in this area would do best to forget about theoretical preconceptions, and diligently examine the fish that their investigative nets bring up (Levinson, 1978, p. 1037).

Beck and Katcher (1984) point out the recent proliferation of literature in the field of pet-facilitated therapy. They note that studies which have appeared can be classified as either descriptive (hypothesis-generating) or those using a research design to test a hypothesis. The majority of the work, to date, falls in the descriptive category and uses no formal research design or controls. While these studies have been helpful in identifying existing phenomena, hypotheses need to be generated from them, and subsequently tested.

Beck and Katcher (1984) found only six experimental studies in which control groups were used. They suggest that most studies were poorly designed, and for that reason the evidence concerning the health effects of pet ownership is inconclusive. They criticize those researchers who interpret their data defensively by stating the following:

> Disregarding negative statistical tests and reporting nonsignificant trends in the data that support the value of pets, choosing inappropriate statistical tests when sample sizes are insufficient, arbitrary usage of one-tailed statistical tests to avoid reporting negative results, or reporting positive findings on only a part of the original sample (p. 419).

The above authors urge future investigators to ask the question "'Do pets have a therapeutic effect?' rather than 'How can I demonstrate the therapeutic effect of pets?'" (p. 419). They further point out that "the emphasis on pet therapy distracts both research and lay interest from a much more important area of research--the characteristics of the relationship between the millions of essentially normal pet owners and their pets" (p. 420). Mugford and M'Comisky (1975) note that little attention has been paid to the psychosocial role of companion animals in the natural home environment.

In keeping with the appeal to study relationships between normal individuals and their companion animals in their usual environments, the present study focuses on an area which has received relatively little systematic attention to date; namely, the value of a companion animal to an individual at the time of conjugal bereavement. One of the needs which animals reportedly fill is that of devotion to and love for a person. Questions then arise as to whether a companion animal is capable of serving as a source of strength and comfort for a widow or widower during the time of conjugal bereavement, and whether a companion animal is capable of providing some measure of support in the absence of a conventional support system.

In the field of companion animal research, the terms "bonding" and attachment" are used interchangeably. This concept is supported by the work of Katcher (1981), a pioneer in this field, who measures human-companion animal bonding with a ten-item pet attachment scale (Friedmann, Katcher, & Meislich, 1983; Katcher, Friedmann, Goodman, &

Goodman, 1983). For purposes of this study the terms bonding and attachment are also be used synonymously.

The present study was designed as an attempt to integrate research findings in the fields of human-companion animal relationships, conjugal bereavement, and social support. Subjects were Caucasian women whose husbands died two to three months before inclusion in the study. They were asked to respond to a conjugal bereavement questionnaire, a social support inventory, and a grief experience inventory. Based on the scores received on the social support measure, subjects were assigned to low, moderate, or high social support conditions. The conjugal bereavement questionnaire contained a section of questions for dog owners to answer. Those who were attached to their pet dogs were assigned to one group. Those who had no pets comprised another group. Individuals who owned pets other than dogs were not used in the study. Subjects were selected in such a manner as to exclude those who responded in a pathological manner to bereavement, those who had animals for only a limited period of time, and those to whom a pet was given following the death of a spouse. Only those pet owners for whom the pet was an integral part of life prior to the bereavement experience were included in the present investigation.

It was expected that non-pet owners and bonded dog owners would respond differently to the grief experience. It was further expected that the best adjustment to the loss of the spouse would be made by those subjects who had a strong social support system and a pet dog to which they were attached. Furthermore, it was expected that those who

had a pet dog to which they were attached, but who had a weak social support system, would adapt to the grief experience as well as those with a strong social support system but without an attachment to a dog. Finally, those who were neither attached to a pet dog nor had a strong social support system were expected to adapt the poorest to the grief experience following the death of a spouse.

Multiple regression procedures were used in order to identify the best predictors of the grief experience for the two groups (non-pet owners and bonded dog owners). In testing for differences in adaptation to the grief experience across groups, analysis of covariance was used to control for individual differences in social support across subjects. Finally, factorial analysis of variance was performed to test for interaction effects, if any, between pet attachment conditions and social support conditions relative to adaptation to the grief experience.

Subsequent chapters contained herein represent the background for and implementation of this research project. Chapter II includes a review of the related literature in the areas of pet attachment, conjugal bereavement, and social support. The methodology is included in Chapter III and identifies the hypotheses tested, subject selection, procedures used, instrumentation, and design and statistical analysis. Chapter IV describes the results of the analyses for each of the three null hypotheses tested. Chapter V provides a discussion of the findings, and suggestions for future research. Finally, Chapter VI presents a summary of the findings of this study.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

Preview

Until recently, the scientific literature dealing with pet ownership concerned itself extensively with information about health problems caused by pets (Friedmann, Katcher, Thomas, Lynch, & Messent, 1983), or the effect of humans on pets (Lynch, 1977). Little attention has been given to the value and importance of companion animals to their owners. Levinson (1969b & 1972), a psychologist, can be credited with early descriptive studies reporting the clinical phenomenon of a dog as co-therapist. In a series of case studies he reports how his own dog, Jingles, participated in interactions with clients which he considered to be therapeutically significant.

Levinson (1972) theorizes that pets are of therapeutic value to humans because people have an innate need to affiliate with animals. Brickel (1982) considers this an inadequate explanation for the therapeutic effect pets have in diminishing anxiety or attenuating depression. He proposes that pets reduce emotional discomfort through the competing-response theory via attention shifts. Beck and Katcher (1984) note that even though the bonding phenomenon cannot be adequately explained, there is strong evidence to suggest that pets may improve health.

Even though the phenomenon of human-companion animal bonding has

not yet been adequately explained, the acknowledgement of its existence has led to interest in its influence on humans in a variety of situations. Because the present study deals with human-pet relationships during the time of conjugal bereavement, the companion animal literature and the bereavement literature have been selectively reviewed. Additionally, interest in the individual's support system during the bereavement process led the investigator to attend to the social support literature. To date, a search of the literature reveals no studies which have brought together the three areas of human-companion animal relationships, bereavement, and social support.

Companion Animal Literature

Serpell (1983b) has described three distinct, but overlapping, ways in which animals could become causal factors in initiating therapeutic changes in people. He states:

> I hasten to add that each of these pathways is entirely theoretical and is therefore open to testing and revision as appropriate. I would also add that they are not exclusive but overlap with each other to varying degrees. I have labelled these pathways: Instrumental, Anthropomorphic and Passive (p. 7).

According to the above classification, the instrumental role is the use of the animal as an extension of self, performing a physical function for the individual. While the persons's confidence and self-esteem may be improved, the animal's primary use is as an object and need not be personified to cause the improvement. A seeing eye guide dog or a hearing ear dog are examples of animals that fill this role.

An animal which takes on an anthropomorphic role is perceived as another person. When this occurs, the animal is viewed as being able to express attachment, love, and devotion. Serpell asserts that "apparently animals can supply this need, in some cases, when humans cannot. Therefore, animal therapy of this kind would be expected to have most benefit for individuals who, for whatever reason, feel unloved, rejected, socially alienated or friendless" (1983b, p. 8). Dogs, cats, and birds are good performers in this category. In a study of old age pensioners in an urban area of Hull, East Yorkshire, England, Mugford and M'Comisky (1975) found that subjects attributed motives, strengths, and weaknesses to their birds which were remarkably human. Levinson (1972) reports that in early times the Egyptians and Romans named their dogs according to function or characteristic, such as Cooking Pot, Grabber, Listener, Watcher, Whirlwind, Tempest, and Sharkstooth. Anthropomorphizing animals by giving them people-names is a common characteristic of dog owners, while there seems to be an increase in mythological names for cats (Slovenko, 1983).

When an animal serves in a passive role, it is merely an object of interest. It is especially effective because its actions are random and unpredictable, thereby sustaining interest and inducing relaxation. Tropical fish or cage birds are suitable in this category.

While the study of human-animal relationships is of interest in itself, a primary focus of researchers is the study of the therapeutic potential of animals. The literature is beginning to document

physiological, sociological, and psychological benefits of pet ownership.

Physiological benefits of animals which have been documented through research include both the ability to lower blood pressure and to increase survival rate, as evidenced after discharge from a coronary care unit. Katcher, Friedmann, Beck, and Lynch (1983) measured blood pressures of children brought into a neighboring home. They found that when a dog was present with the experimenter the blood pressure was lower than when the experimenter was alone. It is speculated that the reason for this is because the animal causes modified perceptions of both the environmental situations and the experimenter by making them both more friendly and less threatening (Friedmann, Katcher, Thomas, Lynch, & Messent, 1983). After noting that the mere sight of a dog could have a calming effect, Katcher, Friedmann, Beck, and Lynch (1983) investigated the effect of animals which could not be touched and which were not considered to be members of the family, but which served only as visual objects. The choice of animal for this study was tropical fish and the results demonstrated that watching the fish "lowered blood pressure to levels below that produced by resting in a chair with no special focus of gaze and produced a state of calm relaxation" (p. 353). The magnitude of these changes in hypertensives was found to be large and clinically significant.

Studies of pet owners have been conducted in which subjects' blood pressures were measured while resting, engaged in petting, pretending to pet, and reading. Arousal associated with reading aloud

caused an increase in blood pressure which was greater than that caused by either of the petting modes. Responses to engaged petting and pretend petting were indistinguishable (Friedmann, Katcher, Meislich, & Goodman, 1979). Baun, Bergstrom, Langston, and Thoma (1983) did further work in this area. They found a significant difference in changes over time in blood pressure between petting a dog to whom the subject was bonded and petting a dog with whom no bond existed; that the decreases in blood pressure while petting a dog with whom a bond had been established parallelled the relaxation effect of quiet reading; and that a "greeting response" occurred when a dog entered into the presence of a person with whom a bond had been established, resulting in an elevated blood pressure.

Evidence has been found to suggest that there are health benefits of pet ownership. Friedmann, Katcher, Lynch, & Thomas (1980) found that among coronary heart disease patients, pet owners were more likely to be alive one year after hospitalization than non-pet owners. It did not matter whether the pets were dogs or other animals, and it appeared that the relationship between pet ownership and survival did not depend on sex or the physiological status of the patient. Moreover, the effect was not limited to those who were socially isolated or unmarried. It is interesting to note that the finding related to pet ownership and survival was accidental in nature (Friedmann, 1978). The item on pet ownership was considered by some to be too insignificant to include on the questionnaire used in the study, although for some reason it was not deleted. When the data were analyzed, pet ownership emerged as the most important of the

social predictors related to survival. This is reminiscent of Bachrach's attention to serendipitous findings, those accidental discoveries which "might lead to other eventual findings of critical importance" (1972, p. 32).

Sociological benefits which animals have been found to provide include a socially acceptable outlet for touching, the facilitation of social interactions with strangers, and the role of social catalyst within families. Smith (1983) and Katcher (1981) have reported that animals give both men and women a socially acceptable outlet for touching, and Katcher found that there was no difference in frequency, amount, and kind of touching of animals between men and women.

It has been observed that animals facilitate social interaction with strangers. Mugford and M'Comisky (1975) suggest that pets function as "social lubricants" for their owners. Corson, Corson, and Gwynne (1977) found that the patient-pet relationship served as a "catalysing social link" (p.23) with hospitalized psychiatric patients. This human-animal relationship subsequently served as a bridge to strengthening self-reliance and psychological well-being. Dogs which function in this way are called "'feeling heart' dogs" (p. 24).

Messent (1983) conducted a study in which he recruited dog owners to walk through a park, once with their dog and once without. He found that the presence of the dog increased the likelihood of contact between strangers and the subjects, and that owners engaged in significantly longer conversations with strangers if their dogs were present with them. Katcher (1983) points out that people with animals

seem to be more approachable than people without animals and that we feel that it is socially permissible to talk to a person with a dog, just as it is socially permissible to talk to a person with a child. The two social triads, person-dog-stranger and person-child-stranger, are similar. One may approach either the dog or child without the explicit permission of the owner or parent, and once approached, one then has the right to talk to the owner or parent.

Cain (1983) suggests that some family members engage in a form of triangulation in order to make contact with each other, thereby relieving uncomfortable emotional situations. This is accomplished by first establishing contact through the animal in order to engage in a subsequent dyadic relationship.

Psychological benefits of pet ownership include attentiveness, welcoming behavior, having someone with whom to talk, and the opportunity for nurturing. Smith (1983) concludes that attentiveness appears to be one of the most important psychological benefits provided to humans by pets. In her study of pet dogs and their family members in their usual environments, she found that dogs were attentive to their family members whether people paid attention to them or not. She hypothesized that "when individuals consistently interact cooperatively with the dog, they are unlikely to abandon the dog and are likely to mourn its loss and to benefit physically and psychologically from its presence" (p. 36).

Serpell (1983a) interviewed twenty-five dog owners regarding those characteristics which they found to be most desirable, and found attentiveness and welcoming behavior to be among the most important.

The significance of greeting behavior serves to cement social contacts, while patterns of mutual eye contact which are present during attentiveness are perceived as a signal for liking.

Having someone with whom to talk is described by Friedmann, Katcher, and Meislich (1983) as a psychological contribution that pets make to people. In Arehart-Treichel (1982) Katcher is quoted as saying:

> Without being irreverent, it is possible to think about the similarities of the comforts of prayer and the comforts of talking to an animal. Prayer is frequently accompanied by sensual enrichment such as incense, music, special body postures, the touch of folded hands or rosary beads, just as dialogue with an animal is accompanied by the enrichment of touch, warmth and odor. In both instances the talk is felt to be "understood" (p. 221).

The task of nurturing companion animals is of benefit to both children and the elderly (Levinson, 1978). Children who become "parents" of a pet may develop a more realistic view of both the nurturing and disciplinary functions of parents. Older people may find themselves in situations where, having been nurturers for much of their lives, they now have no one to whom to give, or from whom to receive, love and care. In such instances the "love of an animal can be the glue that holds a shaky personality together" (p. 1037). Nurturing a pet may help a lonely person to transform that loneliness into a healing solitude.

While there is evidence that bonding may occur with pets other than dogs (Friedmann, Katcher, Lynch, & Thomas, 1980; Mugford & M'Comisky, 1975) Kidd and Kidd (1980) have found a significant difference in personality traits among lovers of particular types of pets. A study by Selby and Rhoades (1981) revealed that dog owners

derive more companionship from dogs than cat owners do from cats. In a recent study by Serpell (1983a) concerning the influence of a pet's personality on the pet-owner bond, only dog owners were used, in order to simplify the collection and analysis of data.

There is a difference in the way in which people respond to pets across races (Friedmann, Katcher, & Meislich, 1983). "Blacks tend to own fewer pets and are either less attached to their pets or express their attachment differently than do whites (p. 350). Pets may play different roles within the two subcultures in this country.

There is growing evidence that the relationship of a pet to a human is similar for men and women. In a study of interactions between pet dogs and family members, Smith (1983) found that male and female adults had similar interactions with their dogs, although some men had a higher rate of play and/or hand contact than did women. Salmon and Salmon (1983) found no differences in pet interactions between men and women. Katcher, Friedmann, Goodman, and Goodman (1983) found no significant differences between men and women in the way in which they were attached to their pets, or treated them like people. They also found no differences in the style or frequency with which men and women touched their dogs. They pointed out that:

> Men are usually reported as being inhibited about expressing their need for affection and tenderness in overt and public behavior. This report of the behavior of men toward pets is, to our knowledge, the only situation in which American men were found to use touch expressively to the same extent as women did. The pet may, then, be of critical importance to some men who have no other outlet for openly expressed affection . . . . Older men who have lost a spouse may be another vulnerable group for which a pet may be a critical emotional outlet (p. 16).

A myth has prevailed that animal lovers are individuals who have

diverted their affection from people to pets. There does not, however, appear to be consistent empirical evidence for this point of view. Brown, Shaw, and Kirkland found that individuals who expressed a low affection for dogs alo expressed a low affection for people, while those with a high affection for dogs also had a high affection for people. They also found that men who reported very little affection for dogs chose to have very little emotional involvement with others. Messent (1983) further disputes the myth. He found that with the majority of dog owners, companionship given by dogs was viewed as being in addition to that offered by people. Levinson (1969b) believes that children can be taught to transfer love and affection for a pet to human beings, and that the pet serves as a bridge for the development of mutual trust for future human relationships.

Salmon & Salmon (1983) suggest that pets are important to those who are without a normal family network, such as childless couples, and the widowed, separated, or divorced. They also maintain that the pet-owner bond is different for people at different stages of their lives, and that pets provide companionship, friendship, happiness, make people feel safe, increase self-confidence, and are an object of love as well as something to be loved. In a study of the pet-owner bond, they found that dogs satisfied more of the life needs of widowed, separated, and divorced people than those at other states of life. They conclude that "it would seem, therefore, that certain needs of these people are not being met by a normal family network, and hence the dog plays a very important part in their lives" (p.

257).

Fox (1975) asserts that an animal is able to give a widowed person not only a sense of identity, but also a sense of belonging. In a study by Cain (1983), subjects were asked to identify periods of their lives in which their pets were most important. Fifteen percent indicated that this was during an illness and after the death of a significant other. When asked if anything unusual had been happening in their families at the time they obtained their pet, or just before, thirty-four percent identified that they experienced loss due to separation, divorce, death, or the moving away of an important family member. Brickel (1981) discussed the importance of an animal companion in providing solace during bereavement.

Levinson (1969a) believes that a pet is able to serve as a companion and substitute for relatives and friends who have died. He bases this on the following rationale:

> The best way to cope with the depression caused by the loss of a love object is for the person to go through a period of mourning and then, if possible, to find a substitute for the lost object. A pet can serve as a new love object, one to whom a person can unabashedly give all the love he wishes without fear that the pet will not reciprocate or will desert him. A pet can become a bosom companion and a "substitute" for relatives and friends who have passed on (p. 366).

This idea of constancy is echoed by Katcher (1983). He explains that a dog can be a source of comfort when people fail. This is because the dog does not change; it is like a constant child. It always remains subordinate, and does not force a person to change. Its love is unchanging and always available; it never assaults with words; and it is loyal beyond the capacity of humans to be loyal. If a dog, or other animal, provides this constancy, then perhaps "people

who have less constancy in their lives would be expected to reap the most emotional and physiological benefits from the presence of an animal" (Katcher, 1983, p. 527).

Conjugal Bereavement Literature

For all intact marriages, widowhood is a very natural consequence for one of the partners unless the couple dies concurrently. According to Holmes and Rahe (1967), the death of a spouse is the single most stress-filled life event. In a study of stress reactions to bereavement, Vachon, Formo, et al. (1976) have identified widowhood to be the major stress of a lifetime. Thirty percent of the widows rated the death of the husband as the worst possible disaster, forty percent rated it as extremely stressful, and twenty-one percent as very stressful. They found that more stress was experienced by widows whose husbands had had a final illness of less than two months than those whose husbands' final illnesses were one year or longer.

The works of Parkes (1972) and Glick, Weiss, and Parkes (1974) document conjugal bereavement as increasing the risk of physical, psychological, and social impairment. Contrary to expectations, Carey (1977) found that happiness in marriage was not significantly related to adjustment following bereavement.

There is a difference of opinion as to the effect of dependent children on the widowed. In a study by Carey (1977) of 119 widows and widowers, he found that, contrary to his predictions, the widowed who lived with dependent children, or who lived alone, had a better

adjustment to widowhood than those who lived with independent children. On the other hand, Vachon, Formo, et al. (1976) found that widows living alone with dependent children were found to be under more stress than those living with children and someone else (e.g., young widows living with relatives) or living alone. The idea that a young widow with dependent children tends to respond poorly to the death of her husband is supported by Maddison (1968).

Although there may be differences in the way in which men and women respond to conjugal bereavement, these were minimal according to Sanders (1979-80), whose Grief Experience Inventory (GEI) is used as a dependent variable measure in this dissertation. She observed that widows had greater difficulty with somatic problems and death anxiety than did widowers. Widowers, on the other hand, tended to score higher on the Denial Scale of the GEI. Widows had higher scores on the Anger, Social Isolation, Depersonalization, Sleep Disturbance, and Loss of Appetite Scales of the GEI, supporting the idea that widows display greater overt reactions than do widowers. However, only the Social Isolation and Sleep Disturbance Scales were significant at the .05 level. She found that age differences between groups (sixty years and under, and sixty-one years and older) had no effect on bereavement responses.

Sanders (1979) described four types of responses to grief, based upon GEI profile configurations. These are:

> [1] a disturbed reaction with psychotic overlay and low ego strength,
> [2] a depressive-anxiety reaction with depletion of ego strength,
> [3] denial with somatization, and
> [4] normal reactions with little evidence of anxiety or depression and showing good ego strength (p. 232).

Sanders' (1979) study used a control group of non-bereaved individuals to compare MMPI profiles with GEI profiles. While the two instruments each differentiated the above four categories, the MMPI did not clearly differentiate the bereaved from the non-bereaved. Sanders concludes that "the GEI clearly taps a state component of bereavement that is separate and independent of the MMPI trait measurements (p. 233).

In general, Sanders (1979-80) found that surviving spouses showed relatively few differences across sex or age. This supports the findings of the earlier work of Clayton, Desmarais, and Winokur (1968). In their study of relatives of fifty deceased Caucasian patients who died at Barnes Hospital in St. Louis, no striking differences were found in bereavement symptoms when analyzed in relation to age, sex, length of the deceased's illness, and relationship to the deceased. In comparing men and women, most bereavement symptoms occurred more frequently in women; however, only the use of medicines and crying reached statistical significance. Carey (1977) found that widowers were better adjusted than widows one year following the death of the spouse. Jacobs and Douglas (1979) point out that men are underrepresented in conjugal loss studies.

Berardo's (1968, 1970) studies of widows and widowers suggest that little is made of the shock of bereavement, and that the widowed must find an adequate substitute for the primary relationship which was once provided by the spouse. Greene (1958) in his work on the use of a vicarious object as a substitution for the loss of a person suggests that this might be an animal, such as a dog or a cat. He

further offers that "the vicarious object has suffered loss of the same person as the adjusting individual" (p. 345).

Although the length of time which is needed to resolve the grief experience varies with the individual, there is general agreement among the various studies which have been conducted. Based on findings by others, Jacobs and Douglas (1979) note that:

> The duration of grief on the average is several months though, for some, it is over for the most part after 4 months. No clear endoint for grief is established although some point after 1 year and not exceeding 2 years is most likely. The peak of intensity is usually past by the fifth or sixth month. About one-third of a group of widows still manifest grief of mild to moderate intensity after 6 months and two-thirds are actively grieving 1 year after a loss (p. 172).

Clayton, Desmarais, and Winokur's (1968) study of normal bereavement found that subjects dated their improvement to six to ten weeks following the death. Maddison and Walker (1967) operationally defined the bereavement crisis as lasting for three months after the husband's death. Vachon, Rogers, et al. (1982) found one month predictors of high post-bereavement distress in widows and widowers were indicative of poor outcome at thirteen months.

There is some question as to the value of anticipatory grief. Parkes (1973) found that:

> There are some bereaved persons who, given the opportunity, are able to prepare themselves for bereavement . . . . That sudden or unexpected losses were more traumatic in the younger age group . . . . It might be postulated that in the 60-year-old no conjugal bereavement is entirely unexpected, and that the process of 'disengagement' has already started, whereas younger persons may benefit from an adequate warning of bereavement (p. 615).

Using two weeks as a cutting point, Carey (1977) found that "forewarning was especially important when there had been some period of unhappiness in the marriage or when the patient had experienced

prolonged and serious suffering" (p. 125). He also found that forewarning was a significant factor for widows but not for widowers. Sanders (1977) found no significant difference in depression for those whose relatives had died within seven days of onset of illness or accident, and those whose relatives had died from chronic illnesses.

Demi's (1978) work on adjustment to widowhood compares suicide and nonsuicide survivors. She studied 20 widows and widowers whose spouses died by suicide, and 20 whose spouses died suddenly or accidentally, where the expectation of death was less than forty-eight hours, in order to control for the effects of anticipatory grief. All deaths had occurred twelve to twenty-four months prior to inclusion in the study. It was found that suicide survivors showed less satisfactory social adjustment than nonsuicide survivors, but there was no difference in physical or mental health status.

Because of the sensitive nature of bereavement studies, there tends to be a low rate of subject participation and a high attrition rate (Vachon, Rogers, et al. 1982). The latter occurs in studies which extend over a lengthy period of time. It is due, in part, to the geographic mobility of the newly bereaved, as well as a high death rate in the widowed in the year following bereavement (Young, Benjamin, & Wallis, 1963; Parkes, Benjamin, & Fitzgerald, 1969; Kraus & Lilienfeld, 1959; Rees & Lutkins, 1967).

Subjects participating in bereavement studies comprise a convenience sample and have been obtained by researchers in a variety of ways. Sanders (1979) criticizes the works of Clayton, Desmarais, and Winokur (1968) and Parkes (1971a) for sampling bias. The former

study did not use a representative sample. The investigators used only deaths that occurred in the hospital, excluding home deaths, accidents, or deaths that occurred in a place other than the hospital. In the latter study, subjects were all referred to Parkes by attending physicians, excluding any widows who did not seek medical attention. Sanders' (1977; 1979-80; 1979; 1980-81) bereavement study identified potential subjects through the obituary section of a daily newspaper. She subsequently sent a leter to the survivor explaining the purpose of the study, indicating that they would receive a phone call from the investigator within a few days. Of the 165 contacted, 102 (62 percent) agreed to participate. Of these 102, 73 subjects completed the study.

In a study by Carey (1977) of the widowed one year following bereavement, every widow or widower 70 years of age and younger whose spouse died in an acute general hospital was contacted. Of the 221 possible subjects, 119 (54 percent) agreed to participate. Clayton, Halikas, and Maurice (1972) used two means of obtaining 109 subjects for a study on the depression of widowhood. Thirty-six were chosen from obituaries of the local evening newspaper and 73 were chosen from death certificate records. The overall acceptance rate was 58 percent.

Social Support Literature

The significance of social support as an intervening variable between a major life event and a subsequent stressful outcome has been demonstrated repeatedly (Andrews, Tennant, & Hewson, 1978; Jacobs &

Douglas, 1979; Berardo, 1968; Berardo, 1970; Walker, MacBride, & Vachon, 1977). Dean and Lin (1977) note that "stressful life events and social support appear to be related in important ways which are not yet definitely established" (p. 403). It is widely understood that social support increases coping ability (Gore, 1978). Lin, Ensel, Simeone, and Kuo (1979) state that we may infer that:

> Social support copes with the potential stressor-illness relationship by acting either as an antecedent factor that reduces the likelihood of (undesirable) life changes occurring, or as a buffering factor, following the occurrence of life changes, that controls interpretations of the events and emotional responses to them (p. 110).

House and Kahn (in press) point out that the concept of social support has not yet been adequately defined. It has been described in the literature in three ways; namely, the existence or quantity of social relationship, the structure among a person's social relationships, and the functional content of the relationships. They further note that, in the absence of an adequate measure of social support, that there are good models provided in the literature for most types of measures, and that these may be adapted to specific purposes as necessary. Tolsdorf (1976) indicates that, while there is agreement regarding the importance of the social network, there is less agreement as to which variables (structure, content, or function) are most important in summarizing and quantifying entire social networks.

Lin, Ensel, Simeone, and Kuo (1979) define social support as "support accessible to an individual through social ties to other individuals, groups, and the larger community" (p. 109). It is generally assumed that social support is negatively related to

illness. The above authors point out that, although the literature does not provide a theoretical explanation as to how social support provides a mediating role, it is well-documented that the greater the social support an individual receives, the less likely he/she will experience illness or depression during a stressful life event. Social support may be in the form of close relationships with family members, friends, acquaintances, and the larger community. Lowenthal and Haven (1968) have found that it is not the amount of social contact that is significant, but whether or not an individual has a confidant. Their data indicate that those who decrease social interaction but who have a confidant are no more likely to be depressed than those who increase social interaction.

Cobb (1976) defines social support as information belonging to at least one of the three following classes:

1. Information leading the subject to believe that he is cared for and loved.
2. Information leading the subject to believe that he is esteemed and valued.
3. Information leading the subject to believe that he belongs to a network of communication and mutual obligation (p. 300).

Walker, MacBride, and Vachon (1977) define an individual's social network as "that set of personal contacts through which the individual maintains his social identity and receives emotional support, material aid and services, information, and new social contacts" (p. 35). This includes relatives, friends, neighbors, fellow employees, or professionals paid for their services. They describe the characteristics of an individual's social network in terms of the following:

(1) Size. The number of people with whom an individual maintains

some social contact, including those contacts he can renew in case of need.

(2) Strength of ties. This refers to a combination of characteristics likely to be highly intercorrelated: The amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie.

(3) Density. The extent to which the members of an individual's social network know and contact one another independently of the individual . . . .

(4) Homogeneity of membership. The extent to which network members share social attributes . . . .

(5) Dispersion of membership. The ease with which network members can make face to face contact. This is a function of geographical distance as well as adequate transportation (p. 35).

Schlossberg (1984) points out that an individual's social network consists of both continuity and change. "The need for attachment is continuous throughout life, but whomever an individual is attached to and intimate with seems subject to considerable change" (p. 141). Although there is much evidence that naturally occurring support is beneficial, Melamed (1984) notes that there may be negative aspects of too much support, and that this phenomenon needs to be understood.

Gore (1978) has devised a measure of social support using a thirteen-item index. Eight items are related to the individual's perception of spouse, friends, and relatives as supportive or unsupportive; three items deal with the frequency of activity outside the home with the three classes of relationships; and two items deal with the respondents' perceived opportunity for engaging in satisfying social activities which allow them to talk about their problems. The use of the scale allows an individual to be categorized as "supported" or "unsupported." Gore's study finds that those who are well-supported are able to tolerate more stress than those who are

not, and that individuals who lack social assets adapt to life stresses at great cost to their physical and mental health.

Brown, Brady, and Randa (1984) report that, while many social support instruments:

> have been demonstrated to possess adequate psychometric characteristics and to have criterion-related utility in the study of consequences and concomitants of perceived support, the atheoretical nature of their development has, to a degree, limited the generation of data on predictors of perceived support itself (p. 4)

The above group has developed a Social Support Inventory (SSI) which is a theory-driven measure of perceived support. They operationally define perceived satisfaction with social support as "a pleasurable affective state resulting from one's appraisal of his or her social interactions in terms of their success in meeting his or her interpersonal needs" (pp. 5 & 6). The SSI is a measure or perceived support which is applicable across a wide range of life events and circumstances. It contains a representative sample of relevant need statements based on the four acknowledged domain specifications of interpersonal needs which are esteem support, expressive support, appraisal support, and tangible support. It contains only items describing behaviors that would be perceived as helpful by recipients, and which are not specific to any particular life-event. Brown et al. (1984) state that:

> perceived satisfaction as defined and measured by the SSI was unrelated to major demographic variables, strongly related to a more direct measure of perceived satisfaction, and modestly to moderately related to measures assessing the size and quality of the subjects' social networks as well as the frequency with which subjects received supportive behaviors from others. Neither network size nor frequency of support, however, appeared to be related to the measure of overall satisfaction (p. 20).

Brandt and Weinert (1981) developed a Personal Resource Questionnaire (PRQ) which is a two-part measure of the multidimensional characteristics of social support. It was initially "developed to measure one of the independent variables (social support) in a co-relational study of the stress of long-term illness, social support of the 'well' spouse, and the functioning of the family system" (Brandt & Weinert, 1981, p. 280). It is an instrument with a strong theoretical basis, intended to be used in interdisciplinary research, and is being developed for clinical application. "After adequate testing, the tool will be adapted for use in nursing diagnosis, planning, and intervention" Weinert, 1984).

Recapitulation

While the literature reported here hints at the possibility of companion animals having some effect on humans during the time of bereavement, there has been little systematic investigation to demonstrate this phenomenon. Two recent studies, only one of which has been published, are a beginning attempt to bring together the human-companion animal bond with bereavement. Akiyama, Holtzman, and Britz (1984) studied changes in the health and morale of recently widowed women with and without pets. As a measure of pet attachment, they used Katcher's ten-item pet attachment scale (Friedmann, Katcher, & Meislich, 1983; Katcher, Friedmann, Goodman, & Goodman, 1983). They found that symptoms which were less intense in pet owners were related to anxiety, suggesting that the positive effects observed could be the result of the anxiety-reducing effect of pets.

Lund, Baraki, Johnson, and Dimond (1984) followed a group of widows for one year after the death of their husbands. They studied 192 widows and widowers three weeks, two months, six months, and one year following the death of a spouse. They found that those widows with pets reported more symptoms in the first six months following bereavement than those without pets, and that subjects without pets were better copers at two months following the death. The differences between the two groups diminished in the second six months following bereavement. The conclusion that these researchers draw is that pets cannot be considered to be a substitute for human support, and that

> Family members should not assume that a pet in the home will automatically ease the loneliness felt after the loss of a human companion. Even when the subject has close and affectionate relationships with pets, support network members should realize the bereaved may not be used to caring for them on his/her own (p. 12).

Based upon these findings, it appears as though bereaved spouses should not be strongly encouraged to acquire pets during these early periods and since some decide to get rid of pets during this period such a decision should receive sensitive support. The difficulty of such a decision, particularly in the case that the pet belonged to the deceased spouse, must be recognized and perhaps handled by support network members in terms of either removing the pet from the home temporarily or permanently or at least offering assistance with pet care responsibilities.

However, Salmon and Salmon's (1983) work suggests that pets may be very important to those without a normal family network, such as the widowed. Findings of Cain's (1983) descriptive study indicate that individuals identified pets as important following the death of a

significant other. Levinson's (1969a) notion of the pet as a love object during a period of mourning implies that the pet may provide a measure of companionship and social support unavailable to the non-pet owner bereaved. This is consistent with Greene's (1958) idea of a pet as a vicarious substitute for the person who has died.

It appears from the literature that, to date, Katcher (1981) is the single investigator who has developed and used a social support inventory which has included in it any reference to pets. He found that people describe themselves as less lonely when they have a pet and that:

> the effect of pets was not present only in those people who were socially isolated; it was independent of marital status and access to social support from human beings. This research finding suggests to us that pets may have important effects on the lives of adults that are independent of and supplemental to human contact . . . . This research also suggests that we should look at the health effects of pets on the mass of people who have no stigmatizing mental or social disability: that is, people who are defined as enjoying good mental health and who are, to some degree at least, socially integrated (pp. 49 & 50).

That said, the effect of human-companion animal bonding during bereavement, relative to the absence or presence of a social support system, has not been addressed, to date. The present investigation is a beginning attempt to provide a linkage between these three fields of interest.

CHAPTER III

METHOD

Hypotheses

The following null hypotheses were tested:

1. There is no significant difference in adaptation to the grief experience between the control (non-pet owner) and experimental (bonded dog owner) groups.
2. There is no significant difference in measures of the grief experience between non-pet owners and bonded dog owners when social support is controlled.
3. There is no interaction between pet attachment conditions (non-pet owner and bonded dog owner) and social support conditions (low, moderate, and high support) with regard to adaptation to the grief experience.

Subjects

The subjects in this study consisted of 89 newly-widowed, Caucasian women. They were located through multiple sources, such as obituaries from newspapers in the suburbs of Chicago, death records from a hospital, and referrals from friends. Because of the nature of the study, randomization was impossible, and a convenience sample was used. In order to provide for as much homogeneity within the subject pool comparisons as possible, subjects were limited to Caucasian

women.

Potential subjects were contacted by letter (see Appendix A) within two to three months of the deaths of their husbands. They were invited to return a postage-paid postcard to the investigator indicating their willingness to participate (see Appendix B). If the card was not returned within the stated time of two weeks, a second letter was sent encouraging participation (see Appendix C).

Between July 1984 and March 1985, 590 prospective subjects were located and contacted. Of these, 71 (12 percent) indicated their willingness to participate after receipt of the first letter and 87 (15 percent) refused to participate. The remaining 432 (73 percent) received a second letter. Of these, 42 additional individuals agreed to participate, bringing the total prospective subject pool to 113 (19 percent) and 114 more declined, for a total of 201 (34 percent) declensions. The remaining 276 (47 percent) responded to neither letter. In summary, the overall participation rate was:

Agreed to participate	113 (19 percent)
Declined participation	201 (34 percent)
Did not respond	276 (47 percent)
Total contacts made	590

Procedure

Subjects in the experimental group were dog owners who indicated that they were attached to their pet dogs, as evidenced by their own personal assessment. Subjects in the control group were not dog owners, nor did they own any pet. The rationale for excluding owners

of pets of any species other than dogs was to eliminate the possibility of contaminating the results, since there is always the possibility that another species of animal might provide psychosocial support, but in a manner different from that of a dog. Individuals who owned dogs but who did not evidence attachment to them were also excluded from the study.

Arrangements were made for the investigator, or trained data collectors, to visit the subjects in their homes, unless another place was more convenient for the subjects. This visit occurred between three and four months following their husbands' deaths. They were asked to sign the "Informed Consent" form (see Appendix D), and then were asked to complete the Grief Experience Inventory (GEI); the Personal Resource Questionnaire (PRQ); and the Conjugal Bereavement Questionnaire (CBQ), which includes demographic information and an assessment of attachment to their dog, if they owned one. Dog owners were also asked to answer four additional questions, which were asked by the data collector, related to the pet's response to the death. (See Appendices E, F, G, and H, respectively, for details.)

Data collection sessions occurred most frequently in the homes of the subjects, but other locations were used if more convenient for the subjects. One hundred data collection sessions took place in the homes of the subjects, three in the offices of the subjects, two in restaurants, and one in the office of the investigator.

Of the 113 individuals who agreed to participate in the study, 7 were not seen due to scheduling problems. Data were collected from the remaining 106 individuals by the investigator and two trained data

collectors. The investigator interviewed 92 subjects and the remaining 14 were seen by the data collectors.

Of the 106 subjects who were interviewed, data obtained from 13 subjects were excluded from the study for the following reasons:

2 Non-bonded dog owners
6 Cat owners
3 Bird owners
1 Obtained cat after husband's death
1 Obtained dog after husband's death

This left a potential of 93 participants for the study. Of these, 58 were non-pet owners and 35 were bonded dog owners.

Instrumentation

Grief Experience Inventory: Adaptation to the experience of conjugal bereavement was the primary dependent variable in this study and was assessed by the Grief Experience Inventory (GEI) developed by Sanders, Mauger, and Strong (1979). The GEI is a multidimensional measure of grief and was developed specifically to assess the grief experience. It contains three validity scales, ten bereavement scales, and five research scales.

The validity scales, indicating whether the profile is interpretable, are Denial, Atypical Response, and Social Desirability. The Denial scale has a .41 correlation with the MMPI Lie scale. It "indicates a hesitancy to admit to common but socially undesirable weaknesses and feelings" (Sanders, et al., 1979, p. 21). The Atypical Response scale "indicates the tendency to endorse items which less than 25% of the normative sample endorsed . . . . and was developed to detect an unusual response set" (p. 22). The Social Desirability

scale "reflects the tendency to respond in a socially more desirable or acceptable manner" (p. 23).

Profiles of subjects with T scores of 70 or above on any of the three validity scales were not used in the study, as these results are not interpretable. Of the 93 potential participants previously described, three non-pet owners and one bonded dog owner scored 77, 83, 77, and 77, respectively, on the Atypical Response scale. They were removed from the study, leaving 89 subjects as participants, of which 55 were non-pet owners and 34 were bonded dog owners.

The ten bereavement scales are Despair, Anger/Hostility, Guilt, Social Isolation, Loss of Control, Rumination, Depersonalization, Somatization, Death Anxiety, and Sleep Disturbance. Items from the GEI which are included in each of these subscales, and the scoring key, may be found in Appendix I. These are briefly described below.

The Despair scale correlates moderately with the Depression, Psychasthenia, and Anxiety scales of the MMPI (Sanders et al., 1979). It reportedly

> measures the mood state of the respondent, characterized generally by pessimism of outlook on life, feelings of hopelessness or worthlessness, slowing of thoughts or actions, and low self-esteem . . . . The Despair scale is the longest and most reliable of the bereavement scales. It measures the most pervasive psychological expression of grief . . . . The person with a high score on this scale is turned inward, preoccupied, and dysphoric. The emotions of depression, anxiety, fear, anger and hopelessness are all present. The person feels hurt, and perhaps even cheated or treated unfairly by fate (1979, p. 24).

The Anger/Hostility scale correlates with the Psychopathic Deviate, Paranoia, and Anxiety scales of the MMPI (Sanders et al., 1979, p 24). It reportedly "indicates an individual's level of irritation, anger, and feelings of injustice" (p. 24) and

> suggests that individuals who score high on this scale are restless, agitated, and angry. They are likely to be touchy, irritable and to lose their tempers over small matters. They utilize projection as a defense mechanism and place the blame for their feelings on others or on external circumstances. They feel unfairly treated by the world and motivated to strike back. Such people need the opportunity for catharsis in venting this aspect of their feelings of grief. These angry feelings are especially problematic for people in our culture who may feel guilt for having such emotions at the time of grief. They may not feel that they can express these emotions openly to their family, friends or clergymen . . . . Compared to other aspects of grief, anger is seen as somewhat socially undesirable. High scores on the AH scale seem to be more frequent in the death of a child, or the death of a spouse at a young age (pp. 24 & 25).

The Guilt scale is reported to be "an expression of feeling somehow responsible for the death or in some way to blame. Items are designed to tap feelings that come about for having survived the deceased" (Sanders et al., 1979, p. 25). This scale correlates with the Psychasthenia scales of the MMPI.

The Social Isolation scale correlates with the Depression, Paranoia, and Social Introversion scales of the MMPI and reportedly "samples behavior characterized by withdrawal from social contacts and responsibilities. People who score high on this scale reportedly do so not only by their own choosing but by their assumed feelings of isolation by others" (Sanders et al., 1979, p. 25). Correlations suggest that "people scoring high on the Social Isolation scales are feeling like withdrawing and being by themselves, but that there is also an element of oversensitivity and fear of being hurt in interpersonal relationships" (p. 25).

The Loss of Control scale correlates most highly with the Psychasthenia scale of the MMPI and reportedly "indicates a person's inability to control his overt emotional experiences . . . . Many of

the items deal with crying . . . . There may be a small tendency in some groups of people to view a loss of control as a sign of weakness and socially undesirable" (p. 25).

The Rumination scale correlates with the Paranoia and Psychasthenia scales of the MMPI and reportedly "measures the amount of time spent with thoughts concerning the deceased or preoccupation with thoughts of the deceased . . . . This probably represents a quality of brooding--a combination of rumination and anger, a looking for someone to blame" (pp. 25 & 26).

The Depersonalization scale has low correlations with the Hysteria and Schizophrenia scales of the MMPI and reportedly "measures the numbness, shock, and confusion of grief. This is particularly evident when the death is unexpected or when severe feelings of loss of control of one's environment or universe ensue" (p. 26).

The Somatization scale correlates with the Hypochondriasis and Hysteria scales of the MMPI and reportedly "measures the extent of somatic problems which take place under the stress experience" (p. 26).

The Death Anxiety scale reportedly "measures the intensity of one's personal death awareness" (p. 26). The Sleep Disturbance scale "has proved to be effective in tapping bereavement reactions" (p. 26).

In addition to the ten scales described above, the GEI has five research scales (Appetite, Vigor, Physical Symptoms, Optimism vs. Despair, and Dependency) which are exploratory and are not recommended for clinical use. These scales were not used in this study.

Personal Resource Questionnaire: The Personal Resource Questionnaire (PRQ) is a two-part measure of social support (Brandt, 1984; Brandt & Weinert, 1981). Part 1 consists of several life situations in which a person might need assistance. Respondents are asked to indicate, from among several choices, from whom they would seek support should that particular life situation occur. They are then asked if they have experienced that situation in the past six months, and whether they were satisfied with the support received. Part 2 measures the respondent's level of perceived social support and consists of 25 items which are rated from 7 (strongly agree) to 1 (strongly disagree) on a Likert scale (Weinert, 1984). The possible range of scores for the PRQ-Part 2 is 25 to 175.

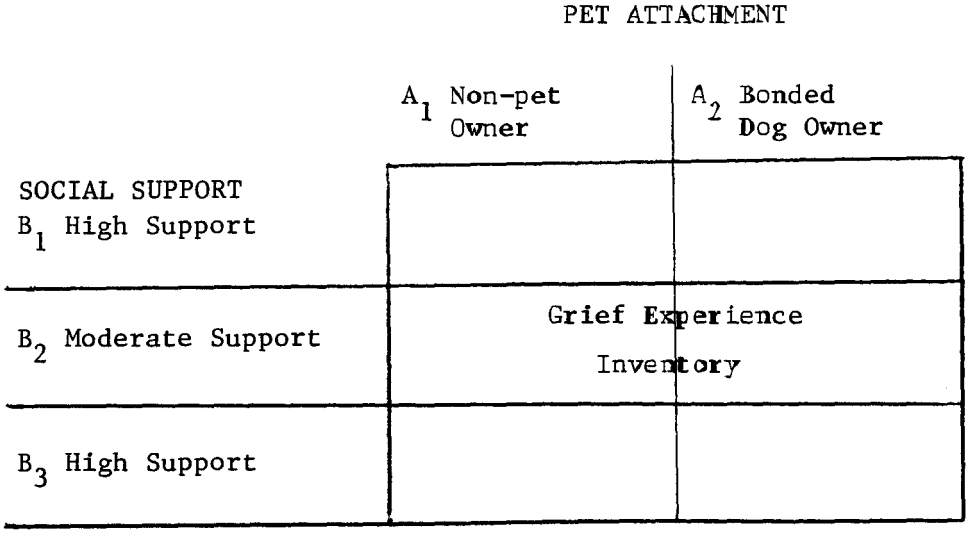
According to Weinert (1984) the "total scale for the PRQ-Part 1 roughly indicates the size of the resource pool, while the PRQ-Part 2 measures the multidimensional construct of social support" (p. 69). Brandt and Weinert (1981) indicate "that PRQ-Part 2, the measure of perceived social support, is a stronger predictor of family functioning than PRQ-Part 1" (p. 280). Although subjects in the present study responded to both parts of the PRQ, only Part 2 was used in the data analysis. This choice was made because of greater interest in perceived social support than the size of the subject's resource pool and because of the better predictive validity coefficients reported for the PRQ-Part 2 scale.

Conjugal Bereavement Questionnaire: The Conjugal Bereavement Questionnaire (CBQ) contains questions of a demographic nature. It also makes inquiry into the nature of the husband's death and the

pet's reaction to it. The last seven questions were answered by dog owners only, and are related to the subject's attachment to the dog. One of these questions contains the ten items from Katcher's pet attachment scale (Friedmann, Katcher, & Meislich, 1983; Katcher, Friedmann, Goodman, & Goodman, 1983). However, because this scale has not yet been validated, assignment to the experimental group was determined by the subject's own assessment of attachment, as measured by the answer to question number 36 on the CBQ. Those who rated themselves as "somewhat attached" or "very attached" were assigned to the bonded dog owner group. This is in keeping with the procedures employed in a prior study by Baun, Bergstrom, Langston, and Thoma (1984) in which the subject's self-assessment was used to establish bonding. Those who rated themselves at least moderately attached to their dogs were considered bonded.

Design and Statistical Analysis

The overall research paradigm for this study is presented below:



The ten subscales of the GEI comprised the dependent variables. The numerous independent variables obtained from the PRQ and the CBQ were reduced to manageable subsets for inclusion in the multiple regression procedures in the following manner. Continuous independent variables and variables with three or more categories on an ordinal scale which correlated significantly with the ten dependent variables were selected for inclusion as manageable subsets. In addition, categorical variables, both dichotomous and those with three or more categories on a nominal scale, were selected for inclusion if they revealed a significant correlation ratio. The latter was computed based on results of a oneway analysis of variance.

For any given independent variable to be included in the data analysis, it was arbitrarily decided that it must have a correlation of at least .10 with one of the dependent variables. It also needed to be statistically significant at a level of at least .05 for either the pooled subjects or either of the two groups. For example, the independent variables PRQ10, YRSMAR, STRSSDTH, HLTHBEF, HLTHAFT, OWNTIME, and PLACEDTH were selected for inclusion based upon the following correlations with the dependent variable Despair. HLTHAFT and PLACEDTH correlated with only Group A; YRSMAR, HLTHBEF and OWNTIME correlated with only Group B; STRSSDTH correlated with Group A and the pooled group; and PRQ10 correlated with both Groups A and B, and with the pooled groups. (Tables of these results are included in Appendix K.) The above procedure was systematically followed in order to select the predictor variables for each of the nine remaining dependent variables.

A comparative summary of variable names and their explanations for both the dependent and independent variables used in this study follows:

Dependent Variables

AHT	Anger/Hostility
DAT	Death Anxiety
DEST	Despair
DRT	Depersonalization
GUT	Guilt
LCT	Loss of Control
RUT	Rumination
SIT	Social Isolation
SOMT	Somatization
SSDT	Sleep Disturbance

Independent Variables

CHRATT	Regularity of church attendance of the widow
CLOSHUS	Closeness to husband
CONFPET	Widow confides in the pet
D1	Widow does not attend church regularly
D2	Widow was not present at the time of death
D3	Widow had not experienced any other recent loss
D4	Widow does not confide in pet
D5	Pet did not respond to the death in any way
D6	Widow had some college education
D7	Widow is a college graduate or more
D17	Place of death - hospital
D18	Place of death - nursing home
D19	Place of death other than home, hospital or nursing home
EDUC	Educational level of the widow
HAPLIFE	How happy the widow rates her life
HLTHBEF	Health of the widow before the death
HLTHAFT	Health of the widow after the death
HUSAGE	Husband's age at the time of his death
INC	Current income of the widow
ILLENGTH	Length of time the husband was ill
OWNTIME	Length of time the pet was owned
PLACEDTH	Place of the death
PRESDTH	Presence of the widow at the death
PRQ10	Social support measure
RESPDTH	Response of the pet to the death
STRSSDTH	Stressfulness of the death to the widow
SUBAGE	Age of the widow
YRSMAR	Years of marriage

To test the first null hypothesis, backward elimination multiple regression analysis was performed on each dependent variable. The predictor variables which were entered into the multiple regression procedure for each dependent variable were identified as previously described. The independent variables which were selected for inclusion as predictor variables in the multiple regression equation were tested for differences across the two groups (non-pet owners and bonded dog owners).

To test the second null hypothesis, analysis of covariance was used. A oneway analysis of covariance was run on each of the ten dependent variables using the social support measure (PRQ10) as the covariate and the two groups as factors.

Finally, to test the third null hypothesis, subjects were arbitrarily assigned to one of three social support groups (low support, moderate support, and high support) based upon the score which they received on the social support measure. A two by three factorial analysis of variance for each dependent variable was run using the two pet attachment groups and the three social support groups as the independent variables. In order to verify the results, Pearson correlations were run among the social support measure (PRQ10) and each of the ten dependent variables for each of the two groups (non-pet owners and bonded dog owners).

CHAPTER IV

RESULTS

The dependent variables used in this study were the ten subscales of Sanders, Mauger, and Strong's (1979) Grief Experience Inventory (GEI). They are Despair (DEST), Anger/Hostility (AHT), Guilt (GUT), Social Isolation (SIT), Loss of Control (LCT), Rumination (RUT), Depersonalization (DRT), Somatization (SOMT), Death Anxiety (DAT), and Sleep Disturbance (SSDT). Raw scores obtained by subjects on the GEI subscales were converted to standard T score equivalents. These standard T score equivalents for each of the first nine subscales were based on the normative research of Sanders, Mauger, and Strong (1979) with early bereavement groups, consisting of individuals who experienced the death of a parent, spouse, or child within the past two months. The tenth subscale, Sleep Disturbance, was standardized on individuals in combined bereavement groups (see Appendix J).

The independent variables used in this study were derived from responses to the scales of the Personal Resource Questionnaire (PRQ)-Part 2, from answers to questions on the Conjugal Bereavement Questionnaire (CBQ), and from responses to the five questions put to the pet owners related to the pet's response to the death.

In testing the hypotheses in this study, the Statistical Package for the Social Sciences, Version 10, (SPSSx) was used to perform the

required statistical procedures (SPSSx, 1983). The manner in which each of the three hypotheses was tested is described in the following sections.

Hypothesis 1

The first null hypothesis states that there is no significant difference in adaptation to the grief experience between the control (non-pet owner) and experimental (bonded dog owner) groups.

Because of the large number of independent variables, the data set was reduced to a manageable size by eliminating as many variables as possible and isolating those which empirically showed a relationship to the dependent measure. This allowed the isolation of a manageable subset of variables for entry into the multiple regression equations for each of the ten dependent variables. In order to accomplish this, Pearson correlations were run between each dependent variable and all continuous independent variables, as well as between independent variables of three or more categories on an ordinal scale.

Oneway analyses of variance were run for each of the ten GEI dependent variables with all dichotomous independent variables, as well as for all independent variables of three or more categories on a nominal scale. Using the output from the oneway anovas, a correlation ratio was obtained as a measure of association between each independent variable and each dependent variable. The correlation ratio yielded a measure of association which indicated the proportion

of dependent variability accounted for by each of the independent variables. The following biased correlation ratio formula was used:

$$\text{Correlation Ratio} = 1 - \frac{SS_{within}}{SS_{total}}$$

The above data reduction procedures (Pearson correlations and correlation ratios) were run on the pooled subjects in the study, and on each of the two groups individually (non-pet owners and bonded dog owners). It was arbitrarily decided that for any given independent variable to be included in the final data analysis it must have a correlation of at least .10 and be statistically significant at a level of at least .05 for either the pooled subjects or either of the two groups. Tables of these results are included in Appendix K.

Following the systematic isolation of a subset of independent variables to be used in the multiple regression procedures for each of the dependent variable scales, both stepwise and backward elimination multiple regression procedures were run on each of the two groups (non-pet owners and bonded dog owners). The solution that accounted for the greatest amount of variability was chosen for interpretative purposes. In every instance backward elimination accounted for an equal amount of variability, or greater variability, than stepwise, and for that reason backward elimination was used as the procedure of choice in the present study. With backward elimination, predictor variables are eliminated one by one from a regression equation that initially includes all predictor variables.

Results of the backward elimination regression equations were examined for each of the two groups on each dependent variable. For

purposes of clarity in this study, the control group (non-pet owners) is referred to as Group A and the experimental group (bonded dog owners) is referred to as Group B. The correlation matrices for Groups A and B, showing intercorrelations between all of the dependent variables and independent variables used in this study, are included in Appendix L.

Dependent Variable 1 DESPAIR: The independent variables which correlated significantly with the first dependent variable, Despair (DEST), and which were used in the regression equation were:

D17	Place of death - hospital
D18	Place of death - nursing home
D19	Place of death other than home, hospital or nursing home
HLTHBEF	Health of the widow before the death
HLTHAFT	Health of the widow after the death
OWNTIME	Length of time the pet was owned
PRQ10	Social support measure
STRSSDTH	Stressfulness of the death to the widow
YRSMAR	Years of marriage

Table 1 shows that for Group A (non-pet owners), 53 percent of the variability for the dependent variable DEST is accounted for by four of the predictor variables D19, HLTHAFT, STRSSDTH, and HLTHBEF (multiple R = .730). This is a moderately strong measure of association between this set of independent variables and the dependent variable. All of the beta weights of the four predictor variables in the equation are statistically significant (greater than zero). The variable HLTHAFT has the highest beta weight and is approximately twice as large as the others in the equation. Although D19 has the highest intercorrelation with the dependent variable, it has approximately the same size beta weight as HLTHBEF. The variables STRSSDTH and HLTHBEF are negatively weighted.

Table 1

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable DESPAIR

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
D19	.458	.379	.0003			
HLTHAFT	.413	.639	.0001			
STRSSDTH	-.429	-.254	.0180			
HLTHBEF	.037	-.374	.0193			
				.730	.533	.0000

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(3) PRQ10	-.301	-.108	.4524	.737	.543	.0000
(1) YRSMAR	-.069	.041	.7756	.745	.555	.0000
(4) D17	-.011	.148	.3016	.730	.533	.0000
(2) D18	.105	.065	.6491	.743	.553	.0000

The beta weights of the variables not included in the equation (PRQ10, YRSMAR, D17, and D18) all have very small partial correlation coefficients which are not statistically significant, and add little if anything to the predictability of the dependent variable DEST. Even though some of the independent variables not in the equation appear to be moderately related to the dependent variable, they would not significantly improve the prediction equation, since they appear to be intercorrelated with the variables in the equation.

Table 2 shows that for Group B (bonded dog owners), nearly 35 percent of the variability for the dependent variable DEST is accounted for by two of the predictor variables HLTHBEF and YRSMAR (multiple R = .588). Each of the beta weights for the two predictor

variables is statistically significant. The beta weight for YRSMAR is approximately twice as large as that for HLTHBEF.

Table 2

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable DESPAIR

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
HLTHBEF	.401	.288	.0650			
YRSMAR	.518	.444	.0059			
				.588	.345	.0014

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(5) PRQ10	-.407	-.128	.4844	.636	.404	.0038
(6) STRSSDTH	-.245	-.192	.2923	.613	.376	.0025
(3) HLTHAFT	.234	-.048	.7955	.648	.420	.0154
(4) OWNTIME	.331	.131	.4751	.643	.413	.0079
(2) D17	.027	.060	.7444	.650	.422	.0299
(7) D18	-.038	-.216	.2343	.588	.345	.0014
(1) D19	-.050	.015	.9334	.651	.423	.0537

The beta weights of the variables not included in the equation (PRQ10, STRSSDTH, HLTHAFT, OWNTIME, D17, D18, and D19) have relatively small partial correlation coefficients which are not statistically significant.

Only one predictor variable, HLTHBEF, is common to Groups A and B in the regression equations for the dependent variable DEST. In order to determine whether the differences between the groups are significantly different, a test for equality of beta weights was performed on the HLTHBEF variable across the two groups. A z-score of -3.062 was obtained, indicating that a significant difference exists.

Dependent Variable 2 ANGER/HOSTILITY: The independent variables which correlated significantly with the second dependent variable, Anger/Hostility (AHT), and which were used in the regression equation were:

CLOSHUS	Closeness to husband
HLTHAFT	Health of the widow after the death
HLTHBEF	Health of the widow before the death
HUSAGE	Husband's age at the time of his death
INC	Current income of the widow
OWNTIME	Length of time the pet was owned
PRQ10	Social support measure
STRSSDTH	Stressfulness of the death to the widow
SUBAGE	Age of the widow
YRSMAR	Years of marriage

Table 3 shows that for Group A (non-pet owners), approximately 33 percent of the variability for the dependent variable AHT is accounted for by two of the predictor variables STRSSDTH and YRSMAR (multiple R = .574). Each of the beta weights for the two predictor variables is statistically significant. YRSMAR has the higher of the beta weights, and both are negatively weighted.

Table 3

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable ANGER/HOSTILITY

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
STRSSDTH	-.417	-.300	.0144			
YRSMAR	-.497	-.411	.0010			
				.574	.329	.0000

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(6) PRQ10	-.142	-.133	.3419	.587	.344	.0001
(4) SUBAGE	-.463	-.124	.3756	.625	.390	.0001
(1) HUSAGE	-.392	-.089	.5283	.645	.416	.0001
(2) CLOSHUS	.012	.168	.2284	.640	.410	.0005
(7) HLTHBEF	-.183	-.149	.2860	.574	.329	.0000
(5) HLTHAFT	.045	.014	.9226	.611	.373	.0001
(3) INC	.114	.090	.5229	.634	.402	.0003

The beta weights of the variables not included in the equation (PRQ10, SUBAGE, HUSAGE, CLOSHUS, HLTHBEF, HLTHAFT, and INC) all have relatively small partial correlation coefficients which are not statistically significant.

Table 4 shows that for Group B (bonded dog owners), 20 percent of the variability for the dependent variable AHT is accounted for by the one predictor variable CLOSHUS (multiple R = .448). This variable is negatively weighted and statistically significant.

Table 4

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable ANGER/HOSTILITY

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
CLOSHUS	-.448	-.448	.0079	.448	.201	.0079

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) PRQ10	-.051	-.174	.3340	.593	.352	.1491
(1) SUBAGE	.123	.137	.4462	.593	.352	.2239
(5) YRSMAR	.158	.143	.4287	.578	.334	.0355
(8) HUSAGE	.236	.214	.2314	.501	.251	.0114
(9) STRSSDTH	-.354	-.249	.1616	.448	.201	.0079
(7) HLTHBEF	.318	.229	.1997	.546	.298	.0129
(4) HLTHAFT	.291	.169	.3470	.590	.348	.0550
(6) OWNTIME	.278	.248	.1644	.567	.323	.0203
(3) INC	-.019	-.085	.6389	.592	.351	.0929

The beta weights of the variables not included in the equation (PRQ10, SUBAGE, YRSMAR, HUSAGE, STRSSDTH, HLTHBEF, HLTHAFT, OWNTIME, and INC) all have partial correlation coefficients which are not statistically significant. No predictor variables in the regression equation are shared in common by Groups A and B for the dependent variable AHT.

Dependent Variable 3 GUILT: The independent variables which correlated significantly with the third dependent variable, Guilt (GUT), and which were used in the regression equation were:

D2	Widow was not present at the time of death
HAPLIFE	How happy the widow rates her life
HLTHBEF	Health of the widow before the death
HUSAGE	Husband's age at the time of his death
INC	Current income of the widow
PRQ10	Social support measure

STRSSDTH	Stressfulness of the death to the widow
SUBAGE	Age of the widow
YRSMAR	Years of marriage

Table 5 shows that for Group A (non-pet owners), approximately 26 percent of the variability for the dependent variable GUT is accounted for by two of the predictor variables D2 and HUSAGE (multiple R = .509). Each of the beta weights of the two predictor variables in the equation is statistically significant. The variable D2 has the highest beta weight and has the highest correlation with the dependent variable. The variable HUSAGE is negatively weighted.

Table 5

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable GUILT

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
D2	.390	.476	.0003			
HUSAGE	-.217	-.338	.0084			
				.509	.259	.0004

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(7) PRQ10	-.194	-.183	.1896	.509	.259	.0004
(1) SUBAGE	-.220	-.071	.6123	.554	.307	.0218
(2) YRSMAR	-.214	-.070	.6198	.553	.305	.0120
(3) INC	-.137	-.031	.8264	.551	.303	.0061
(5) STRSSDTH	-.196	-.137	.3273	.542	.294	.0014
(4) HAPLIFE	-.029	.053	.7070	.547	.299	.0031
(6) HLTHBEF	-.064	-.046	.7452	.533	.284	.0006

The beta weights of the variables not included in the equation (PRQ10, SUBAGE, YRSMAR, INC, STRSSDTH, HAPLIFE, and HLTHBEF) all have small partial correlation coefficients which are not statistically

significant.

Table 6 shows that for Group B (bonded dog owners), 42 percent of the variability for the dependent variable GUT is accounted for by five of the predictor variables STRSSDTH, HUSAGE, HAPLIFE, HLTHBEF, and SUBAGE (multiple R = .648). This is a moderately strong measure of association between this set of independent variables and the dependent variable. All of the beta weights of the five predictor variables in the equation are statistically significant. The variable SUBAGE has the highest beta weight and is more than twice as large as STRSSDTH and HLTHBEF, although STRSSDTH has the highest intercorrelation with the dependent variable. The variables STRSSDTH and SUBAGE are negatively weighted.

Table 6

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable GUILT

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
STRSSDTH	-.328	-.286	.0970			
HUSAGE	.033	.547	.0458			
HAPLIFE	.210	.406	.0142			
HLTHBEF	.273	.281	.0757			
SUBAGE	-.206	-.709	.0155			
				.648	.420	.0068

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) PRQ10	-.145	-.066	.7343	.652	.425	.0283
(4) YRSMAR	.067	.071	.7129	.648	.420	.0068
(3) INC	-.211	-.060	.7574	.650	.423	.0145
(1) D2	.125	.044	.8217	.653	.426	.0515

The beta weights of the variables not included in the equation (PRQ10, YRSMAR, INC, and D2) all have small partial correlation coefficients which are not statistically significant.

Only one variable, HUSAGE, is common to Groups A and B in the regression equations for the dependent variable GUT. In order to determine whether the differences between the groups are significantly different, a test for equality of beta weights was performed on the HLTHBEF variable across the two groups. A z-score of -3.136 was obtained, indicating that a significant difference exists.

Dependent Variable 4 SOCIAL ISOLATION: The independent variables which correlated significantly with the fourth dependent variable, Social Isolation (SIT), and which were used in the regression equation were:

D2	Widow was not present at the time of death
HLTHAFT	Health of the widow after the death
HLTHBEF	Health of the widow before the death
INC	Current income of the widow
PRQ10	Social support measure
STRSSDTH	Stressfulness of the death to the widow
YRSMAR	Years of marriage

Table 7 shows that for Group A (non-pet owners), 25 percent of the variability for the dependent variable SIT is accounted for by three of the predictor variables HLTHBEF, PRQ10, and HLTHAFT (multiple R = .504). All of the beta weights of the three predictor variables in the equation are statistically significant. The variables HLTHBEF and HLTHAFT have beta weights which are approximately twice as large as that of PRQ10. The variables HLTHBEF and PRQ10 are negatively weighted.

Table 7

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable SOCIAL ISOLATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
HLTHBEF	.005	-.509	.0067			
PRQ10	-.322	-.245	.0767			
HLTHAFT	.309	.576	.0036			
				.504	.254	.0017

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(1) YRSMAR	.003	.010	.9443	.554	.307	.0055
(2) INC	-.113	-.125	.3753	.547	.300	.0030
(3) STRSSDTH	-.301	-.139	.3275	.529	.279	.0022
(4) D2	.316	.184	.1905	.504	.254	.0017

The beta weights of the variables not included in the equation (YRSMAR, INC, STRSSDTH, and D2) all have small partial correlation coefficients which are not statistically significant.

Table 8 shows that for Group B (bonded dog owners), approximately 24 percent of the variability for the dependent variable SIT is accounted for by the one predictor variable PRQ10 (multiple R = .473). This variable is negatively weighted and statistically significant.

Table 8

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable SOCIAL ISOLATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
PRQ10	-.473	-.473	.0047	.473	.224	.0047

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(4) YRSMAR	.319	.129	.4739	.514	.265	.0248
(5) INC	-.225	-.147	.4134	.493	.242	.0133
(3) STRSSDTH	-.051	-.048	.7907	.524	.274	.0478
(1) HLTHBEF	.267	.096	.5962	.525	.276	.1561
(2) HLTHAFT	.178	.046	.8011	.525	.276	.0909
(6) D2	-.150	-.159	.3776	.473	.224	.0047

The beta weights of the variables not included in the equation (YRSMAR, INC, STRSSDTH, HLTHBEF, HLTHAFT, and D2) all have relatively small partial correlation coefficients which are not statistically significant.

Only one variable, PRQ10, is common to Groups A and B in the regression equations for the dependent variable SIT. In order to determine whether the differences between the groups are significantly different, a test for equality of beta weights was performed on the PRQ10 variable across the two groups. A z-score of .653 was obtained, indicating that no significant difference exists.

Dependent Variable 5 LOSS OF CONTROL: The independent variables which correlated significantly with the fifth dependent variable, Loss of Control (LCT), and which were used in the regression equation were:

D6	Widow had some college education but did not graduate
D7	Widow is a college graduate or more
CLOSHUS	Closeness to husband
HLTHAFT	Health of the widow after the death
HLTHBEF	Health of the widow before the death
HUSAGE	Husband's age at the time of his death
STRSSDTH	Stressfulness of the death to the widow
SUBAGE	Age of the widow
YRSMAR	Years of marriage

Table 9 shows that for Group A (non-pet owners), approximately 30 percent of the variability for the dependent variable LCT is accounted for by two of the predictor variables D7 and YRSMAR (multiple R = .544). Each of the beta weight for the predictor variables in the equation is negatively weighted and statistically significant. The variable YRSMAR has the highest beta weight.

Table 9

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable LOSS OF CONTROL

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
D7	-.354	-.296	.0147			
YRSMAR	-.458	-.417	.0008			
				.544	.296	.0001

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(1) SUBAGE	-.347	.095	.4965	.617	.380	.0029
(3) HUSAGE	-.260	.101	.4702	.612	.375	.0007
(2) CLOSHUS	.011	-.031	.8246	.616	.380	.0014
(4) STRSSDTH	-.321	-.203	.1457	.605	.366	.0003
(6) HLTHBEF	-.065	.019	.8942	.568	.323	.0002
(7) HLTHAFT	.060	.196	.1605	.544	.296	.0001
(5) D6	.112	.151	.2791	.589	.346	.0002

The beta weights of the variables not included in the equation (SUBAGE, HUSAGE, CLOSHUS, STRSSDTH, HLTHBEF, HLTHAFT, and D6) all have relatively small partial correlation coefficients which are not statistically significant.

Table 10 shows that for Group B (bonded dog owners), 20 percent of the variability for the dependent variable LCT is accounted for by the one predictor variable HLTHBEF (multiple R = .447). This variable is positively weighted and statistically significant.

Table 10

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable LOSS OF CONTROL

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
HLTHBEF	.447	.447	.0081	.447	.200	.0081

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(1) SUBAGE	-.129	-.292	.0986	.582	.339	.1741
(2) YRSMAR	-.058	-.199	.2667	.582	.339	.1099
(8) HUSAGE	-.124	-.291	.1007	.447	.200	.0081
(7) CLOSHUS	-.291	-.198	.2700	.517	.267	.0081
(6) STRSSDTH	-.239	-.228	.2010	.549	.301	.0121
(3) HLTHAFT	.309	.055	.7611	.581	.338	.0643
(5) D6	.065	.176	.3264	.564	.318	.0220
(4) D7	.122	.084	.6418	.572	.328.	.0394

The beta weights of the variables not included in the equation (SUBAGE, YRSMAR, HUSAGE, CLOSHUS, STRSSDTH, HLTHAFT, D6 and D7) all have partial correlation coefficients which are not statistically significant. No predictor variables in the regression equations are

shared in common by Groups A and B for the dependent variable LCT.

Dependent Variable 6 RUMINATION: The independent variables which correlated significantly with the sixth dependent variable, Rumination (RUT), and which were used in the regression equation were:

CLOSHUS	Closeness to husband
D2	Widow was not present at the time of death
HAPLIFE	How happy the widow rates her life
HLTHAFT	Health of the widow after the death
STRSSDTH	Stressfulness of the death to the widow

Table 11 shows that for Group A (non-pet owners), 19 percent of the variability for the dependent variable RUT is accounted for by two of the predictor variables D2 and STRSSDTH (multiple R = .438). Each of the beta weights for the predictor variables in the equation is statistically significant. The variable STRSSDTH has the highest beta weight and is negatively weighted.

Table 11

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable RUMINATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
D2	.345	.343	.0081			
STRSSDTH	-.272	-.270	.0352			
				.438	.192	.0039

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) CLOSHUS	-.108	.033	.8120	.456	.208	.0073
(3) HAPLIFE	-.221	-.141	.3109	.438	.192	.0039
(1) HLTHAFT	.162	.032	.8184	.468	.219	.0136

The beta weights of the variables not included in the equation

(CLOSHUS, HAPLIFE, and HLTHAFT) all have small partial correlation coefficients which are not statistically significant.

Table 12 shows that for Group B (bonded dog owners), 24 percent of the variability for the dependent variable RUT is accounted for by the one predictor variable CLOSHUS (multiple R = .490). This variable is negatively weighted and statistically significant.

Table 12

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable RUMINATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
CLOSHUS	-.490	-.490	.0032	.490	.240	.0032

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(4) STRSSDTH	-.369	-.257	.1487	.490	.240	.0032
(1) HAPLIFE	.017	-.039	.8290	.565	.320	.0212
(3) HLTHAFT	.290	.154	.3918	.539	.291	.0049
(2) D2	-.110	-.104	.5649	.558	.312	.0098

The beta weights of the variables not included in the equation (STRSSDTH, HAPLIFE, HLTHAFT, and D2) all have relatively small partial correlation coefficients which are not statistically significant. No predictor variables in the regression equations are shared in common by Groups A and B for the dependent variable RUT.

Dependent Variable 7 DEPERSONALIZATION: The independent variables which correlated significantly with the seventh dependent variable, Depersonalization (DRT), and which were used in the

regression equation were:

CLOSHUS	Closeness to husband
ILLENGTH	Length of time the husband was ill
OWNTIME	Length of time the pet was owned
PRQ10	Social support measure
STRSSDTH	Stressfulness of the death to the widow

Table 13 shows that for Group A (non-pet owners), approximately 11 percent of the variability for the dependent variable DRT is accounted for by the one predictor variable ILLENGTH (multiple R = .330). This is a weak measure of association between this independent variable and the dependent variable. However, this variable is positively weighted and statistically significant.

Table 13

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable DEPERSONALIZATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
ILLENGTH	.330	.330	.0140	.330	.109	.0140

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) PRQ10	-.046	-.007	.9573	.392	.154	.0130
(1) CLOSHUS	-.115	-.125	.3675	.393	.155	.0342
(3) STRSSDTH	-.268	-.225	.1013	.330	.109	.0140

The beta weights of the variables not included in the equation (PRQ10, CLOSHUS, and STRSSDTH) all have relatively small partial correlation coefficients which are not statistically significant.

Table 14 shows that for Group B (bonded dog owners),

approximately 35 percent of the variability for the dependent variable DRT is accounted for by three of the predictor variables OWNTIME, ILLENGTH and CLOSHUS (multiple R = .590). This is a moderately strong measure of association between this set of independent variables and the dependent variable. All of the beta weights of the four predictor variables in the equation are statistically significant. Although CLOSHUS has the highest intercorrelation with the dependent variable, OWNTIME has the highest beta weight. The variable CLOSHUS is negatively weighted.

Table 14

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable DEPERSONALIZATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
OWNTIME	.374	.352	.0250			
ILLENGTH	.309	.297	.0556			
CLOSHUS	-.394	-.315	.0438			
				.590	.348	.0046

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) PRQ10	-.030	-.110	.5555	.590	.348	.0046
(1) STRSSDTH	-.224	-.053	.7782	.596	.356	.0105

The beta weights of the variables not included in the equation (PRQ10 and STRSSDTH) each have very small partial correlation coefficients which are not statistically significant.

Only one variable, ILLENGTH, is common to Groups A and B in the regression equations for the dependent variable DRT. In order to

determine whether the differences between the groups are significantly different, a test for equality of beta weights was performed on the HLTHBEF variable across the two groups. A z-score of .222 was obtained, indicating that no significant difference exists.

Dependent Variable 8 SOMATIZATION: The independent variables which correlated significantly with the eighth dependent variable, Somatization (SOMT), and which were used in the regression equation were:

D4	Widow does not confide in pet
D5	Pet did not respond to the death in any way
HLTHAFT	Health of the widow after the death
HLTHBEF	Health of the widow before the death
INC	Current income of the widow
OWNTIME	Length of time the pet was owned
PRQ10	Social support measure
STRSSDTH	Stressfulness of the death to the widow
YRSMAR	Years of marriage

Table 15 shows that for Group A (non-pet owners), 23 percent of the variability for the dependent variable SOMT is accounted for the one predictor variables HLTHAFT (multiple R = .480). The variable is positively weighted and statistically significant.

Table 15

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable SOMATIZATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
HLTHAFT	.480	.480	.0002	.480	.230	.0002

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) PRQ10	-.286	-.089	.5212	.504	.254	.0017
(1) YRSMAR	-.059	-.083	.5499	.507	.257	.0044
(4) STRSSDTH	-.213	-.161	.2453	.480	.230	.0002
(3) HLTHBEF	.363	.012	.9286	.500	.250	.0006

The beta weights of the variables not included in the equation (PRQ10, YRSMAR, STRSSDTH and HLTHBEF) all have small partial correlation coefficients which are not statistically significant.

Table 16 shows that for Group B (bonded dog owners), 46 percent of the variability for the dependent variable SOMT is accounted for by three of the predictor variables D5, YRSMAR and HLTHBEF (multiple R = .679). This is a moderately strong measure of association between this set of independent variables and the dependent variable. All of the beta weights of the three predictor variables in the equation are statistically significant. The variable YRSMAR has both the highest beta weight and the highest intercorrelation with the dependent variable. The variable D5 is negatively weighted.

Table 16

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable SOMATIZATION

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
D5	-.319	-.257	.0739			
YRSMAR	.518	.446	.0032			
HLTHBEF	.482	.307	.0408			
				.679	.461	.0003

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) PRQ10	-.392	-.058	.7575	.728	.530	.0013
(5) STRSSDTH	-.290	-.265	.1501	.679	.461	.0003
(4) HLTHAFT	.447	.194	.2954	.706	.498	.0004
(3) OWNTIME	.347	.192	.3015	.720	.518	.0007
(1) D4	-.326	-.077	.6790	.732	.536	.0029

The beta weights of the variables not included in the equation (PRQ10, STRSSDTH, HLTHAFT, OWNTIME, and D4) all have partial correlation coefficients which are not statistically significant. No predictor variables in the regression equations are shared in common by Groups A and B for the dependent variable SOMT.

Dependent Variable 9 DEATH ANXIETY: The independent variables which correlated significantly with the ninth dependent variable, Death Anxiety (DAT), and which were used in the regression equation were:

D1	Widow does not attend church regularly
D3	Widow had not experienced any other recent loss
HLTHAFT	Health of the widow after the death
HLTHBEF	Health of the widow before the death
INC	Current income of the widow

Table 17 shows that for Group A (non-pet owners), 33 percent of

the variability for the dependent variable DAT is accounted for by three of the predictor variables HLTHAFT, D1, and HLTHBEF (multiple R = .575). All of the beta weights of the three predictor variables are statistically significant. The variable HLTHBEF, which is negatively weighted, has the highest beta weight and is more than twice as large as D1.

Table 17

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable DEATH ANXIETY

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
HLTHAFT	.027	.565	.0020			
D1	.350	.210	.0866			
HLTHBEF	-.342	-.708	.0002			
				.575	.331	.0001

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(1) INC	.023	.012	.9333	.576	.331	.0004
(2) D3	-.099	.028	.8412	.575	.331	.0001

The beta weights of the variables not included in the equation (INC and D3) each have very small partial correlation coefficients which are not statistically significant.

Table 18 shows that for Group B (bonded dog owners), almost 42 percent of the variability for the dependent variable DAT is accounted for by two of the predictor variables D3 and HLTHBEF (multiple R = .647). This is a moderately strong measure of association between this set of independent variables and the dependent variable. The

beta weights of the two predictor variables in the equation are each statistically significant. The variable D3 has both the highest beta weight and the highest intercorrelation with the dependent variable. The variables D3 is negatively weighted.

Table 18

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable DEATH ANXIETY

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
D3	-.455	-.549	.0004			
HLTHBEF	.361	.470	.0021			
				.647	.419	.0002

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(2) INC	-.228	-.056	.7601	.654	.427	.0007
(3) HLTHAFT	.358	.119	.5175	.647	.419	.0002
(1) D1	-.051	.040	.8259	.655	.429	.0021

The beta weights of the variables not included in the equation (INC, HLTHAFT, and D1) all have very small partial correlation coefficients which are not statistically significant.

Only one variable, HLTHBEF, is shared by Groups A and B in the regression equations for the dependent variable DAT. In order to determine whether the differences between the groups are significantly different, a test for equality of beta weights was performed on the HLTHBEF variable across the two groups. A z-score of -5.189 was obtained, indicating that a significant difference exists.

Dependent Variable 10 SLEEP DISTURBANCE: The independent

variables which correlated significantly with the tenth dependent variable, Sleep Disturbance (SSDT), and which were used in the regression equation were:

HLTHAFT	Health of the widow after the death
HLTHBEF	Health of the widow before the death
ILLENGTH	Length of time the husband was ill
PRQ10	Social support measure
STRSSDTH	Stressfulness of the death to the widow
SUBAGE	Age of the widow
YRSMAR	Years of marriage

Table 19 shows that for Group A (non-pet owners), nearly 27 percent of the variability for the dependent variable SSDT is accounted for by three of the predictor variables HLTHAFT, YRSMAR, and ILLENGTH (multiple R = .516). All of the beta weights of the four predictor variables in the equation are statistically significant. The variable HLTHAFT has both the highest beta weight and the highest intercorrelation with the dependent variable. The beta weight of HLTHAFT is approximately twice as large as that of YRSMAR.

Table 19

Results of Backward Elimination Regression for Group A (Non-pet Owners) for Dependent Variable SLEEP DISTURBANCE

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
HLTHAFT	.357	.406	.0016			
YRSMAR	.204	.205	.0935			
ILLENGTH	.245	.323	.0107			
				.516	.266	.0012

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(3) PRQ10	-.174	.077	.5866	.529	.280	.0022
(1) SUBAGE	.203	.019	.8222	.539	.290	.0089
(4) STRSSDTH	-.172	-.140	.3232	.516	.266	.0012
(2) HLTHBEF	.281	.009	.9520	.536	.287	.0044

The beta weights of the variables not included in the equation (PRQ10, SUBAGE, STRSSDTH, and HLTHBEF) all have small partial correlation coefficients which are not statistically significant.

Table 20 shows that for Group B (bonded dog owners), nearly 38 percent of the variability for the dependent variable SSDT is accounted for by two of the predictor variables STRSSDTH and HLTHBEF (multiple R = .614). This is a moderately strong measure of association betwen this set of independent variables and the dependent variable. The beta weights of the two predictor variables in the equation are statistically significant. The variable HLTHBEF has both the highest beta weight and the highest intercorrelation with the dependent variable. The variable STRSSDTH is negatively weighted.

Table 20

Results of Backward Elimination Regression for Group B (Bonded Dog Owners) for Dependent Variable SLEEP DISTURBANCE

Variables in Equation	Corr. with Dep. Var.	Beta Weights	Sig. of Beta	R	R^2	F Sig. of R
STRSSDTH	-.422	-.386	.0108			
HLTHBEF	.479	.448	.0036			
				.614	.377	.0006

Variables not in Equation	Corr. with Dep. Var.	Partial Beta Weights	Sig. of Partial Beta	R	R^2	F Sig. of R
(1) PRQ10	-.121	.092	.6172	.684	.469	.0057
(4) SUBAGE	-.125	-.189	.2992	.648	.420	.0008
(3) YRSMAR	.145	-.039	.8335	.673	.453	.0012
(2) ILLENGTH	-.004	.148	.4177	.679	.461	.0028
(5) HLTHAFT	.459	.263	.1462	.614	.377	.0006

The beta weights of the variables not included in the equation (PRQ10, SUBAGE, YRSMAR, ILLENGTH and HLTHAFT) all have small partial correlation coefficients which are not statistically significant. No predictor variables in the regression equations are shared in common by Groups A and B for the dependent variable SSDT.

The results reported above are summarized in Table 21. Taken together, the findings indicate differences in adaptation to the grief experience between the two groups on each of the ten dependent variables, thus leading to the rejection of the first null hypothesis.

Table 21

Summary of Predictor Variables for Groups A and B for Each Dependent Variable

Dependent Variable	Group A Non-pet Owners Independent Variables	Group B Bonded Dog Owners Independent Variables
DESPAIR	2 D19 (Place of death) 1 HLTHAFT 4 STRSSDTH 3 HLTHBEF $R = .730$ $R^2 = .533$ F Sig. of R = .0000	2 HLTHBEF 1 YRSMAR $R = .588$ $R^2 = .345$ F Sig. of R = .0014
ANGER/HOSTILITY	2 STRSSDTH 1 YRSMAR $R = .574$ $R^2 = .329$ F Sig. of R = .0000	CLOSHUS $R = .488$ $R^2 = .201$ F Sig. of R = .0079
GUILT	1 D2 (Present at death) 2 HUSAGE $R = .509$ $R^2 = .259$ F Sig. of R = .0004	4 STRSSDTH 2 HUSAGE 3 HAPLIFE 5 HLTHBEF 1 SUBAGE $R = .648$ $R^2 = .420$ F Sig. of R = .0068
SOCIAL ISOLATION	2 HLTHBEF 3 PRQ10 (Social support) 1 HLTHAFT $R = .504$ $R^2 = .254$ F Sig. of R = .0017	PRQ10 (Social support) $R = .473$ $R^2 = .224$ F Sig. of R = .0047
LOSS OF CONTROL	1 D7 (Education) 2 YRSMAR $R = .544$ $R^2 = .296$ F Sig. of R = .0001	HLTHBEF $R = .447$ $R^2 = .200$ F Sig. of R = .0081
RUMINATION	1 D2 (Present at death) 2 STRSSDTH $R = .438$ $R^2 = .192$ F Sig. of R = .0039	CLOSHUS $R = .490$ $R^2 = .240$ F Sig. of R = .0032

Table 21 (con'd.)

Dependent Variable	Group A Non-pet owners Independent Variables	Group B Bonded Dog Owners Independent Variables
DEPERSONALIZATION	ILLENGTH R = .330 R^2 = .109 F Sig. of R = .0140	1 OWNTIME 3 ILLENGTH 2 CLOSHUS R = .590 R^2 = .348 F Sig. of R = .0046
SOMATIZATION	HLTHAFT R = .480 R^2 = .230 F Sig. of R = .0002	3 D5 (Response of pet) 1 YRSMAR 2 HLTHBEF R = .679 R^2 = .461 F Sig. of R = .0003
DEATH ANXIETY	2 HLTHAFT 3 D1 (Church attendance) 1 HLTHBEF R = .575 R^2 = .331 F Sig. of R = .0001	1 D3 (Other recent loss) 2 HLTHBEF R = .647 R^2 = .419 F Sig. of R = .0002
SLEEP DISTURBANCE	1 HLTHAFT 2 YRSMAR 3 ILLENGTH R = .516 R^2 = .266 F Sig. of R = .0012	2 STRSSDTH 1 HLTHBEF R = .614 R^2 = .377 F Sig. of R = .0006

Note. The numbers preceding the predictor variables indicate the relative importance of the beta weights in the regression equation. For example, for Group A for the dependent variable DESPAIR, HLTHAFT had the highest beta weight and STRSSDTH had the lowest.

Hypothesis 2

The second null hypothesis states that there is no significant difference in measures of the grief experience between non-pet owners and bonded dog owners when social support is controlled. To test this null hypothesis, analysis of covariance was performed on each of the ten dependent variables using the social support measure (PRQ10) as the covariate and the two groups as factors.

These results are summarized in Table 22 and indicate that the only significant difference between the means of Groups A and B (non-pet owners and bonded dog owners) was for the dependent variable Guilt. The observed means for Groups A and B on this subscale were 50.38 and 45.82, respectively. This finding indicates that non-pet owners feel more guilty about the deaths of their husbands. No significant differences were found between Groups A and B for the remaining nine dependent variables (Despair, Anger/Hostility, Social Isolation, Loss of Control, Rumination, Depersonalization, Somatization, Death Anxiety, and Sleep Disturbance).

The covariate, social support (PRQ10), was significantly related to the dependent variables Despair, Social Isolation, and Somatization. Adjusted means for Groups A and B for the dependent variable Despair were 46.93 and 46.80, respectively; adjusted means for the dependent variable Social Isolation were 47.48 and 46.54, respectively; and adjusted means for the dependent variable Somatization were 47.41 and 49.87, respectively. These findings indicate a significant relationship between PRQ10 and these three dependent variables.

Table 22

Summary of Results from Oneway ANCOVA When PRQ10 Is the Covariate and the GEI Subscales Are the Dependent Variables

Dependent Variables	Group A Observed Mean	Group A Adjusted Mean	Group B Observed Mean	Group B Adjusted Mean	Sig. of Covariate	Sig. of Main Effect
DESPAIR	47.27	46.93	46.24	46.80	.001*	.939
ANGER/ HOSTILITY	48.42	48.29	46.09	46.30	.312	.334
GUILT	50.38	50.18	45.82	46.14	.099	.039*
SOCIAL ISOLATION	47.93	47.48	45.82	46.54	.000*	.636
LOSS OF CONTROL	48.87	48.87	48.38	48.39	.990	.843
RUMINATION	51.87	51.75	51.91	52.11	.408	.881
DEPERSON-ALIZATION	50.11	50.06	47.18	47.25	.714	.182
SOMATIZA-TION	47.78	47.41	49.26	49.87	.002*	.194
DEATH ANXIETY	51.64	51.52	50.44	50.62	.374	.664
SLEEP DIS-TURBANCE	54.89	54.69	53.82	54.16	.159	.822

*Denotes significance at the .05 level

In summary, the results reported above indicate differences between groups for the dependent variable Guilt. No differences were found between groups for the remaining nine dependent variables. On the basis of the differences found relative to the dependent variable, Guilt, these findings lead to the rejection of the second null hypothesis. However, on the basis of no significant differences found relative to the dependent variables Despair, Anger/Hostility, Social Isolation, Loss of Control, Rumination, Depersonalization, Somatization, Death Anxiety, and Sleep Disturbance, these findings lead to the failure to reject the second null hypothesis for nine of the ten dependent variable means.

Hypothesis 3

The third null hypothesis states that there is no interaction between pet attachment conditions (non-pet owner and bonded dog owner) and social support conditions (low, moderate, and high support) with regard to adaptation to the grief experience. Subjects were assigned to one of three social support groups, based upon scores received on the social support measure (PRQ10). Scores ranged from 72 to 175. Subjects with scores of 72 to 105 were arbitrarily assigned to the "low support" group, those with scores of 106 to 140 were arbitrarily assigned to the "moderate support" group, and those with scores of 141 to 175 were arbitrarily assigned to the "high support" group.

A two by three factorial analysis of variance was performed for each dependent variable using pet attachment conditions (Groups A and B) and the three social support groups (PRQ10) as the independent

variables. Table 23 contains the means and standard deviations of the ten dependent variables for each pet attachment group across social support conditions.

Table 23

Cell Means and Standard Deviations for Two by Three Factorial Analysis of Variance for Each Dependent Variable for Pet Attachment Groups and Social Support Conditions (PRQ10)

Dependent Variable	Pet Attachment Group		Social Support Low	Moderate	High
DESPAIR	A*	Mean	50.5	49.0	44.4
		SD	6.6	7.1	8.4
	B**	Mean	60.0	49.7	42.8
		SD	5.7	7.7	6.5
ANGER/HOSTILITY	A	Mean	47.5	51.0	45.2
		SD	14.1	9.7	7.8
	B	Mean	53.0	46.7	45.1
		SD	2.8	9.4	8.8
GUILT	A	Mean	57.0	50.1	48.8
		SD	3.5	9.7	9.6
	B	Mean	50.0	46.3	45.2
		SD	14.1	8.2	6.9
SOCIAL ISOLATION	A	Mean	55.3	49.1	45.1
		SD	6.2	10.2	10.6
	B	Mean	56.5	48.4	43.2
		SD	13.4	8.1	6.5
LOSS OF CONTROL	A	Mean	45.8	49.0	49.3
		SD	10.6	12.7	8.5
	B	Mean	47.0	50.6	47.2
		SD	24.0	11.9	9.7
RUMINATION	A	Mean	52.8	52.5	50.9
		SD	10.4	9.8	12.2
	B	Mean	61.5	51.3	51.3
		SD	14.8	12.1	10.6
DEPERSONALIZATION	A	Mean	51.0	50.3	49.6
		SD	3.3	8.8	10.7
	B	Mean	57.5	46.4	46.6
		SD	9.2	10.9	8.7

Table 23 (con'd.)

Dependent Variable	Pet Attachment Group		Social Support Low	Moderate	High
SOMATIZATION	A	Mean	50.2	50.0	44.5
		SD	8.5	7.9	6.8
	B	Mean	56.5	54.8	45.2
		SD	10.6	11.7	8.2
DEATH ANXIETY	A	Mean	50.0	52.7	50.5
		SD	12.7	9.2	9.3
	B	Mean	56.5	51.6	49.2
		SD	9.2	8.8	9.6
SLEEP DISTURBANCE	A	Mean	58.0	55.8	53.2
		SD	11.9	9.0	11.4
	B	Mean	57.0	56.0	52.2
		SD	22.6	12.4	10.5

*Group A (Non-pet owners)
**Group B (Bonded dog owners)

Note: N = 4 (Group A, Low social support)
N = 29 (Group A, Moderate social support)
N = 22 (Group A, High social support)
N = 2 (Group B, Low social support)
N = 12 (Group B, Moderate social support)
N = 20 (Group B, High social support)

Results of the test to determine whether statistically significant differences exist among the mean scores for Groups A and B is contained in Table 24. Significant differences were found across social support conditions for the dependent variables of Despair, Social Isolation, and Somatization. An examination of the mean scores reveals that those subjects with low social support scores have a greater sense of despair, more feelings of social isolation, and more physical symptoms. Likewise, subjects with high social support scores

feel less despair, less social isolation, and have fewer physical symptoms.

Table 24 further indicates that no significant differences were found across social support conditions for the dependent variables of Anger/Hostility, Guilt, Loss of Control, Rumination, Depersonalization, Death Anxiety, and Sleep Disturbance. Overall, no significant interaction was found between pet attachment conditions and social support conditions.

Table 24

Results of Two by Three Factorial Analysis of Variance for Each Dependent Variable for Pet Attachment Groups and Social Support Conditions (PRQ10)

Dependent Variable	Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
DESPAIR	Pet Attachment	1	76.22	1.405	.239
	PRQ10	2	517.77	9.544	.000*
	Interaction	2	74.60	1.375	.259
	Within	83	54.25		
ANGER/HOSTILITY	Pet Attachment	1	1.09	.013	.910
	PRQ10	2	156.74	1.863	.162
	Interaction	2	75.06	.892	.414
	Within	83	84.11		
GUILT	Pet Attachment	1	235.87	3.030	.085
	PRQ10	2	105.74	1.358	.263
	Interaction	2	6.89	.088	.915
	Within	83	77.84		
SOCIAL ISOLATION	Pet Attachment	1	1.74	.020	.887
	PRQ10	2	431.27	5.059	.008*
	Interaction	2	7.76	.091	.913
	Within	83	85.24		
LOSS OF CONTROL	Pet Attachment	1	.60	.004	.945
	PRQ10	2	38.98	.313	.732
	Interaction	2	33.11	.266	.767
	Within	83	124.40		
RUMINATION	Pet Attachment	1	66.30	.543	.463
	PRQ10	2	85.89	.703	.498
	Interaction	2	56.56	.463	.631
	Within	83	122.18		
DEPERSONALIZATION	Pet Attachment	1	.22	.002	.960
	PRQ10	2	90.77	1.010	.369
	Interaction	2	63.35	.705	.497
	Within	83	89.90		
SOMATIZATION	Pet Attachment	1	146.10	2.083	.153
	PRQ10	2	604.00	8.613	.000*
	Interaction	2	48.18	.687	.506
	Within	83	70.13		

Table 24 (con'd.)

Dependent Variable	Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
DEATH ANXIETY	Pet Attachment	1	16.59	.187	.667
	PRQ10	2	63.21	.711	.494
	Interaction	2	37.76	.424	.656
	Within	83	88.96		
SLEEP DISTURBANCE	Pet Attachment	1	3.14	.027	.870
	PRQ10	2	123.83	1.058	.352
	Interaction	2	3.71	.032	.969
	Within	83	117.08		

*Denotes significance at the .05 level

Since the independent variable PRQ10 was a continuous measure, it was possible to do further analysis in order to confirm the findings from the factorial analysis of variance. That is to say, Pearson correlations were run between the social support measure (PRQ10) and each dependent variable for each group. An examination of Table 25 indicates that significant and moderately strong negative relationships were found between the independent variable PRQ10 (social support) and the dependent variables of Despair, Social Isolation and Somatization for each of the two pet attachment groups. In order to determine whether these correlations are significantly different from each other across the two groups, Fisher's Z was used to test for the significance of the difference between the two r's by transforming the r scores to z scores, and calculating Fishers Z. In each of the three instances no significant differences were found.

An examination of table 25 further indicates that no differences were found for either group between social support (PRQ10) and the

remaining seven dependent variables (Anger/Hostility, Guilt, Loss of Control, Rumination, Depersonalization, Death Anxiety, and Sleep Disturbance). In the absence of these significant relationships, Fisher's Z was not calculated on the correlations across the groups. This analysis confirms the results reported earlier from the factorial analysis of variance; namely, that there is a significant relationship between social support (PRQ10) and the dependent variables of Despair, Social Isolation and Somatization, but that significant differences between Groups A and B do not exist.

Table 25

Pearson Correlations between PRQ10 and Each Dependent Variable for Each Group

Dependent Variable	Group A (Non-pet Owners) r	sig.	Group B (Bonded Dog Owners) r	sig.	Fishers Z	Sig. of Z
DEST	-.3011	.013*	-.4069	.008*	.521	.3015
AHT	-.1422	.150	-.0512	.387	ns	ns
GUT	-.1945	.077	-.1452	.206	ns	ns
SIT	-.3211	.008*	-.4729	.002*	.800	.2119
LCT	.0246	.429	-.0428	.405	ns	ns
RUT	-.1106	.211	-.0567	.375	ns	ns
DRT	-.0458	.370	-.0301	.433	ns	ns
SOMT	-.2858	.017*	-.3920	.011*	.517	.3015
DAT	-.0407	.384	-.1867	.145	ns	ns
SSDT	-.1738	.102	-.1208	.248	ns	ns

*Denotes significance at the .05 level

Taken as a whole, the findings reported above indicate that there is no significant difference in the relationship between social support and adaptation to the grief experience between the two groups. These findings lead to failure to reject the third null hypothesis.

CHAPTER V

DISCUSSION

This chapter presents a commentary on the results related to testing each of the three null hypotheses, and indicates the rationale for the acceptance or rejection of each. Furthermore, a general discussion related to the findings, and suggestions for future research are presented.

Discussion Related to Null Hypothesis 1

Dependent Variable 1 DESPAIR: The first dependent variable which was examined as a measure of the grief experience was Despair (DEST). Nine predictor variables (D17, D18, D19, HLTHBEF, HLTHAFT, OWNTIME, PRQ10, STRSSDTH, and YRSMAR) were entered into the backward elimination multiple regression procedure. Four of the predictor variables (D19, HLTHAFT, STRSSDTH, and HLTHBEF) were entered into the prediction equation for Group A (non-pet owners) and accounted for 53 percent of the variability. Two of the predictor variables (HLTHBEF and YRSMAR) were entered into the prediction equation for Group B (bonded dog owners) and accounted for nearly 35 percent of the variability. One of the predictor variables, HLTHBEF, was entered into the prediction equations for both groups.

For Group A the health of the widow after the death (HLTHAFT) had a beta weight of .639 and accounted for the greatest amount of

variability for the dependent variable Despair. Each subject was asked to rate her health on a scale of "excellent" (1) to "poor" (4). This result indicates that the poorer the health rating after the death, the greater the sense of despair. Variable D19 (beta weight = .379) indicated that the place of death was other than in the home, hospital, or nursing home. Husbands of subjects in this study represented by this variable died in an airplane crash, on a commuter train, on the golf course, by the side of a highway, in Lake Michigan, in an office, in a restaurant, or at a wedding. It appears that the unexpectedness of the place of death is a contributing factor to the sense of despair for the subjects in Group A. Almost equally represented with D19 was the variable HLTHBEF, which had a beta weight of -.374. This finding indicates a negative correlation with the dependent variable, based on a rating scale of "excellent" (1) to "poor" (4). In other words, the better the subject rated her health prior to the death, the greater the feeling of despair after the death. The variable which contributed the least to the prediction equation for Group A was STRSSDTH, with a beta weight of -.254. Each subject rated this variable on a scale of "the worst possible disaster" (1) to "a minor upset" (6). These results indicate that the more stressful the death experience was perceived to be, the greater the sense of despair.

For Group B the number of years of marriage (YRSMAR) had a beta weight of .444, almost twice as large as that of HLTHBEF (beta weight = .288), the only other variable entered into the prediction equation.

In other words, the longer the couple had been married, the greater the despair at the time of death; and the poorer the health rating before the death, the greater the sense of despair after the death.

The only variable common to both Groups A and B in the prediction equations was HLTHBEF. It was weighted negatively for Group A and positively for Group B. This finding is similar to that for the dependent variable Death Anxiety. Non-pet owners who rated their health better prior to the death experienced a greater feeling of despair. Bonded dog owners who rated their health poorer prior to the death experienced more despair. A Z test on the beta weights of the two groups indicated that the difference between the two groups was statistically significant ($Z = -3.062$).

According to Sanders, Mauger, and Strong (1979), the Despair subscale is the "longest and most reliable of the bereavement scales" (p. 24). In the present study, the predictor variables for Group A accounted for 53 percent of the variability for the dependent variable Despair. Taken together, the non-pet owner widows with a high Despair score rated their health good before the death and poor after the death. Their husbands were more apt to have died in unexpected places and they perceived the experience of the death to be very stressful for themselves. For Group B, widows who were bonded to their dogs, the best predictors of despair were poor health before the death and longer marriages. The place of death and the stressfulness of the death do not seem to be important factors for the latter group.

The predictor variables and their corresponding beta weights for the dependent variable Despair for the two groups are summarized

below:

Group A (53% of Variability)	Group B (35% of Variability)
1 HLTHAFT .639	1 YRSMAR .444
2 D19 (Place of death) .379	2 HLTHBEF .288
3 HLTHBEF -.374	
4 STRSSDTH -.254	

Dependent Variable 2 ANGER/HOSTILITY: Anger/Hostility (AHT) was the second dependent variable used to measure the grief experience. Ten predictor variables (CLOSHUS, HLTHAFT, HLTHBEF, HUSAGE, INC, OWNTIME, PRQ10, STRSSDTH, SUBAGE, and YRSMAR) were entered into the regression procedure. Two of the predictor variables (YRSMAR and STRSSDTH) were entered into the prediction equation for Group A (non-pet owners) and accounted for nearly 33 percent of the variability. Only one predictor variable (CLOSHUS) was entered into the prediction equation for Group B (bonded dog owners) and accounted for 20 percent of the variability. No predictor variables were shared in common between the two groups.

For Group A, the years of marriage (YRSMAR) had a beta weight of -.411 and accounted for the greatest amount of variability for the dependent variable Anger/Hostility. This finding indicates that the shorter the length of the marriage, the greater the anger and hostility experienced after the death. The variable STRSSDTH had a beta weight of -.300 indicating the more stressful the death experience, the greater the anger and hostility.

For Group B the one predictor variable of importance was CLOSHUS. Each subject was asked to rate how close she felt to her husband on a scale of "extremely close" (1) to "not very close" (4).

A beta weight of -.448 was obtained indicating that the closer the widow had felt to her husband, the more anger she experienced following the death.

It is interesting to note that the findings for Group A are consistent with those of Sanders et al. (1979) whose bereavement work indicates that high scores on this scale are more frequent in the death of a spouse at a young age. Results of the present investigation indicate that the shorter the length of the marriage, the higher the AHT score for non-pet owners. It appears that the length of time married and the stressfulness of the death experience are not important factors for the dog owners. It is possible that the pet plays a stress-buffering role for widows in mediating the anger and hostility which they seem to experience.

The predictor variables and their corresponding beta weights for the dependent variable Anger/Hostility for the two groups are summarized below:

Group A (33% of Variability)	Group B (20% of Variability)
1 YRSMAR -.411	1 CLOSHUS -.448
2 STRSSDTH -.300	

Dependent Variable 3 GUILT: Nine predictor variables (D2, HAPLIFE, HLTHBEF, HUSAGE, INC, PRQ10, STRSSDTH, SUBAGE, and YRSMAR) were entered into the multiple regression procedure for the third dependent variable, Guilt (GUT). Two of the predictor variables (D2 and HUSAGE) were entered into the multiple regression equation for Group A (non-pet owners) and accounted for approximately 26 percent of the variability. Five of the predictor variables (SUBAGE, HUSAGE,

HAPLIFE, STRSSDTH, and HLTHBEF) were entered into the prediction equation for Group B (bonded dog owners) and accounted for 42 percent of the variability. One of the predictor variables, HUSAGE, was entered into the prediction equations for both groups.

For Group A variable D2 had a beta weight of .476. This finding indicates a greater sense of guilt for the widow who was not present at the death. The age of the husband (HUSAGE) had a beta weight of -.338, indicating that the younger the husband was at the time of death, the greater the feelings of guilt. According to Sanders et al. (1979), this scale taps feelings that occur when one has survived the deceased.

For Group B the age of the subject (SUBAGE) had a beta weight of -.709 and accounted for the greatest amount of variability for the dependent variable Guilt. The beta weight of SUBAGE was more than twice as large as those of STRSSDTH (beta weight = -.286) and HLTHBEF (beta weight = .281). HUSAGE (beta weight = .547) and HAPLIFE (beta weight = .406) also accounted for a high degree of variability. The variable HAPLIFE assessed the widow's estimation of how happy her life has been based on a rating of "above average" (1) to "below average" (3). These results indicate that the happier the life has been the higher the Guilt score.

The above findings are particularly interesting in that the age of the husband and the age of the subject account for the greatest amount of variability for the widows in Group B. Taken together, the pet owners feel a higher degree of guilt if the widow is younger, the husband was older, the life was viewed as happy, the death experience

was stressful, and the widow's health before the death was poor. This set of rather complex predictor variables is difficult to interpret. It is possible, however, that a younger widow could feel that she might have made the process of death less stressful for her older husband. That is to say that the widow may have perceived that she made demands on her husband for the sake of her own happiness, rather than considering his well-being.

The only variable common to both Groups A and B in the regression equation was HUSAGE. It was weighted negatively for Group A and positively for Group B. Non-pet owners whose husbands were younger when they died and bonded dog owners whose husbands were older when they died felt more guilt. A Z test on the beta weights of the two groups indicated that the difference between the two groups was statistically significant (Z = -3.136).

The predictor variables and their corresponding beta weights for the dependent variable Guilt are summarized below:

Group A (26% of Variability)	Group B (42% of Variability)
1 D2 (Present at death) .476	1 SUBAGE -.709
2 HUSAGE -.338	2 HUSAGE .547
	3 HAPLIFE .406
	4 STRSSDTH -.286
	5 HLTHBEF .281

Dependent Variable 4 SOCIAL ISOLATION: The fourth dependent variable which was examined as a measure of the grief experience was Social Isolation (SIT). Seven predictor variables (D2, HLTHAFT, HLTHBEF, INC, PRQ10, STRSSDTH, and YRSMAR) were entered into the regression procedure. Three of the predictor variables (HLTHAFT,

HLTHBEF, and PRQ10) were entered into the prediction equation for Group A (non-pet owners) and accounted for 25 percent of the variability. Only one predictor variable (PRQ10) was entered into the prediction equation for Group B (bonded dog owners) and accounted for 22 percent of the variability. The predictor variable PRQ10 was entered into the prediction equations for both groups.

For Group A the predictor variables HLTHAFT and HLTHBEF have similar beta weights of .576 and -.509, respectively. These beta weights are approximately twice as large as that of the social support measure, PRQ10 (beta weight = -.245). The combination of the widow's estimate of good health before the death and poor health after the death predict a high score on the Social Isolation subscale. These results are similar to those of Group A for the dependent variables Despair and Death Anxiety. These results also indicate that the less social support the widow perceives that she receives, the higher the Social Isolation score.

For Group B the only predictor of Social Isolation was PRQ10 (beta weight = -.473), the social support measure. This result for pet owners is almost identical to that for non-pet owners. That is, the greater the social support, the less socially isolated the widow feels.

The only variable common to both Groups A and B in the prediction equations was PRQ10. A Z test on the beta weights of the two groups indicated that the difference between the two groups was not statistically significant (Z = .653).

The predictor variables and their corresponding beta weights for

the dependent variable Social Isolation for the two groups are summarized below:

Group A (25% of Variability)	Group B (22% of Variability)
1 HLTHAFT .576	1 PRQ10 -.473
2 HLTHBEF -.509	
3 PRQ10 -.245	

Dependent Variable 5 LOSS OF CONTROL: Loss of Control (LCT) was the fifth dependent variable used to measure the grief experience. Nine predictor variables (D6, D7, CLOSHUS, HLTHAFT, HLTHBEF, HUSAGE, STRSSDTH, SUBAGE, and YRSMAR) were entered into the regression procedure. Two predictor variables (D7 and YRSMAR) were entered into the prediction equation for Group A (non-pet owners) and accounted for nearly 30 percent of the variability. Only one predictor variable (HLTHBEF) was entered into the prediction equation for Group B (bonded dog owners) and accounted for 20 percent of the variability. No predictor variables were shared in common between the two groups.

For Group A the years of marriage (YRSMAR) had a beta weight of -.417 and accounted for the greatest amount of variability for the dependent variable Loss of Control. This finding indicates that the shorter the length of the marriage, the greater the widow's inability to control her overt emotional reactions. The predictor variable D7 indicates that the subject was a college graduate. It has a beta weight of -.296 and the results seem to indicate that the more education the subject had, the higher the score on the Loss of Control scale.

For Group B the only predictor of Loss of Control is HLTHBEF,

with a beta weight of .447. The poorer the pet owner widow rated her health prior to the death, the less emotional control she had after the death.

The predictor variables and their corresponding beta weights for the dependent variable Loss of Control for the two groups are summarized below:

Group A (30% of Variability)	Group B (20% of Variability)
1 YRSMAR -.417	1 HLTHBEF .447
2 D7 (Education) -.296	

Dependent Variable 6 RUMINATION: The sixth dependent variable which was used as a measure of the grief experience was Rumination (RUT). Five predictor variables (CLOSHUS, D2, HAPLIFE, HLTHAFT, and STRSSDTH) were entered into the regression procedure. Two of the predictor variables (D2 and STRSSDTH) were entered into the prediction equation for Group A (non-pet owners) and accounted for only 19 percent of the variability. Only one predictor variable (CLOSHUS) was entered into the prediction equation for Group B (bonded dog owners) and accounted for 24 percent of the variability.

For Group A variable D2 had a beta weight of .343. This finding indicates that the widow who was not present at the death spends more time being preoccupied with thoughts of the deceased. There is also an element of looking for someone to blame associated with a high Rumination score. Also contributing to the variability of the Rumination score was STRSSDTH (beta weight = -.270). This result indicates that the more stressful the death experience was perceived to be, the higher the Rumination score.

For Group B the only predictor of Rumination is CLOSHUS (beta weight = -.490). The widow who was close to her husband had a high score on the Rumination subscale.

The predictor variables and their corresponding beta weights for the dependent variable Rumination for the two groups are summarized below:

Group A (19% of Variability)	Group B (24% of Variability)
1 D2 (Present at death) .343	1 CLOSHUS -.490
2 STRSSDTH .270	

Dependent Variable 7 DEPERSONALIZATION: Depersonalization (DRT) was the seventh dependent variable used to measure the grief experience. Five predictor variables (CLOSHUS, ILLENGTH, OWNTIME, PRQ10, and STRSSDTH) were entered into the regression procedure. Only one predictor variable (ILLENGTH) was entered into the prediction equation for Group A (non-pet owners) and accounted for approximately only 11 percent of the variability. Three predictor variables (OWNTIME, CLOSHUS, and ILLENGTH) were entered into the prediction equation for Group B (bonded dog owners) and accounted for nearly 35 percent of the variability. One of the predictor variables, ILLENGTH, was entered into the prediction equation for both groups.

For Group A the only predictor variable, length of the illness (ILLENGTH), had a beta weight of .330. On a scale of 1 to 5, each subject was asked whether her husband's illness was "extended" (1) or "instantaneous" (5). This result indicated that the more sudden the death, the greater the numbness, shock, and confusion of grief. This is in keeping with the bereavement work of Sanders et al. (1979) which

suggests that a high DRT score results when the death is unexpected or when loss of control over one's environment occurs.

For Group B the three predictor variables (OWNTIME, CLOSHUS, and ILLENGTH) were relatively similar in importance, with beta weights of .352, -.315, and .297, respectively. On a scale of 1 to 4, each widow was asked how long she and her husband had owned their dog, with "less than 1 year" as 1 and "more than ten years" as 4. It is interesting to note that the longer the time of ownership, the greater the feelings of shock of grief and loss of control over one's environment. It is possible that this finding reflects the fear of loss of the pet, since the longer ownership time is predictive of a higher DRT score. Also contributing to the variability of the Depersonalization score was CLOSHUS. This result indicates that the closer the widow was to her husband, the greater the feeling of depersonalization. Finally, the variable which contributed the least to the prediction equation for Group B was ILLENGTH. This indicates that the more sudden the death, the greater the feeling of loss of control over one's circumstances, represented by a high Depersonalization score.

The only variable common to both Groups A and B in the prediction equations was ILLENGTH. A Z test on the beta weights of the two groups indicated that the difference between the two groups was not statistically significant (Z = .222).

The predictor variables and their corresponding beta weights for the dependent variable Depersonalization for the two groups are summarized below:

Group A (11% of Variability)	Group B (35% of Variability)
1 ILLENGTH .330	1 OWNTIME .352
	2 CLOSHUS -.315
	3 ILLENGTH .297

Dependent Variable 8 SOMATIZATION: The eighth dependent variable which was used as a measure of the grief experience was Somatization (SOMT). Nine predictor variables (D4, D5, HLTHAFT, HLTHBEF, INC, OWNTIME, PRQ10, STRSSDTH, and YRSMAR) were entered into the regression procedure. Only one predictor variable (HLTHAFT) was entered into the prediction equation for Group A (non-pet owners) and accounted for 23 percent of the variability. Three of the predictor variables (YRSMAR, HLTHBEF, and D5) were entered into the prediction equation for Group B (bonded dog owners) and accounted for 46 percent of the variability. No predictor variables were shared in common between the two groups.

For Group A the only predictor variable, the health of the widow after death (HLTHAFT), had a beta weight of .480. This is indicative of a poor physical health rating and a greater extent of somatic problems which occur during a stress experience.

For Group B the years married (YRSMAR) had a beta weight of .446, nearly twice that of D5 (beta weight = -.257). The health of the widow before the death (HLTHBEF) had a beta weight of .307. Taken together, these findings indicate that longer marriages, poorer health ratings before the death, and greater responses of the pets to the deaths led to higher Somatization scores. It is consistent to have a poor health rating correspond with a high Somatization score. One

might also speculate that a lack of response of the pet to the death would aid in the widow having fewer physical symptoms herself. In other words, if the pet does not appear to be grieving, the widow might also feel better.

The predictor variables and their corresponding beta weights for the dependent variable Somatization for the two groups are summarized below:

Group A (23% of Variability)	Group B (46% of Variability)
1 HLTHAFT .480	1 YRSMAR .446
	2 HLTHBEF .307
	3 D5 (Response of pet) -.257

Dependent Variable 9 DEATH ANXIETY: Death Anxiety (DAT) was the ninth dependent variable used to measure the grief experience. Five predictor variables (D1, D3, HLTHAFT, HLTHBEF, and INC) were entered into the regression procedure. Three predictor variables (HLTHBEF, HLTHAFT, and D1) were entered into the prediction equation for Group A (non-pet owners) and accounted for 33 percent of the variability. Two of the predictor variables (D3 and HLTHBEF) were entered into the prediction equation for Group B (bonded dog owners) and accounted for nearly 42 percent of the variability. One of the predictor variables, HLTHBEF, was entered into the prediction equations for both groups.

For Group A the health of the widow before the death (HLTHBEF) had a beta weight of -.708 and accounted for the greatest amount of variability for the dependent variable, Death Anxiety. The next most important predictor variable, HLTHAFT, had a beta weight of .565. The

profile which emerges here is similar to those for the dependent variables Despair and Social Isolation for Group A. In other words, those widows who view their health as deteriorating from good to poor relative to their husbands' deaths have a greater awareness of their own mortality. The variable which contributed the least to the prediction equation for Group A was D1, with a beta weight of .210. This finding indicates that a lack of regular church attendance is a predictor of death anxiety.

For Group B the health of the widow before the death (HLTHBEF) had a beta weight of .470 and accounted for just slightly more variability than D3 (beta weight = -.549). The latter finding indicates that those widows who had experienced no other recent losses had lower scores on the Death Anxiety scale, but those who had experienced other losses had higher scores. Taken together, the two predictors of a higher score on the Death Anxiety subscale for the bonded dog owners are poor health before the death and other loss near the time of the death.

The only variable common to both Groups A and B in the prediction equations was HLTHBEF. It was weighted negatively for Group A and positively for Group B. This finding is similar to that for the dependent variable Despair. Non-pet owners who rated their health better prior to the death and bonded dog owners who rated their health poorer prior to the death experienced greater death anxiety. A Z test on the beta weights of the two groups indicated that the difference between the two groups was statistically significant (Z = -5.189).

The predictor variables and their corresponding beta weights for the dependent variable Death Anxiety for the two groups are summarized below:

Group A (33% of Variability)	Group B (42% of Variability)
1 HLTHBEF -.708	1 D3 (Other loss) -.549
2 HLTHAFT .565	2 HLTHBEF .470
3 D1 (Church attendance) .210	

Dependent Variable 10 SLEEP DISTURBANCE: The tenth dependent variable which was used as a measure of the grief experience was Sleep Disturbance (SSDT). Seven predictor variables (HLTHAFT, HLTHBEF, ILLENGTH, PRQ10, STRSSDTH, SUBAGE, and YRSMAR) were entered into the regression procedure. Three of the predictor variables (HLTHAFT, ILLENGTH, and YRSMAR) were entered into the prediction equation for Group A (non-pet owners) and accounted for almost 27 percent of the variability. Two of the predictor variables (HLTHBEF and STRSSDTH) were entered into the prediction equation for Group B and accounted for close to 38 percent of the variability. No predictor variables were shared in common between the two groups.

For Group A, the health of the widow after the death (HLTHAFT) had a beta weight of .406 and accounted for the greatest variability for the dependent variable Sleep Disturbance. This finding indicates that the poorer the health is perceived to be after the death, the more problem there is with sleep disturbances. Variable ILLENGTH (beta weight = .323) indicates that the more sudden the death, the greater the sleep disturbance. This finding is consistent with that for the dependent variable Depersonalization. Another contributing

factor is the years of marriage (YRSMAR) with a beta weight of .205. In other words, the longer the couple had been married, the greater the sleep disturbance following the death. Taken together, the factors which lead to a high score on the Sleep Disturbance subscale are poor health after the death, a sudden rather than prolonged illness, and a longer marriage.

For Group B the health before the death (HLTHBEF) had a beta weight of .448, not too dissimilar from the only other predictor variable, STRSSDTH (beta weight = -.386). These findings indicate that sleep disturbances for pet owners are influenced by poor health before the death and the stressfulness of the death experience.

The predictor variables and their corresponding beta weights for the dependent variable Sleep Disturbance for the two groups are summarized below:

Group A (27% of Variability)	Group B (38% of Variability)
1 HLTHAFT .406	1 HLTHBEF .448
2 ILLENGTH .323	2 STRSSDTH -.386
3 YRSMAR .205	

Based upon the foregoing discussion, Table 26 presents an overall summary of the variables for each group which serve as predictors for each dependent variable. It is particularly interesting to note that there is no instance in which the same set of predictor variables are entered into the multiple regression equations for Groups A and B for any one of the ten dependent variables.

Table 26

Comparison of Predictor Variables with Each Dependent Variable for Group A (Non-pet Owners) and Group B (Bonded Dog Owners)

Predictor Variable	Dependent Variable and Group																			
	DEST		AHT		GUT		SIT		LCT		RUT		DRT		SOMT		DAT		SSDT	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
CLOSHUS			X								X		X							
D1																	X			
D2					X						X									
D3																		X		
D5															X					
D7									X											
D19	X																			
HAPLIFE					X															
HLTHAFT	X						X								X		X		X	
HLTHBEF	X	X			X		X			X						X	X	X		X
HUSAGE					X	X														
ILLENGTH													X	X					X	
OWNTIME														X						
PRQ10							X	X												
STRSSDTH	X		X		X						X									X
SUBAGE					X															
YRSMAR		X	X						X						X				X	

Where: D1 = (Church attendance)
D2 = (Present at death)
D3 = (Other recent loss)
D5 = (Response of pet)
D7 = (Education)
D19 = (Place of death)
PRQ10 = (Social support measure)

Discussion Related to Null Hypothesis 2

The second null hypothesis states that there is no significant difference in measures of the grief experience between non-pet owners and bonded dog owners when social support is controlled. This hypothesis was only partially rejected. Results of the analysis of covariance indicated that non-pet owners feel significantly more guilty over the deaths of their husbands than do the bonded dog owners. Sanders, et al. (1979) reported that the Guilt subscale reflects the idea that the widow may blame herself for the death, or may feel guilty about having survived the deceased. It is possible that the presence of a pet serves to focus attention on a living object and to detract from past events which are painful to think about.

Because no significant differences were found between groups on the remaining nine dependent variables (Despair, Anger/Hostility, Social Isolation, Loss of Control, Rumination, Depersonalization, Somatization, Death Anxiety, and Sleep Disturbance), it is necessary to only partially fail to reject this null hypothesis.

Further examination of the analysis of covariance shows that, in three instances, the social support covariate (PRQ10) was significantly related to the dependent variables of Despair, Social Isolation, and Somatization. This is an interesting finding in view of the meaning of each of these dependent variable subscales relative to the perceived lack of social support by the subjects. The Despair subscale taps feelings of low self-esteem and the notion of being treated unfairly. The Social Isolation subscale measures fear of

being hurt in interpersonal relationships and the sense of being isolated by others. The Somatization subscale measures the physical symptoms which appear as a result of stress. It is not surprising, then, that a profile such as the above would emerge when individuals do not feel that they are socially supported.

Discussion Related to Null Hypothesis 3

The third null hypothesis states that there is no interaction between pet attachment conditions (non-pet owners and bonded dog owners) and social support conditions (low, moderate, and high support) with regard to adaptation to the grief experience. Statistical procedures resulted in a failure to rejet this hypothesis. The factorial analysis of variance indicated a main effect across social support conditions (PRQ10) and no main effect across pet attachment conditions. There was no interaction between the two independent variables.

It was expected that there would be interactive effects between the social support variable (PRQ10) and pet attachment groups. In other words, it was believed that pet owners in the low social support group would adapt as well to the grief experience as non-pet owners who were socially supported. However, this result was not supported by the data at hand.

It is interesting to note that the factorial analysis of variance indicated that significant differences were found across social support conditions (PRQ10) for the dependent variables of Despair, Social Isolation, and Somatization. These are the same three dependent variables which were found to be related to PRQ10 when PRQ10

was used as the covariate to test the second null hypothesis. This finding thereby serves to confirm these relationships.

General Discussion

Several observations from the foregoing analyses are interesting to note. The Despair subscale is reported by Sanders, et al. (1979) to be the most reliable of the GEI subscales. The predictor variables on this scale for non-pet owners accounted for 53 percent of the variability (i.e., more than for either group on any other dependent variable). Non-pet owner widows with a high Despair score tended to rate their health good before the death and poor after the death. Their husbands were more apt to have died accidentally or in unexpected places, and they perceived the death to be very stressful for themselves. For the widows who were bonded to their dogs, the place of death and its stressfulness do not seem to be important, nor do the widows view their own health as deteriorating. There clearly seems to be some influence of the pet in alleviating the sense of despair that occurs with grief.

When the three dependent variables of Despair, Social Isolation, and Death Anxiety were examined, the non-pet owners reported their health good prior to the death and poor after. This profile did not hold true for the pet owners. There were times that poor health prior to the death for the dog owner widows predicted a higher score on a dependent variable subscale (Despair, Guilt, Loss of Control, Death Anxiety, and Sleep Disturbance). However, there were no instances in which this group noted a health deterioration if their health before the death was good. Therefore, the findings suggest that there is the

possibility that the comfort and nurturing which a pet affords has a mediating and therapeutic effect on the health of the widow.

An interesting observation can be made relative to the bonded dog owner group for the dependent variable Depersonalization. The longer the ownership time of the pet, the greater the feeling of loss of control over the environment and one's circumstances. It is possible that for these widows there is the fear of losing the pet and the companionship which it provides. For some this may be the only love object with which they have a constant relationship, and the thought of its loss is a fearful one.

The one instance where the response of the pet to the loss seemed important was for the dependent variable Somatization. Bonded dog owner widows who viewed their health as poor before the death and who indicated that their dogs responded in some way to the death tended not to feel well physically. One could speculate that if the pet did not appear to be grieving, the widow might also feel better. This is an area in which further investigation could be made.

The dependent variable Death Anxiety revealed a particularly interesting characteristic for the non-pet owners. Those who are not regular church attenders and who viewed their health as deteriorating seemed to have a greater awareness of their own mortality. Church attendance is not a factor for the pet owners. Perhaps the distraction supplied by the pets caused them not to dwell on their own deaths. Poor health before the death and other recent loss served as predictors of Death Anxiety for the latter group. Or, perhaps pet owners tend to be church attenders. This latter point was not

ascertained and would be of interest in future studies.

The only instance in which the social support variable (PRQ10) was related to grief was for the dependent variable Social Isolation, and it came into play for both groups. However, a test of significance indicated that there was no difference between the groups. This finding provides additional support for the failure to reject the third null hypothesis, where no interaction was found between pet attachment groups and the social support measure.

The data were examined to determine the greatest source of comfort for the pet owners. These widows were asked to rank their friends, pets, and relatives as to their relative importance in providing comfort since their husbands' deaths (where 1 = "most important," 2 = "somewhat important," and 3 = "least important"). Twenty-five ranked their relatives as the most important source of comfort, nine ranked their friends as most important, and 5 ranked their pet in this category. However, 15 rated their pets as "somewhat important" (more important than either friends and/or relatives) and 14 rated their pets as "least important." When asked how upset they would be if they lost their pet through death or in some other way 19 (56 percent) said they would be "extremely upset" and 15 (44 percent) said they would be "somewhat upset." No one responded that they would be "not very upset."

It is particularly interesting to note that there are no instances where financial matters seem to play a part in the grief experience. The sample of widows was primarily from the suburbs of Chicago, and they were not generally affluent. Ten (11 percent) had

annual incomes below $10,000; 19 (21 percent) between $10,000 and $20,000; 22 (25 percent) between $20,000 and $30,000; 17 (19 percent) between $30,000 and $40,000; 2 (2 percent) between $40,000 and $50,000; and 4 (5 percent) over $50,000. Fifteen (17 percent) indicated that their financial affairs were unsettled and that they could not estimate an annual income.

Non-pet owner widows are more apt to feel angry about the deaths of their husbands if they were married only a short time and if they perceived the death experience as stressful to themselves. They may question why the good die young. This is consistent with the work of Sanders, et al. (1979) which suggests that high scores on the Anger/Hostility scale are frequent if the deceased was a young spouse. For the pet owners, the closeness they felt to their husbands, rather than the length of time they were married, resulted in more feelings of anger. Evidently, the pet is not a completely adequate substitute when the relationship with the husband is perceived to have been a very close one.

The only dependent variable for which education was a factor was Loss of Control. Non-pet owners who were college graduates and who had shorter marriages had less control their overt emotions. This finding may be in keeping with the notion that it is appropriate to freely express inner feelings, a characteristic which might be more prevalent among more highly educated individuals. Poor health prior to the death was the only significant predictor variable for this dependent variable for pet owners.

Suggestions for Future Research

It would be interesting to replicate this study using widowers, in order to determine whether the patterns which have emerged for women are similar to those for men. The present study was initially conceived to use widowers in the sample pool. However, this was not possible since there were too few widowers available for study. The length of time it would have taken to obtain enough widowers to make the study statistically viable was impractical. It would also be interesting to have other groups of pet owners (non-bonded dog owners, cat owners, and bird owners) as subjects. Had they been located in numbers great enough to enter into the statistical calculations, they would have been used in the present study.

A weakness of this study may have been the assignment to the bonded dog owner group on the basis of the widow's own assessment of her attachment to her pet. This was done because of the absence of a validated pet bonding scale. There is a need for the development of a pet attachment scale for use in research of this nature. Furthermore, it would be of interest to examine the results of the responses of the pet owners to the pet attachment scale in order to determine whether there is any relationship between that scale and the self-ratings of attachment.

A further weakness of the study was the rather arbitrary assignment of subjects to low, moderate, or high social support conditions. This arbitrary categorization was necessary, since the Personal Resource Questionnaire did not make provision for such assignment. Recent correspondence with the developers of this

inventory (Brandt and Weinert) reveal that further psychometric evaluation has been done on the portion of this scale (PRQ Part 2) used in this study. Five subscales have been psychometrically validated. These are Intimacy, Social Integration, Nurturance, Worth, and Assistance/Guidance. These subscales could now be used as independent variables themselves, if further research were to be done in this area.

In light of the significant finding relative to the pet's response to the death, it would be interesting to do a study comparing the grief of the pet with the grief of the widow. The response of the pet to the death may in some way feed upon the widow's response, or vice versa.

In several instances, findings were related to the health of the widow. The use of a standardized health assessment instrument would be a helpful tool if this study were replicated. Also, a longitudinal component, reassessing both the grief and health after a period of one year might add significantly to the results. It would also be interesting to know how many of the widows who were subjects in this study are still living, and how the death rate of this cohort compares with the non-widow death rate of the population.

It would be interesting to make another contact with the bonded dog owner widows in order to ascertain whether their pets are still living. The Grief Experience Inventory could again be administered to each and comparisons made between those who still have their pets and those whose pets have subsequently died. For the latter, it would be interesting to note whether the response to the grief for husbands was

similar to the response to grief for the pets.

The social support variable (PRQ10) did not interact with the pet attachment groups as expected. The availability now of the five social support (PRQ) subscales could be used to continue study in this area. The relationship between social support and the length of time the pet was owned is also an area worthy of further investigation.

Further work could be done on the data already available from this study in the area of prediction. Canonical correlations could be performed in order to isolate a set of predictor variables for a set of GEI dependent variables.

All things considered, it appears that pets of bonded dog owners do make a positive difference for widows in the way that grief is handled. One should urge, then, that families of widows leave pets with the bereaved. One should not assume that the pet is a burden to the widow unless there is substantiated reason to do so. Families might unwittingly remove a source of strength and comfort under the mistaken notion of removing a burden.

CHAPTER VI

SUMMARY

In keeping with the appeal to study relationships between normal individuals and their companion animals in their usual environments, this study focused on an area which has received relatively little attention to date; namely, the value of a companion animal to an individual during the time of conjugal bereavement. One of the needs which animals reportedly supply is that of devotion and love for a person. Questions arise as to whether a companion animal is capable of serving as a source of strength and comfort for a widow or widower during the time of bereavement for a spouse, and whether a companion animal is capable of providing some measure of psychological support in the absence of a conventional social support system.

The investigation was designed as an attempt to integrate research findings in the fields of human-companion animal relationships, conjugal bereavement, and social support. Subjects were eighty-nine Caucasian women whose husbands died two to three months prior to being interviewed for this study. Widows were asked to respond to a grief experience inventory, a social support inventory, and a conjugal bereavement questionnaire. Based on the scores received on the social support measure widows were assigned to low, moderate, or high social support conditions. The conjugal bereavement questionnaire contained a special section of questions for

dog owners. The subjects who were attached to their pet dogs were assigned to one group. The subjects who had no pets comprised another group. Only those dog owners for whom the pet was an integral part of life prior to the bereavement experience were included in the present investigation. Individuals who owned pets other than dogs were not used in the study.

The ten subscales (Despair, Anger/Hostility, Guilt, Social Isolation, Loss of Control, Rumination, Depersonalization, Somatization, Death Anxiety, and Sleep Disturbance) of the Grief Experience Inventory developed by Sanders, Mauger, and Strong served as the dependent variables. The social support control variable for individual differences was assessed by the Personal Resource Questionnaire developed by Brandt and Weinert.

It was expected that there would be differences in adaptation to the grief experience between the non-pet owners and the bonded dog owners. This expectancy was confirmed. For example, non-pet owners who rated their health good prior to the death tended to perceive a decline in their health after the death. This was not true for the bonded dog owners. Non-pet owners seemed to be more anxious about their own deaths if they were not regular church attenders, and they felt more guilty about the deaths of their husbands than the pet owners. For the pet owner group, if the dog responded in a visible manner to the death, the widows reported a higher incidence of physical symptoms. Furthermore, it was expected that the best adjustment to the loss of the spouse would be made by those subjects

who had a strong social support system and a pet dog to which they were attached. It was expected that those who had a pet dog to which they were attached, but who had a weak social support system, would adapt to the grief experience as well as those with a strong social support system but without an attachment to a dog. It was further expected that those who were neither attached to a pet dog nor had a strong social support system would adapt the poorest to the grief experience. However, results of the investigation did not support these expected interactive effects.

All things considered, it appears that pets of bonded dog owners do make a positive difference for widows in the way that grief is handled. One should urge, then, that families of widows leave pets with the bereaved. One should not assume that the pet is a burden to the widow unless there is a substantiated reason to do so. Families might unwittingly remove a source of strength and comfort under the mistaken notion of removing a burden.

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APPENDIX A

WEST SUBURBAN
College of Nursing

(Date)

(Inside Address)

Dear Mrs. _____:

I learned recently of the loss of your husband and wish to offer you my deepest sympathy. Although I realize that this is a sensitive time to make a contact with you, I am writing to let you know that I am conducting a study to determine what factors help to ease the pain which is felt during the time of bereavement for a spouse, especially the part which a pet might play during the time of grieving. Both non-pet owners and pet owners are needed for the study, so your participation is invited, regardless of whether or not you have a pet.

Helping in this project is not difficult. It simply involves answering some questions and would take about one hour of your time. This could be done in your home, or another place convenient for you. Should you decide to participate, your responses will be kept confidential and will not be individually identified in any way. In order to learn more about how to help others who are grieving, it will be from those such as yourself who have experienced bereavement.

It would be helpful if you would return the enclosed stamped, addressed postcard by (10 days from the date of this letter) indicating whether or not you are willing to participate. Should you choose to do so, I will telephone you in order to answer any questions which might be of concern to you, and to make arrangements to meet with you.

Very sincerely,

Sharon E. Bolin, Doctoral Student
Loyola University of Chicago
Graduate School of Education

Sharon E. Bolin
Dean, College of Nursing
West Suburban Hospital
Medical Center
Erie at Austin
Oak Park, Illinois 60302
312-383-6200

APPENDIX B

POSTCARD SENT TO PROSPECTIVE SUBJECTS

PLEASE RETURN BY (2 weeks from date of letter)

_____ I am interested in participating in the bereavement project. You may telephone me at _____ to make further arrangements.

_____ I do not want to participate in the bereavement project.

Name_____

Address_____

_____

APPENDIX C

WEST SUBURBAN
College of Nursing

(date)

(inside address)

Dear Mrs. _____:

I wrote to you recently regarding a study which is being conducted concerning factors that help to ease the pain which is felt during the time of bereavement for a spouse. I thought that you might have misplaced the letter since I have not heard from you yet, and wanted to take this opportunity to contact you again to ask that you consider participating in this study.

Helping in this project is not difficult. It merely involves answering some questions. It would take about one hour of your time, and could be done in your home, or another place convenient for you. Those who have already participated have found that it has been a helpful experience to them personally.

I would appreciate it if you would return the enclosed stamped, addressed postcard to me by (10 days from the date of this letter) indicating whether or not you are willing to participate. Should you choose to do so, I will telephone you in order to answer any questions which might be of concern to you, and to make arrangements to meet with you. I trust that you will give this your favorable consideration.

Very sincerely,

Sharon E. Bolin, Doctoral Student
Loyola University of Chicago
Graduate School of Education

Sharon E. Bolin
Dean, College of Nursing
West Suburban Hospital
Medical Center
Erie at Austin
Oak Park, Illinois 60302
312-383-6200

APPENDIX D

INFORMED CONSENT

I, the undersigned, have been informed of the procedures to be used in this project, and agree to participate. I understand that my responses to any questions will be confidential and not individually identified. I further understand that, should I wish to withdraw my consent and discontinue participation, I may do so at any time.

_____
(Signature)

_____
(Date)

APPENDIX E

GRIEF EXPERIENCE INVENTORY

Catherine M. Sanders, Paul A. Mauger,
and Paschal N. Strong, Jr.

Circle "T" if the statement is True for you.
Circle "F" if it is False.

T F 1. Immediately after the death I felt exhausted.

T F 2. I tend to be more irritable with others.

T F 3. I am strongly preoccupied with the image of the deceased.

T F 4. I frequently experience angry feelings.

T F 5. It is not difficult to maintain social relationships with my friends.

T F 6. My arms and legs feel very heavy.

T F 7. I am unusually aware of things related to death.

T F 8. It seems to me that more could have been done for the deceased.

T F 9. I showed little emotion at the funeral.

T F 10. I felt a strong necessity for maintaining the morale of others after the death.

T F 11. I feel cut-off and isolated.

T F 12. I rarely take aspirins.

T F 13. I feel reluctant to attend social gatherings.

T F 14. I was unable to cry at the announcement of the death.

T F 15. I have feelings of guilt because I was spared and the deceased was taken.

T F 16. I have a special need to be near others.

T F 17. I often experience confusion.

T F 18. I feel lost and helpless.

T F 19. I am comforted by believing that the deceased is in heaven.

T F 20. I have had frequent headaches since the death.

T F 21. It was difficult to part with the clothing and personal articles of the deceased.

T F 22. It was necessary to take sleeping pills after the death.

T F 23. The yearning for the deceased is so intense that I sometimes feel physical pain in my chest.

T F 24. I cry easily.

T F 25. I have taken tranquilizers since the death.

T F 26. I experience a dryness of the mouth and throat.

T F 27. I feel restless.

T F 28. Upon first learning of the death I had a dazed feeling.

T F 29. Concentrating upon things is difficult.

T F 30. I have feelings of apathy.

T F 31. I experienced a feeling when the death occurred that "something died within me."

T F 32. Aches and pains seldom bother me.

T F 33. I find I am often irritated with others.

T F 34. I could not cry until after the funeral.

T F 35. I feel that I may in some way have contributed to the death.

T F 36. I find myself performing certain acts which are similar to ones performed by the deceased.

T F 37. I made the funeral arrangements.

T F 38. I lack the energy to enjoy physical exercise.

T F 39. I rarely feel enthusiastic about anything.

T F 40. I feel that grief has aged me.

T F 41. I have never dreamed of the deceased as still being alive.

T F 42. I find myself frequently asking "why did the death have to happen in this way?"

T F 43. I sometimes have difficulty believing the death has actually occurred.

T F 44. I feel a strong desire to complete certain unfinished tasks the deceased has begun.

T F 45. I have often dreamed of times when the deceased was living.

T F 46. I am often irritable.

T F 47. I have dreamed of the deceased as being dead.

T F 48. I feel extremely anxious and unsettled.

T F 49. I feel tenseness in my neck and shoulders.

T F 50. Sometimes I have a strong desire to scream.

T F 51. I am so busy that I hardly have time to mourn.

T F 52. I feel anger toward God.

T F 53. I have the urge to curl up in a small ball when I have attacks of crying.

T F 54. I feel the need to be alone a great deal.

T F 55. I rarely think of my own death.

T F 56. I find it difficult to cry.

T F 57. Looking at photographs of the deceased is too painful.

T F 58. Life has lost its meaning for me.

T F 59. I have no difficulty with digestion.

T F 60. I have had brief moments when I actually felt anger at having been left.

T F 61. I have no trouble sleeping since the death.

T F 62. I have a hearty appetite.

T F 63. I feel healthy.

T F 64. It comforts me to talk with others who have had a similar loss.

T F 65. I yearn for the deceased.

T F 66. I seldom feel depressed.

T F 67. I have the feeling that I am watching myself go through the motions of living.

T F 68. Life seems empty and barren.

T F 69. There are times when I have the feeling that the deceased is present.

T F 70. I often take sedatives.

T F 71. I have frequent mood changes.

T F 72. The actions of some people make me resentful.

T F 73. My feelings are not easily hurt.

T F 74. I am losing weight.

T F 75. Small problems seem overwhelming.

T F 76. I sometimes feel guilty at being able to enjoy myself.

T F 77. I frequently have diarrhea.

T F 78. I often wish that I could have been the one to die instead.

T F 79. I have lost my appetite.

T F 80. I sometimes talk with the picture of the deceased.

T F 81. I am not interested in sexual activities.

T F 82. At times I wish I were dead.

T F 83. It is hard to maintain my religious faith in light of all the pain and suffering caused by the death.

T F 84. I seem to have lost my energy.

T F 85. I dread viewing a body at the funeral home.

T F 86. I find myself idealizing the deceased.

T F 87. I have problems with constipation.

T F 88. I frequently take long walks by myself.

T F 89. I avoid meeting old friends.

T F 90. I have a special need for someone to talk to.

T F 91. I often feel like I have a lump in my throat.

T F 92. I sometimes find myself unconsciously looking for the deceased in a crowd.

T F 93. I seem to have lost my self-confidence.

T F 94. I drink more alcohol now than before the death.

T F 95. After the announcement of the death I thought, "this could not be happening to me."

T F 96. I have nightmares.

T F 97. The thought of death seldom enters my mind.

T F 98. I have never worried about having a painful disease.

T F 99. Funerals sometimes upset me.

T F 100. I would not feel uneasy visiting someone who is dying.

T F 101. I often worry over the way time flies by so rapidly.

T F 102. I have no fear of failure.

T F 103. I am close with only a few persons.

T F 104. The sight of a dead person is horrifying to me.

T F 105. I always know what to say to a grieving person.

T F 106. I often seek advice from others.

T F 107. It does not bother me when people talk about death.

T F 108. I cannot remember a time when my parents were angry with me.

T F 109. I do not think people in today's society know how to react to a person who is grieving.

T F 110. I never have an emotional reaction at funerals.

T F 111. I often think about how short life is.

T F 112. I am not afraid of dying from cancer.

T F 113. I do not mind going to the doctor for checkups.

T F 114. I shudder at the thought of nuclear war.

T F 115. The idea of dying holds no fears for me.

T F 116. I never lose my temper.

T F 117. I have always been completely sure I would be successful when I tried something for the first time.

T F 118. I am not usually happy.

T F 119. I feel that the future holds little for me to fear.

T F 120. I cannot ever remember feeling ill at ease in a social situation.

T F 121. I find myself sighing more now than before the death.

T F 122. I spent a great deal of time with the deceased before the death.

T F 123. It helps me to confort others.

T F 124. My family seems close to me.

T F 125. I feel that I did all that could have been done for the deceased.

T F 126. My religious faith is a source of inner strength and comfort.

T F 127. I am smoking more these days.

T F 128. I am not a realistic person.

T F 129. I am awake most of the night.

T F 130. I feel exhausted when I go to bed but lie awake for several hours.

T F 131. I lose sleep over worry.

T F 132. I often wake in the middle of the night and cannot get back to sleep.

T F 133. I sleep well most nights.

T F 134. Things seem blackest when I am awake in the middle of the night.

T F 135. I can sleep during the day but not at night.

APPENDIX F

PERSONAL RESOURCE QUESTIONNAIRE

by

Patricia Brandt and Clarann Weinert, S.C.

In our everyday lives there are personal and family events or problems that we must deal with. Some of these problems are listed below. Please consider each statement in light of your own situation. Circle the number before the person(s) that you could count on in each situation that is described. You may circle more than one number if there is more than one source of help that you count on. In addition, we would like to know if you have had this situation or a similar one in the past six months, and how satisfied you feel about the help you received.

Q-1a. If you were to experience an emergency, who would you turn to for help? Circle all that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you had an emergency in the past six months?

1. YES
2. NO

c. If you have had an emergency in the past six months, to what extent do you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-2a. If you needed help for an extended period of time to care for a family member who is sick or handicapped, who would you turn to for help? Circle all that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you needed help in caring for a sick or handicapped family member in the past six months?

1. YES
2. NO

c. If you have needed help in caring for a sick or handicapped family member in the past six months, to what extent do you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-3a. If you were concerned about your relationship with your spouse, partner, or intimate other, who would you turn to for help? Circle all that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you had a concern about your relationship with your spouse, partner, or intimate other in the past six months?

1. YES
2. NO

c. If you have had a concern about your relationship with your spouse, partner, or intimate other in the past six months, to what extent do you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-4a. If you needed advice regarding a problem with a family member or friend who would you turn to for help? Circle <u>all</u> that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you needed advice regarding a problem with a family member of friend in the past six months?

1. YES
2. NO

c. If you have needed advice regarding a problem with a family member or friend in the past six months, to what extent do you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-5a. If you were having financial problems, who would you turn to for help? Circle all that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you had financial problems in the past six months?

1. YES
2. NO

c. If you have had financial problems in the past six months, to what extent do you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-6a. If you felt lonely, who would you turn to? Circle all that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you felt lonely in the past six months?

1. YES
2. NO

c. If you have felt lonely in the past six months, to what extent do you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-7a. If you were sick for a week, who would you turn to for help? Circle <u>all</u> that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you been sick for a week during the past six months?

1. YES
2. NO

c. If you have been sick for a week during the past six months, do what extent to you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-8a. If you were upset and frustrated with the conditions of your life, who would you turn to for help? Circle <u>all</u> that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. Have you been upset and frustrated with the conditions of your life in the past six months?

1. YES
2. NO

c. If you have been upset and frustrated with the conditions of your life in the past six months, to what extent do you feel satisfied with the help you received?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-9a. What has been the greatest concern or problem for you in the past six months? (Briefly describe this problem.)

_____

_____

_____

b. Who did you turn to for help with this problem? Circle <u>all</u> that apply.

1. PARENT
2. CHILD OR CHILDREN
3. SPOUSE OR PARTNER
4. FORMER SPOUSE OR PARTNER
5. RELATIVE
6. FRIEND, CO-WORKER, OR NEIGHBOR
7. SPIRITUAL ADVISOR
8. PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9. AGENCY OR SELF-HELP GROUP
10. NO ONE (NO ONE AVAILABLE)
11. NO ONE (PREFER TO HANDLE IT ALONE)
12. OTHER (EXPLAIN) _____

b. To what extent were you satisfied with the help you received for the major concern or problem you described above?

1. VERY SATISFIED
2. FAIRLY SATISFIED
3. A LITTLE SATISFIED
4. A LITTLE DISSATISFIED
5. FAIRLY DISSATISFIED
6. VERY DISSATISFIED

Q-10. Below are some statements with which some people agree and others disagree. Please read each statement and circle the response most appropriate for you. There is no right or wrong answer.

STATEMENTS	STRONGLY AGREE	AGREE	SOMEWHAT AGREE	NEUTRAL	SOMEWHAT DISAGREE	DISAGREE	STRONGLY DISAGREE
a. There is someone I feel close to who makes me feel secure	7	6	5	4	3	2	1
b. I belong to a group in which I feel important	7	6	5	4	3	2	1
c. People let me know that I do well at my work (job, homemaking, etc.)	7	6	5	4	3	2	1
d. Sometimes I can't count on my relatives and friends to help me with important problems	7	6	5	4	3	2	1
e. I have enough contact with the person who makes me feel special	7	6	5	4	3	2	1
f. I spend time with others who have the same interests that I do	7	6	5	4	3	2	1
g. There is little opportunity in my life to be giving and caring to a child or young person	7	6	5	4	3	2	1
h. Others let me know that they enjoy working with me (job, committees, projects)	7	6	5	4	3	2	1
i. There are people who are available if I needed help over an extended period of time	7	6	5	4	3	2	1
j. Often there is no one to talk to about how I am feeling	7	6	5	4	3	2	1
k. Among my group of friends, we do favors for each other	7	6	5	4	3	2	1
l. I have the opportunity to encourage others to grow and develop their interests and skills	7	6	5	4	3	2	1

STATEMENTS	STRONGLY AGREE	AGREE	SOMEWHAT AGREE	NEUTRAL	SOMEWHAT DISAGREE	DISAGREE	STRONGLY DISAGREE
m. My family lets me know that I am important for keeping the family running	7	6	5	4	3	2	1
n. I have relatives or friends that will help me out even if I can't pay them back	7	6	5	4	3	2	1
o. When I am upset there is someone I can be with who lets me be myself . . .	7	6	5	4	3	2	1
p. I often feel no one has the same problems as I	7	6	5	4	3	2	1
q. I enjoy doing little "extra" things that make a child's or young person's life more pleasant	7	6	5	4	3	2	1
r. I know that others appreciate me as a person	7	6	5	4	3	2	1
s. There is someone who loves and cares about me	7	6	5	4	3	2	1
t. I have people to share social events and fun activities with	7	6	5	4	3	2	1
u. I am responsible for helping to provide for a child's or young person's needs	7	6	5	4	3	2	1
v. If I need advice there is someone who would assist me to work out a plan for dealing with the situation	7	6	5	4	3	2	1
w. I have a sense of being needed by a child or young person	7	6	5	4	3	2	1
x. Sometimes people think that I'm not as good a friend as I should be	7	6	5	4	3	2	1
y. If I get sick there is someone to give me advice about caring for myself . . .	7	6	5	4	3	2	1

APPENDIX G

CONJUGAL BEREAVEMENT QUESTIONNAIRE

1. Your birthplace_____

2. Your birthdate_____

3. Education:

   a. _____ High school graduate
   b. _____ Some college
   c. _____ College graduate
   d. _____ Some graduate study
   e. _____ Masters degree
   f. _____ Doctorate

4. Occupation of deceased husband_____

5. Your occupation_____

6. Religious preference_____

7. How often do you attend church services?_____

8. How long have you lived in your present home?_____

9. How many years were you married?_____

10. How many living children do you have?

    a. _____ Number of girls (ages_____)
    b. _____ Number of boys (ages_____)
    c. _____ None

11. Date of husband's death_____

12. Age of deceased husband_____

13. How close were you to your husband?

    a. _____ Extremely close
    b. _____ Very close
    c. _____ Moderately close
    d. _____ Not very close

14. I consider the death of my husband to be:

a. _____ The worst possible disaster
b. _____ Extremely stressful
c. _____ Very stressful
d. _____ Moderately stressful
e. _____ Slightly stressful
f. _____ A minor upset

15. Cause of husband's death_____

16. The occurrance of death was:

a. _____ Extended (illness lasted more than 3 months)
b. _____ Gradual (illness lasted more than 7 days but less than 3 months)
c. _____ Rapid (illness less than 7 days but more than 1 day)
d. _____ Sudden (illness less than 1 day)
e. _____ Instantaneous

17. Where did the death occur?

a. _____ Home
b. _____ Hospital
d. _____ Other_____
(please indicate)

18. Were you present at the time of death?

a. _____ Yes
b. _____ No

19. Were you living in the same house with your husband at the time of death?

a. _____ Yes
b. _____ No

20. Did you attend the funeral or memorial service?

a. _____ Yes
b. _____ No (if "no," state reason)_____
_____

21. Were you facing any other crisis at the time of your husband's death?

a. _____ Yes (If "yes," please explain)_____
_____
_____

b. _____ No

22. Apart from death, have you suffered any other loss of significance recently?

a. _____ Yes (If "yes," please explain)_____
_____
_____

b. _____ No

23. Overall, how happy has your life been?

a. _____ Above average
b. _____ Average
c. _____ Below average

24. How would you rate your own health prior to your husband's death?

a. _____ Excellent
b. _____ Good
c. _____ Fair
d. _____ Poor

25. How would you rate you health at the present time?

a. _____ Excellent
b. _____ Good
c. _____ Fair
d. _____ Poor

26. Did you see a physician for any reason up to 6 months before your husband's death?

a. _____ Yes (If "yes," give reason)_____
_____

b. _____ No

27. Have you seen a physician since your husband's death?

a. _____ Yes (If "yes," give reason)_____
_____

b. _____ No

28. Parents:

a. _____ Mother living
b. _____ Father living

29. Siblings:

a. _____ Number of living brothers
b. _____ Number of living sisters

30. Do you have any dependent children living with you?

a. _____ Yes
b. _____ No

31. Approximate annual income:

a. _____ Less than $10,000
b. _____ $10,000 to $20,000
c. _____ $20,000 to $30,000
d. _____ $30,000 to $40,000
e. _____ $40,000 to $50,000
f. _____ Over $50,000
g. _____ Don't know

32. Do you own a pet?

a. _____ Yes (If "yes," what kind?)_____
b. _____ No

IF YOU OWN A DOG OR CAT, PLEASE ANSWER QUESTIONS 33 THROUGH 39.

33. What kind of dog or cat do you own? _____

34. Did you have your pet before your husband died?

a. _____ Yes
b. _____ No

35. Check either "Yes" or "No" for each statement.

Yes	No		
___	___	a.	My pet sleeps in the bedroom.
___	___	b.	My pet sleeps on the bed.
___	___	c.	I consider my pet to be a member of the family.
___	___	d.	I talk to my pet as if it were a person.
___	___	e.	I keep a picture of my pet in my wallet, in an album, or displayed in my home.
___	___	f.	I spend time each day in some activity with my pet.
___	___	g.	I talk to my pet frequently.
___	___	h.	I confide in my pet.
___	___	i.	My pet is sensitive to my moods.
___	___	j.	I celebrate my pet's birthday.

36. How attached do you feel to your pet?

a. _____ Very attached
b. _____ Somewhat attached
c. _____ Not very attached

37. How long have you owned your pet?

a. _____ Less than 1 year
b. _____ More than 1 year but less than 5 years
c. _____ More than 5 years but less than 10 years
d. _____ More than 10 years

38. If you lost your pet through death, or in some other way, how upset would you be?

a. _____ Not very upset
b. _____ Somewhat upset
c. _____ Extremely upset

39. Which of the following have been of the most comfort to you since your husband's death? Number in order of their importance, using the following rankings:

1 = most important
2 = somewhat important
3 = least important

_____ a. Friends
_____ b. Pet
_____ c. Relatives

APPENDIX H

QUESTIONS ASKED OF PET OWNERS

1. Did (dog or cat's name) respond to your husband's death in any way?

2. Has it been important to you to have the company of a pet during this time?

3. Do you play more with (dog or cat's name) than you did prior to your husband's death?

4. Do you think that (dog or cat's name) has helped you to feel less lonely than you would have if you did't have him/her?

5. Who would you say was more attached to (dog or cat's name), you or your husband?

APPENDIX I

GEI BEREAVEMENT SCALE ITEMS AND SCORING KEYS

Valitidy Scales	N of Items	True Items	False Items
DENIAL	11	98, 100, 102, 105, 108, 110, 112, 116, 117, 120	99
ATYPICAL RESPONSE	28	15, 20, 34, 35 47, 52, 58, 70 77, 83, 87, 89 94, 104, 118, 127	5, 7, 12, 19, 31, 32, 43, 59, 107, 111, 123, 124
SOCIAL DESIRABILITY	7	10, 113, 122, 123, 124, 126, 128	
Standard Bereavement Scales			
DESPAIR	18	1, 6, 18, 27, 30, 39, 57, 58, 68, 71, 75, 81, 82, 83, 84, 91, 93	66
ANGER/HOSTILITY	9	2, 4, 33, 42, 46, 52, 60, 72, 109	
GUILT	6	8, 15, 35, 76, 78	125
SOCIAL ISOLATION	7	11, 13, 54, 88, 89, 103	5
LOSS OF CONTROL	9	24, 48, 50, 53	9, 14, 34, 56, 73
RUMINATION	12	3, 21, 36, 44, 45, 47, 65, 80, 86, 92, 96	41
DEPERSONALIZATION	8	17, 28, 29, 31, 43, 67, 69, 95	

	N of Items	True Items	False Items
SOMATIZATION	20	20, 22, 23, 25, 26, 38, 40, 49, 70, 74, 77, 79, 87, 94	12, 32, 59, 61 62, 63
DEATH ANXIETY	11	7, 85, 101, 104, 111, 114	55, 97, 107, 115, 119
SLEEP DISTURBANCE	10	22, 96, 129, 130, 131, 132, 134, 135	61, 133

APPENDIX J

STANDARD (T) SCORE EQUIVALENTS OF GEI RAW SCORES

Validity Scales:

Scale = DENIAL*

Raw Score	T Score	Per-centile
0	35	.5
1	39	16
2	43	30
3	47	43
4	51	57
5	55	72
6	59	81
7	63	89
8	67	95
9	71	98
10	75	99
11	79	99

Scale = ATYPICAL REPSONSE*

Raw Score	T Score	Per-centil
0	33	1
1	36	4
2	39	12
3	43	24
4	46	39
5	50	58
6	53	72
7	57	79
8	60	84
9	63	87
10	67	91
11	70	95
12	74	98
13	77	99
14	80	99

Scale = SOCIAL DESIRABILITY*

Raw Score	T Score	Per-centile
1	21	1
2	29	4
3	37	12
4	45	27
5	53	56
6	61	85
7	69	99

STANDARD (T) SCORE EQUIVALENTS OF GEI RAW SCORES (con'd)

Standard Bereavement Scales

Scale = DEST*

Raw Score	T Score	Per-centile
0	34	1
1	36	6
2	38	12
3	40	19
4	42	26
5	44	35
6	46	44
7	48	50
8	50	53
9	52	56
10	54	60
11	56	66
12	58	72
13	69	79
14	62	88
15	64	94
16	66	96
17	68	98
18	71	99

Scale = AHT*

Raw Score	T Score	Per-centile
0	34	2
1	38	13
2	42	29
3	47	42
4	51	54
4	55	68
6	59	77
7	63	86
8	67	95
9	71	99

Scale = GUT*

Raw Score	T Score	Per-centile
0	40	19
1	47	48
2	54	67
3	60	82
4	66	92
5	74	98

Scale = SIT*

Raw Score	T Score	Per-centile
0	35	4
1	41	21
2	47	45
3	54	67
4	60	84
5	66	92
6	72	97
7	79	99

STANDARD (T) SCORE EQUIVALENTS OF GEI RAW SCORES (con'd)

Scale = LCT*

Raw Score	T Score	Per-centile
1	30	2
2	35	9
3	40	18
4	45	30
5	49	47
6	54	64
7	59	79
8	64	92
9	69	99

Scale = RUT*

Raw Score	T Score	Per-centile
0	29	2
1	33	5
2	38	11
3	42	24
4	46	37
5	51	51
6	55	67
7	59	81
8	64	92
9	68	97
10	72	99

Scale = DRT*

Raw Score	T Score	Per-centile
0	30	2
1	34	7
2	38	17
3	43	27
4	47	37
5	51	50
6	55	63
7	60	79
8	64	95

Scale = SOMT*

Raw Score	T Score	Per-centile
0	35	3
1	37	10
2	39	17
3	42	24
4	44	32
5	47	41
6	49	50
7	52	60
8	54	68
9	56	74
10	59	80
11	61	83
12	64	87
13	66	93
14	69	97
15	71	99
16	73	99
17	76	99

STANDARD (T) SCORE EQUIVALENTS OF GEI RAW SCORES (con'd)

Scale = DAT*			Scale = SSDT**		
Raw Score	T Score	Per-centile	Raw Score	T Score	Per-centile***
0	28	1	0	41	
1	32	2	1	45	
2	37	7	2	49	
3	41	21	3	53	
4	46	39	4	57	
5	50	54	5	61	
6	54	67	6	65	
7	59	77	7	69	
8	63	87	8	73	
9	68	95	9	79	
10	72	99	10	81	

*Early Bereavement Group
**Combined Bereavement Group
***Not available

APPENDIX K

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Dichotomous Independent Variables and Dependent Variables)

	CHRATT						PRESDTH					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.046	.114	.035	.220	.012	.264	.026	.237	.037	.206	.014	.696
AHT	.004	.652	.012	.463	.002	.670	.000	.860	.030	.259	.017	.190
GUT	.043	.176	.031	.249	.001	.742	.152	.003*	.043	.170	.064	.010
SIT	.003	.680	.007	.572	.001	.890	.100	.019*	.011	.493	.012	.260
LCT	.007	.534	.002	.759	.001	.739	.014	.386	.017	.387	.000	.876
RUT	.007	.534	.027	.346	.000	.855	.119	.010*	.021	.346	.012	.270
DRT	.009	.479	.071	.076	.002	.667	.124	.072	.000	.992	.007	.396
SOMT	.002	.725	.016	.412	.003	.585	.029	.213	.020	.351	.000	.797
DAT	.123	.009*	.010	.500	.036	.055	.018	.324	.002	.761	.000	.829
SSDT	.042	.131	.014	.436	.003	.569	.003	.699	.002	.796	.000	.933

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Dichotomous Independent Variables and Dependent Variables)

	MOTHLIV						FATHLIV					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.020	.308	.004	.669	.009	.342	.001	.797	.000	.881	.000	.921
AHT	.021	.284	.021	.337	.031	.075	.016	.359	.013	.461	.014	.238
GUT	.000	.999	.044	.167	.009	.326	.000	.919	.003	.715	.003	.592
SIT	.006	.567	.020	.347	.000	.986	.004	.644	.000	.903	.002	.624
LCT	.038	.151	.028	.271	.003	.078	.005	.592	.023	.323	.008	.355
RUT	.000	.962	.038	.197	.015	.212	.012	.427	.024	.307	.002	.680
DRT	.019	.319	.000	.845	.002	.641	.011	.469	.000	.907	.003	.572
SOMT	.013	.405	.014	.436	.035	.056	.002	.773	.003	.710	.000	.937
DAT	.004	.634	.018	.384	.005	.473	.013	.396	.074	.070	.007	.408
SSDT	.000	.916	.034	.223	.014	.232	.026	.242	.022	.331	.001	.741

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Dichotomous Independent Variables and Dependent Variables)

	DEPCHLDN						PETBDRM		PETBED	
	Group A		Group B		Total		Group B		Group B	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.002	.726	.001	.802	.000	.997	.004	.700	.000	.986
AHT	.043	.128	.056	.118	.040	.041	.001	.832	.000	.895
GUT	.006	.574	.005	.644	.002	.640	.001	.869	.004	.671
SIT	.000	.893	.001	.784	.001	.697	.004	.686	.007	.614
LCT	.004	.637	.002	.749	.002	.623	.058	.119	.000	.873
RUT	.017	.348	.008	.565	.001	.777	.060	.112	.000	.903
DRT	.009	.484	.002	.782	.003	.557	.023	.329	.002	.775
SOMT	.008	.526	.007	.586	.005	.454	.019	.382	.014	.452
DAT	.003	.685	.023	.317	.010	.298	.000	.997	.002	.793
SSDT	.000	.913	.087	.049	.037	.050	.010	.519	.017	.403

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Dichotomous Independent Variables and Dependent Variables)

	TLKPETPR Group B		PICTPET Group B		PLAYPET Group B		TLKPETFR Group B	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.052	.140	.003	.717	.007	.587	.022	.335
AHT	.064	.101	.001	.862	.001	.867	.054	.134
GUT	.050	.150	.020	.365	.003	.722	.001	.865
SIT	.030	.270	.009	.551	.000	.924	.017	.400
LCT	.004	.874	.006	.610	.015	.433	.007	.581
RUT	.075	.075	.013	.471	.042	.189	.017	.408
DRT	.005	.639	.062	.107	.025	.312	.006	.631
SOMT	.075	.075	.025	.315	.026	.302	.010	.513
DAT	.042	.188	.004	.669	.000	.997	.006	.604
SSDT	.010	.523	.001	.858	.019	.383	.000	.998

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Dichotomous Independent Variables and Dependent Variables)

	CONFPET Group B		PETSEN Group B		PETBDAY Group B		RESPDTH Group B	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.077	.072	.008	.575	.010	.522	.004	.695
AHT	.212	.002*	.048	.159	.008	.555	.066	.096
GUT	.010	.520	.010	.521	.005	.643	.000	.922
SIT	.011	.503	.005	.645	.002	.765	.002	.755
LCT	.007	.581	.006	.623	.001	.865	.016	.419
RUT	.065	.099	.023	.335	.052	.140	.022	.348
DRT	.031	.259	.006	.612	.016	.418	.029	.271
SOMT	.132	.017*	.006	.621	.001	.837	.145	.012*
DAT	.019	.373	.013	.463	.030	.268	.012	.481
SSDT	.002	.775	.018	.392	.003	.735	.103	.356

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Nominal Independent Variables with Three or More Categories and Dependent Variables)

	EDUC						REL					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.005	.872	.005	.892	.018	.408	.027	.487	.039	.431	.014	.496
AHT	.029	.473	.019	.663	.009	.630	.031	.438	.090	.137	.022	.324
GUT	.018	.614	.016	.709	.002	.882	.017	.643	.044	.384	.004	.798
SIT	.001	.965	.029	.542	.016	.435	.015	.669	.063	.255	.008	.700
LCT	.128	.028*	.028	.549	.023	.307	.021	.567	.117	.072	.040	.131
RUT	.009	.783	.012	.773	.001	.944	.001	.973	.081	.169	.024	.299
DRT	.000	.998	.012	.779	.004	.836	.021	.580	.133	.049*	.029	.224
SOMT	.001	.785	.031	.513	.021	.347	.001	.977	.032	.506	.021	.334
DAT	.014	.390	.049	.344	.020	.353	.004	.906	.012	.775	.002	.881
SSDT	.004	.899	.034	.409	.010	.607	.009	.869	.139	.044*	.037	.152

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Nominal Independent Variables with Three or More Categories and Dependent Variables)

	CHILDR						PLACEDTH					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.143	.371	.140	.636	.124	.187	.254	.002*	.029	.751	.010	.796
AHT	.059	.862	.198	.371	.100	.344	.015	.849	.020	.834	.003	.959
GUT	.186	.195	.053	.966	.072	.612	.069	.295	.062	.449	.014	.693
SIT	.129	.445	.206	.338	.053	.797	.023	.753	.028	.764	.013	.722
LCT	.072	.793	.157	.552	.094	.393	.062	.350	.018	.858	.018	.607
RUT	.104	.593	.113	.765	.076	.564	.040	.547	.073	.367	.039	.265
DRT	.104	.593	.126	.704	.082	.509	.075	.257	.049	.551	.027	.425
SOMT	.054	.886	.064	.943	.069	.640	.035	.612	.067	.409	.015	.687
DAT	.110	.557	.181	.442	.128	.168	.048	.464	.049	.551	.010	.804
SSDT	.039	.947	.250	.196	.071	.614	.006	.953	.059	.471	.014	.707

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Nominal Independent Variables with Three or More Categories and Dependent Variables)

	SIBS						PET	
	Group A		Group B		Total		Group B	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.027	.840	.018	.944	.018	.775	.007	.947
AHT	.059	.543	.057	.663	.037	.448	.042	.360
GUT	.046	.662	.024	.910	.038	.419	.070	.128
SIT	.083	.353	.016	.954	.040	.411	.040	.395
LCT	.048	.647	.051	.708	.046	.317	.028	.577
RUT	.066	.483	.104	.344	.034	.476	.008	.938
DRT	.031	.803	.081	.481	.053	.243	.053	.242
SOMT	.048	.502	.012	.977	.006	.959	.008	.932
DAT	.038	.744	.109	.317	.067	.142	.025	.643
SSDT	.108	.215	.074	.530	.064	.161	.022	.699

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Correlation Ratios between Nominal Independent Variables with Three or More Categories and Dependent Variables)

	COMFRD Group B		COMPET Group B		COMREL Group B		WHOATTCH Group B	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.027	.573	.111	.096	.047	.380	.042	.635
AHT	.023	.624	.041	.430	.018	.695	.047	.592
GUT	.022	.642	.024	.613	.022	.630	.048	.586
SIT	.024	.610	.095	.135	.045	.400	.027	.776
LCT	.005	.901	.053	.336	.008	.857	.088	.305
RUT	.074	.213	.016	.714	.029	.551	.096	.261
DRT	.025	.601	.014	.748	.010	.807	.069	.421
SOMT	.020	.663	.027	.582	.115	.087	.106	.219
DAT	.080	.186	.044	.408	.002	.957	.060	.483
SSDT	.052	.343	.048	.376	.029	.559	.137	.120

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Pearson Correlations between Ordinal Independent Variables with Three or More Categories and Dependent Variables)

	CLOSHUS						STRSSDTH					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	-.158	.124	.050	.372	-.062	.269	-.429	.001*	-.212	.081	-.322	.001*
AHT	.012	.464	-.265	.039*	-.099	.165	-.417	.001*	-.283	.030*	-.341	.000*
GUT	-.087	.265	-.170	.132	-.117	.419	-.196	.076	-.264	.040*	-.202	.022*
SIT	-.114	.202	.237	.058	.021	.098	-.301	.013*	-.002	.495	-.168	.048*
LCT	.011	.469	-.314	.018*	-.130	.008*	-.321	.008*	-.286	.028*	-.304	.001*
RUT	-.108	.217	-.416	.002*	-.242	.018*	-.272	.022*	-.315	.018*	-.290	.002*
DRT	-.115	.201	-.336	.012*	-.210	.454	-.268	.024*	-.269	.037*	-.254	.005*
SOMT	.011	.468	.014	.463	.012	.018	-.213	.059	-.213	.080	-.215	.016*
DAT	.010	.471	.017	.455	.014	.444	-.173	.103	-.116	.224	-.141	.080
SSDT	-.066	.315	-.155	.155	-.107	.144	-.172	.105	-.284	.029*	-.220	.014*

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Pearson Correlations between Ordinal Independent Variables with Three or More Categories and Dependent Variables)

	ILLENGTH						HAPLIFE					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.140	.154	.142	.176	.142	.080	.025	.428	.158	.150	.083	.206
AHT	.176	.100	-.046	.383	.080	.214	.133	.166	.052	.368	.106	.146
GUT	.087	.263	.151	.161	.118	.120	-.029	.416	.268	.037*	.094	.177
SIT	.115	.202	-.036	.406	.056	.291	-.055	.345	.231	.064	.051	.308
LCT	.095	.244	-.091	.276	.009	.465	.087	.265	.100	.256	.092	.181
RUT	.171	.106	.071	.321	.125	.109	-.221	.050*	-.039	.400	-.147	.073
DRT	.330	.007*	.240	.056	.288	.002*	-.040	.385	.096	.256	.021	.420
SOMT	.184	.090	.141	.178	.159	.057	.104	.226	.029	.424	.065	.261
DAT	.193	.079	.079	.304	.141	.081	-.035	.400	.197	.097	.061	.272
SSDT	.245	.035*	.157	.152	.202	.022*	.138	.158	-.016	.459	.070	.244

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Pearson Correlations between Ordinal Independent Variables with Three or More Categories and Dependent Variables)

	HLTHBEF						HLTHAFT					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.037	.394	.309	.019*	.166	.050*	.413	.001*	.243	.054	.326	.000*
AHT	-.183	.091	.407	.003*	.068	.250	.005	.373	.342	.011*	.188	.031*
GUT	-.065	.320	.335	.012*	.103	.153	.150	.138	.137	.185	.147	.072
SIT	.005	.486	.281	.031*	.106	.147	.309	.011*	.311	.019*	.304	.001*
LCT	-.065	.320	.285	.029*	.096	.171	.060	.331	.133	.193	.095	.172
RUT	-.056	.342	.208	.085	.066	.257	.162	.118	.187	.110	.173	.043*
DRT	-.165	.114	.160	.147	-.018	.430	.068	.312	.181	.117	.128	.102
SOMT	.363	.003*	.554	.000*	.464	.000*	.480	.000*	.537	.000*	.509	.000*
DAT	-.342	.005*	.351	.009*	-.025	.404	.027	.424	.417	.002*	.221	.014*
SSDT	.281	.019*	.499	.000*	.387	.000*	.357	.004*	.522	.000*	.445	.000*

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Pearson Correlations between Ordinal Independent Variables with Three or More Categories and Dependent Variables)

	PETATTCH Group B		OWNTIME Group B		PETLOSS Group B	
	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.065	.342	.384	.006*	.103	.258
AHT	.157	.160	.273	.040*	-.127	.211
GUT	-.054	.368	-.021	.449	.017	.459
SIT	.151	.170	.057	.359	-.068	.335
LCT	-.209	.092	.125	.216	-.010	.476
RUT	.037	.407	.099	.266	-.077	.315
DRT	-.147	.177	.361	.009*	.167	.145
SOMT	.141	.186	.309	.023*	-.201	.101
DAT	-.010	.474	-.062	.348	-.067	.338
SSDT	-.016	.460	.140	.189	-.118	.228

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Pearson Correlations between Continuous Independent Variables and Dependent Variables)

	PRQ10						SUBAGE					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	-.301	.013*	-.469	.001*	-.416	.000*	-.012	.466	.145	.171	-.070	.240
AHT	-.142	.150	-.148	.165	-.214	.014*	-.463	.000*	.011	.470	-.335	.000*
GUT	-.195	.077	-.103	.256	-.194	.024*	-.220	.053	-.288	.028*	-.252	.005*
SIT	-.322	.008*	-.388	.004*	-.375	.000*	.041	.384	.116	.224	.014	.443
LCT	.025	.429	-.061	.346	-.032	.375	-.348	.005*	-.234	.061	-.287	.002*
RUT	-.111	.211	-.051	.371	-.099	.158	-.017	.452	-.025	.435	-.100	.156
SRT	-.046	.370	-.149	.164	-.155	.050*	-.081	.278	-.022	.442	-.097	.163
SOMT	-.286	.017*	-.341	.011*	-.359	.000*	.025	.428	.181	.118	-.057	.284
DAT	-.041	.384	-.096	.265	-.141	.076	-.054	.348	-.068	.330	-.119	.115
SSDT	-.174	.102	-.195	.100	-.171	.042*	-.203	.068	-.149	.164	-.034*	.376

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Pearson Correlations between Continuous Independent Variables and Dependent Variables)

	YRSMAR						HUSAGE					
	Group A		Group B		Total		Group A		Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.	corr.	sig.
DEST	-.069	.307	.363	.007*	-.008	.469	-.104	.226	.187	.110	-.108	.137
AHT	-.497	.000*	.002	.494	-.347	.000*	-.392	.002*	.147	.168	-.257	.004*
GUT	-.214	.058	-.148	.166	-.207	.017*	-.217	.056	.041	.394	-.163	.049*
SIT	.003	.491	.217	.076	.029	.383	-.022	.438	.186	.111	-.004	.485
LCT	-.458	.000*	-.186	.110	-.357	.000*	-.260	.028*	-.218	.075	-.239	.007*
RUT	-.086	.267	.168	.135	-.060	.272	.001	.497	.038	.403	-.068	.246
DRT	-.127	.178	.177	.122	-.036	.360	-.096	.244	-.047	.380	-.113	.126
SOMT	-.059	.335	.416	.002*	.015	.442	-.115	.202	.214	.079	-.114	.124
DAT	-.060	.331	.022	.444	-.095	.169	-.018	.448	-.019	.451	-.091	.180
SSDT	.205	.067	.078	.306	.074	.227	.087	.265	.085	.290	.005	.482

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

A DESCRIPTIVE SURVEY OF
INDEPENDENT VARIABLES CHOSEN FOR INCLUSION IN MULTIPLE REGRESSION EQUATIONS
(Pearson Correlations between Continuous Independent Variables and Dependent Variables)

	Group A		*INC Group B		Total	
	corr.	sig.	corr.	sig.	corr.	sig.
DEST	.053	.351	-.051	.370	.035	.363
AHT	.114	.204	-.050	.371	.051	.303
GUT	-.137	.160	-.176	.124	-.155	.050*
SIT	-.113	.206	-.218	.075	-.108	.136
LCT	-.001	.497	-.011	.473	.001	.495
RUT	-.184	.090	-.111	.233	-.130	.095
DRT	-.078	.286	-.022	.444	-.056	.288
SOMT	-.202	.070	-.060	.348	-.097	.164
DAT	.023	.433	-.326	.014*	-.128	.097
SSDT	-.055	.345	-.026	.432	-.025	.400

*Significant at the .05 level and included in multiple regression equation

Note: Group A = Non-pet Owners
Group B = Pet Owners

APPENDIX L

Intercorrelations Between Predictor Variables and Dependent Variable DESPAIR

		PRQ10	YRSMAR	STRSSDTH	HLTHBEF	HLTHAFT	OWNTIME	D17	D18	D19	DEST
Group A (Non-pet Owners)	PRQ10	1.000									
	YRSMAR	-.053	1.000								
	STRSSDTH	.192	.284	1.000							
	HLTHBEF	-.357	.069	.110	1.000						
	HLTHAFT	-.450	.030	-.153	.741	1.000					
	OWNTIME	.	.	.	.	.	1.000				
	D17	.179	-.024	-.019	.019	-.002	.	1.000			
	D18	-.229	.127	.074	-.021	.155	.	-.236	1.000		
	D19	-.089	-.044	-.094	-.091	.032	.	-.275	-.067	1.000	
	DEST	-.301	-.069	-.429	.037	.413	.	-.011	.105	.458	1.000
Group B (Bonded Dog Owners)	PRQ10	1.000									
	YRSMAR	-.460	1.000								
	STRSSDTH	.018	-.154	1.000							
	HLTHBEF	-.402	.255	-.080	1.000						
	HLTHAFT	-.295	.204	-.061	.604	1.000					
	OWNTIME	-.040	.384	-.245	.219	.126	1.000				
	D17	-.067	-.032	-.056	-.024	-.146	.114	1.000			
	D18	-.016	.250	-.103	.072	.039	.027	-.265	1.000		
	D19	.071	-.119	-.079	-.034	.178	-.110	-.588	-.139	1.000	
	DEST	-.407	.518	-.245	.401	.234	.331	.027	-.038	-.050	1.000

Intercorrelations Between Predictor Variables and Dependent Variable ANGER/HOSTILITY

		PRQ10	SUBAGE	YRSMAR	HUSAGE	CLOSHUS	STRSSDTH	HLTHBEF	HLTHAFT	OWNTIME	INC	AHT
Group A	PRQ10	1.000										
(Non-pet	SUBAGE	-.125	1.000									
Owners)	YRSMAR	-.053	.766	1.000								
	HUSAGE	-.100	.865	.654	1.000							
	CLOSHUS	-.249	.022	-.053	-.041	1.000						
	STRSSDTH	.192	.275	.284	.228	.436	1.000					
	HLTHBEF	-.357	.256	.069	.150	.220	.110	1.000				
	HLTHAFT	-.450	.257	.030	.176	.176	-.153	.741	1.000			
	OWNTIME	.	.	.	.	.	.	.	.	1.000		
	INC	-.023	.008	-.034	.037	.030	-.088	-.037	-.051	.	1.000	
	AHT	-.142	-.463	-.497	-.392	.012	-.417	-.183	.045	.	.114	1.000
Group B	PRQ10	1.000										
(Bonded	SUBAGE	-.384	1.000									
Dog	YRSMAR	-.460	.575	1.000								
Owners)	HUSAGE	-.409	.815	.648	1.000							
	CLOSHUS	-.223	-.001	-.068	-.102	1.000						
	STRSSDTH	.018	.290	-.154	.075	.319	1.000					
	HLTHBEF	-.402	.274	.255	.280	-.270	-.080	1.000				
	HLTHAFT	-.295	.262	.204	.220	-.332	-.061	.604	1.000			
	OWNTIME	-.040	.226	.384	.211	-.130	-.245	.219	.126	1.000		
	INC	.207	-.132	-.050	-.091	-.125	-.017	-.236	-.136	.149	1.000	
	AHT	-.051	.123	.158	.236	-.448	-.354	.318	.291	.278	-.019	1.000

Intercorrelations Between Predictor Variables and Dependent Variable GUILT

		PRQ10	SUBAGE	YRSMAR	HUSAGE	INC	STRSSDTH	HAPLIFE	HLTHBEF	D2	GUT
Group A (Non-pet Owners)	PRQ10	1.000									
	SUBAGE	-.125	1.000								
	YRSMAR	-.053	.766	1.000							
	HUSAGE	-.100	.865	.654	1.000						
	INC	-.023	.008	-.034	.037	1.000					
	STRSSDTH	.192	.275	.284	.228	-.088	1.000				
	HAPLIFE	-.185	.017	-.069	.051	-.057	.209	1.000			
	HLTHBEF	-.357	.256	.069	.150	-.037	.110	.372	1.000		
	D2	-.153	.216	.110	.255	-.206	-.008	-.119	.053	1.000	
	GUT	-.194	-.220	-.214	-.217	-.137	-.196	-.029	-.064	.390	1.000
Group B (Bonded Dog Owners)	PRQ10	1.000									
	SUBAGE	-.384	1.000								
	YRSMAR	-.460	.575	1.000							
	HUSAGE	-.409	.815	.648	1.000						
	INC	.207	-.132	-.050	-.091	1.000					
	STRSSDTH	.018	.290	-.154	.075	-.017	1.000				
	HAPLIFE	-.080	.154	-.086	.015	-.377	.357	1.000			
	HLTHBEF	-.402	.274	.255	.280	-.236	-.080	.023	1.000		
	D2	.022	-.333	-.150	-.215	-.102	-.071	.104	-.304	1.000	
	GUT	-.145	-.206	.067	.033	-.211	-.328	.210	.273	.125	1.000

Intercorrelations Between Predictor Variables and Dependent Variable SOCIAL ISOLATION

		PRQ10	YRSMAR	INC	STRSSDTH	HLTHBEF	HLTHAFT	D2	SIT
Group A (Non-pet Owners)	PRQ10	1.000							
	YRSMAR	-.053	1.000						
	INC	-.023	-.034	1.000					
	STRSSDTH	.192	.284	-.088	1.000				
	HLTHBEF	-.357	.069	-.037	.110	1.000			
	HLTHAFT	-.450	.030	-.051	-.153	.741	1.000		
	D2	-.153	.110	-.206	-.008	.053	.272	1.000	
	SIT	-.322	.033	-.113	-.301	.005	.309	.316	1.000
Group B (Bonded Dog Owners)	PRQ10	1.000							
	YRSMAR	-.460	1.000						
	INC	.207	-.050	1.000					
	STRSSDTH	.018	-.154	-.017	1.000				
	HLTHBEF	-.402	.255	-.236	-.080	1.000			
	HLTHAFT	-.295	.204	-.136	-.061	.604	1.000		
	D2	.022	-.150	-.102	-.071	-.304	-.165	1.000	
	SIT	-.473	.319	-.225	-.051	.267	.178	-.150	1.000

Intercorrelations Between Predictor Variables and Dependent Variable LOSS OF CONTROL

		SUBAGE	YRSMAR	HUSAGE	CLOSHUS	STRSSDTH	HLTHBEF	HLTHAFT	D6	D7	LCT
Group A (Non-pet Owners)	SUBAGE	1.000									
	YRSMAR	.766	1.000								
	HUSAGE	.865	.654	1.000							
	CLOSHUS	.022	-.053	-.041	1.000						
	STRSSDTH	.275	.284	.228	.436	1.000					
	HLTHBEF	.256	.069	.150	.220	.110	1.000				
	HLTHAFT	.257	.030	.176	.176	-.153	.741	1.000			
	D6	.037	.139	.028	-.039	.043	-.114	-.145	1.000		
	D7	.262	.137	.170	-.050	.137	.172	.286	-.155	1.000	
	LCT	-.347	-.458	-.260	.011	-.321	-.065	.060	.112	-.354	1.000
Group B (Bonded Dog Owners)	SUBAGE	1.000									
	YRSMAR	.575	1.000								
	HUSAGE	.815	.648	1.000							
	CLOSHUS	-.001	-.068	-.102	1.000						
	STRSSDTH	.290	-.154	.075	.319	1.000					
	HLTHBEF	.274	.255	.280	-.270	-.080	1.000				
	HLTHAFT	.262	.204	.220	-.332	-.061	.604	1.000			
	D6	-.433	-.467	-.477	.376	-.072	-.199	-.225	1.000		
	D7	-.099	-.038	-.081	.100	.046	.105	.057	-.114	1.000	
	LCT	-.129	-.058	-.124	-.291	-.239	.447	.309	.065	.122	1.000

Intercorrelations Between Predictor Variables and Dependent Variable RUMINATION

		CLOSHUS	STRSSDTH	HAPLIFE	HLTHAFT	D2	RUT
Group A (Non-pet Owners)	CLOSHUS	1.000					
	STRSSDTH	.436	1.000				
	HAPLIFE	.506	.209	1.000			
	HLTHAFT	.176	-.153	.342	1.000		
	D2	-.050	-.008	-.119	.272	1.000	
	RUT	-.108	-.272	-.221	.162	.345	1.000
Group B (Bonded Dog Owners)	CLOSHUS	1.000					
	STRSSDTH	.319	1.000				
	HAPLIFE	-.104	.357	1.000			
	HLTHAFT	.332	-.061	.273	1.000		
	D2	.039	-.071	.104	-.165	1.000	
	RUT	-.490	-.369	.017	.290	-.110	1.000

Intercorrelations Between Predictor Variables and Dependent Variable DEPERSONALIZATION

		PRQ10	CLOSHUS	STRSSDTH	ILLENGTH	OWNTIME	DRT
Group A	PRQ10	1.000					
(Non-pet	CLOSHUS	-.249	1.000				
Owners)	STRSSDTH	.192	.436	1.000			
	ILLENGTH	-.118	.009	-.178	1.000		
	OWNTIME	.	.	.	.	1.000	
	DRT	-.046	-.115	-.268	.330	.	1.000
Group B	PRQ10	1.000					
(Bonded	CLOSHUS	-.223	1.000				
Dog	STRSSDTH	.018	.319	1.000			
Owners)	ILLENGTH	.000	-.112	.007	1.000		
	OWNTIME	-.040	-.130	-.245	-.065	1.000	
	DRT	-.030	-.394	-.224	.309	.374	1.000

Intercorrelations Between Predictor Variables and Dependent Variable SOMATIZATION

		PRQ10	YRSMAR	STRSSDTH	HLTHBEF	HLTHAFT	OWNTIME	D4	D5	SOMT
Group A (Non-pet Owners)	PRQ10	1.000								
	YRSMAR	-.053	1.000							
	STRSSDTH	.192	.284	1.000						
	HLTHBEF	-.357	.069	.110	1.000					
	HLTHAFT	-.450	.030	-.153	.741	1.000				
	OWNTIME	.	.	.	.	.	1.000			
	D4	.	.	.	.	.	.	1.000		
	D5	.	.	.	.	.	.	.	1.000	
	SOMT	-.286	-.059	-.213	.363	.480	.	.	.	1.000
Group B (Bonded Dog Owners)	PRQ10	1.000								
	YRSMAR	-.460	1.000							
	STRSSDTH	.018	-.154	1.000						
	HLTHBEF	-.402	.255	-.080	1.000					
	HLTHAFT	-.295	.204	-.061	.604	1.000				
	OWNTIME	-.040	.384	-.245	.219	.126	1.000			
	D4	.273	-.344	.197	-.270	-.146	-.390	1.000		
	D5	.109	.025	.020	-.239	-.224	.075	.148	1.000	
	SOMT	-.392	.518	-.290	.482	.447	.347	-.326	-.319	1.000

Intercorrelations Between Predictor Variables and Dependent Variable DEATH ANXIETY

		INC	HLTHBEF	HLTHAFT	D1	D3	DAT
Group A (Non-pet Owners)	INC	1.000					
	HLTHBEF	-.037	1.000				
	HLTHAFT	-.051	.741	1.000			
	D1	.076	-.250	-.065	1.000		
	D3	.197	.130	-.001	-.138	1.000	
	DAT	.023	-.342	.027	.350	-.099	1.000
Group B (Bonded Dog Owners)	INC	1.000					
	HLTHBEF	-.236	1.000				
	HLTHAFT	-.136	.604	1.000			
	D1	.484	-.106	-.083	1.000		
	D3	.139	.199	-.005	.058	1.000	
	DAT	-.228	.361	.358	-.051	-.455	1.000

Intercorrelations Between Predictor Variables and Dependent Variable SLEEP DISTURBANCE

		PRQ10	SUBAGE	YRSMAR	STRSSDTH	ILLENGTH	HLTHBEF	HLTHAFT	SSDT
Group A (Non-pet Owners)	PRQ10	1.000							
	SUBAGE	-.125	1.000						
	YRSMAR	-.053	.766	1.000					
	STRSSDTH	.192	.275	.284	1.000				
	ILLENGTH	-.118	-.211	-.040	-.178	1.000			
	HLTHBEF	-.357	.256	.069	.110	-.121	1.000		
	HLTHAFT	-.450	.257	.030	-.153	-.171	.741	1.000	
	SSDT	-.174	.203	.204	-.172	.245	.281	.357	1.000
Group B (Bonded Dog Owners)	PRQ10	1.000							
	SUBAGE	-.384	1.000						
	YRSMAR	-.460	.575	1.000					
	STRSSDTH	.018	.290	-.154	1.000				
	ILLENGTH	.000	-.073	-.157	.007	1.000			
	HLTHBEF	-.402	.274	.255	-.080	-.256	1.000		
	HLTHAFT	-.295	.262	.204	-.061	-.017	.604	1.000	
	SSDT	-.121	-.125	.145	-.422	-.004	.479	.459	1.000

APPROVAL SHEET

This dissertation submitted by Sharon E. Bolin has been read and approved by the following committee:

Dr. Ronald R. Morgan, Director
Associate Professor, Foundations of Education, Loyola

Dr. Anne M. Juhasz
Professor, Foundations of Education, Loyola

Dr. Jack A. Kavanagh
Professor, Foundations of Education, Loyola

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

April 2, 1986
Date

Ronald R. Morgan
Director's Signature